AN ECONOMIC ASSESSMENT OF THE IMPACTS OF GRANTING FIFTH-FREEDOM RIGHTS TO PASSENGER SERVICES FROM UK REGIONAL AIRPORTS

Executive Summary

- 1. This report examines the impacts of granting foreign carriers additional (fifth-freedom) rights for passenger services from UK regional airports¹. This would enable airlines such as Emirates or SIA to compete for some of the traffic travelling, for example, between Manchester and the US. At present the policy approach is to refuse such rights unless there are exceptional circumstances or unless UK airlines are granted rights of broadly equivalent value. Other possible policy options include declaring open fifth-freedom rights on a unilateral basis, or a move to a presumption that fifth-freedom proposals be granted when requested unless there are demonstrable and significant reasons not to do so. This work was undertaken with the full agreement of the Department for Transport. The conclusions reached and the views expressed in this report are entirely those of the CAA.
- 2. This assessment consists of seven separate case studies (six of which are illustrative and which have been carried out specifically for this report and one of which is an earlier analysis related to an actual proposal from a foreign carrier, Pakistan International Airways). Together these cover a broad range of different ways in which fifth-freedom rights might be exercised. It should be stressed that these analyses only concern fifth-freedom rights from regional airports, not from London where the circumstances and implications can be significantly different.
- 3. The analyses indicate that in the majority (but not all) of the cases studied the opening up of fifth-freedoms to foreign carriers from regional airports results in net benefits to UK interests in the short term. However, the different stakeholder groups are affected in different ways:
 - UK consumers are major beneficiaries from the cost and time savings brought about by the introduction of extra capacity and more convenient and frequent services;
 - UK regional airports and related suppliers also derive significant benefits where new services are introduced:
 - Tourism in the UK is a lesser but significant beneficiary. (Although it
 needs to be acknowledged that there may be some offset if there is an
 additional net spend by UK consumers travelling abroad purely because
 of the new service.); but
 - UK airlines suffer varying levels of disbenefit as a result of increased competition.

¹ This study is confined to passenger services and to the effects on passenger traffic which usually provides the bulk of the revenue on such services. The CAA recognises the importance of cargo services to the regional airports and to the wider regional economy but the cargo industry has widely different characteristics to that of the passenger industry. Previous studies of the cargo market indicated that the inclusion of cargo liberalisation on a more general basis into this study would have added considerably to its complexity and its timescale and, for this reason, cargo has been omitted from this study.

- 4. The analyses illustrate a number of ways in which airlines might use fifth-freedom rights. The evaluation model is then based on further assumptions about, for example, passenger behaviour; changes in these assumptions may alter the scale of the effects but are unlikely to shift the overall conclusion in each case. The results are, however, the outcome of a static analysis of the current position and do not capture any possible additional dynamic benefits of enhanced competition in the future. And of course, the airline industry is a dynamic and growing industry, which is constantly adapting to change.
- 5. What we are examining here is not likely to be an explosion of new routes using fifth-freedoms, but rather an opening up of some opportunities that would appear to bring incremental gains for the overall UK interest. The studies and experience suggest that even if opportunities to operate fifth-freedom services existed, the number of such opportunities that could be taken up on a commercially sustainable basis may not be large. Indeed some may only be operated for a relatively short period to support a new third/fourth freedom route as it matures. So, even in the short term, the scale of these operations compared with that of the UK airline industry taken in aggregate suggests any negative impact on airlines will be minor. In the longer term, given that passenger demand is forecast to grow at 4% or 5% a year overall and possibly by more in the less mature regions outside the South East, the impact of any additional fifth-freedom services on the UK airline industry in aggregate should generally be absorbed quickly by growth.

Short-term drivers

- 6. In the short run, the scale and distribution of the impacts from additional fifth-freedom services tends to be mainly determined by:
 - The extent to which UK passengers and UK airlines are involved in the markets affected by the new service (i.e. driving the level of fares benefit to UK passengers and the level of profit losses to UK airlines);
 - The extent to which fifth-freedom rights generate net new activity at and around UK airports (i.e. driving the aviation-related expenditure benefits).

UK market shares

- 7. Most of the long-haul services at UK regional airports are provided by foreign airlines. There are good reasons for this. Long-haul services often depend on feed traffic so the logical operator is a carrier with a hub at the foreign destination or an alliance partner. UK airlines do have some long-haul services direct from regional airports but much of their participation consists of carrying passengers from regional airports to connect with their long-haul flights at London. The studies also indicate that, given the limited size of the regional markets concerned, UK airlines operating third/fourth-freedom services would be less able to sustain the present range of destinations from regional airports. Foreign carriers, possibly using fifth-freedom rights, are therefore essential players in providing wider consumer choice from regional airports and generating significant additional airport revenue.
- 8. The studies undertaken cover Manchester, Birmingham and Glasgow. The majority of the cases concern Manchester, the UK's largest regional airport, and its core catchment area, the North West of England. Long-haul traffic from the North West chiefly consists of UK residents and is mainly carried by foreign airlines. For example, UK residents form nearly three-quarters of the traffic between the North West and the US but UK airlines either through their flights at

Manchester or at Heathrow carry less than half this market. So, the reduction in fares that might result from fifth-freedom services is, in general, likely to provide a greater benefit to UK passengers than disbenefits to UK airlines. The position will vary from case to case. At one extreme the fifth-freedom service competes head-to-head on a route with a UK airline and the airline losses could well exceed the passenger gains. The other extreme could be a series of services operated using fifth-freedom rights that create new destinations from the regional airport in question and results in that airport becoming a European base for the overseas carrier. In this scenario consumer gains would be high, as would gains to other aviation-related revenues, whilst UK airline losses would be minimal.

- 9. For North West passengers to long-haul destinations other than the US, the difference between the UK's passenger and airline share is more pronounced. The market consists of 11% UK business, 63% UK leisure, 6% foreign business, and 20% foreign leisure but the UK airline share including traffic routeing over London is only 20%. So, in broad terms, it can be expected that UK passenger benefits might outweigh UK airline losses by a factor of more than 3:1 (74:20) on long-haul routes to points other than the US but by a smaller factor (1.4:1) on US routes.
- 10. In general, the data collected for the Birmingham and Glasgow studies shows that the split between regional passenger and regional airline share is similar in other parts of the UK to that in the North-West. So, although individual cases may differ, the general conclusion is that fifth-freedom rights should bring net benefits to the UK, even when just the interests of UK passengers and UK airlines are considered, with the greater level of net benefits to be expected on the routes to long-haul points other than the US and perhaps Canada. When other factors are added in, the level of benefits is likely to increase, as discussed below.

Net activity at UK airports

11. The case studies suggest that the number of fifth-freedom services which may be commercially viable may be limited. However, where they can be feasibly exploited, fifth-freedom rights bring additional net benefits in the form of extra expenditure and profits at and around UK airports if they increase the number of services and capacity offered. This seems likely at least in the short term although the extent of the increase will differ from route to route. In the longer term the new services need to be considered in net terms with account taken of any possible displacement of other present or future services. The analysis includes the aviation-related expenditure around the airport resulting from the new service although it is possible that further benefits might arise if the existence of fifth-freedom rights causes the airline to establish a European base at a UK regional airport.

Effects on London services

12. The introduction of a regional fifth-freedom route may divert traffic from the London service of a UK airline. London airports are heavily congested and that situation is expected to worsen rather than to improve in the immediate future. The evaluation assumes that some of these diverted passengers could be quickly replaced but that there is a negative impact. However, while there are some routes operated by UK airlines at London which are quite thin, it is difficult to argue that the economics of most London routes will be significantly affected even in the short term by the introduction of fifth-freedom services at UK regional airports. In the longer term any impact on London services would quickly be made good by growth and currently unsatisfied demand. It would seem reasonable, therefore, when drawing out the policy implications of this analysis,

generally to disregard any apparent - but essentially transient - negative impact on London services.

Effects on regional services

- 13. It also seems unlikely that a low-frequency fifth-freedom service on a short-haul route will pose a great threat to UK airlines' short-haul operations at regional airports given their present degree of competitiveness.
- 14. More possible is an impact on UK airlines' long-haul services at regional airports. As the market share data suggests, there are not many such operations. Some are special cases such as Virgin's Manchester-Orlando route, which serves an atypically dense leisure market and others are quite low-frequency seasonal programmes. So, the number of frequent UK airline long-haul regional services at risk is small. They are already exposed to open third/fourth freedom competition on routes to the US, for example, and they are likely in most cases to hold a distinct quality and marketing advantage over a fifth-freedom rival. However, to the extent that they are vulnerable and once withdrawn may not be easily substituted, there may be potential for disbenefits to arise for UK passengers. There could also be a significant disbenefit for the UK regional airport and it is reasonable to assume that the airport would try, as far as possible, to act to prevent this kind of substitution occurring. For example, an airport is more likely to offer discounts to airlines operating routes which bring incremental traffic rather than routes which parallel existing services.

Tourism and the wider economy

- 15. In addition to the extra aviation-related expenditure around the UK regional airport, a new service could stimulate the number of tourist trips to the region and increase tourist expenditure on accommodation, food and other services. It could be argued that these benefits are offset because of the spending outside the UK by additional UK residents travelling abroad as a result of the new service. However, whereas the new service may bring to the UK a foreign resident who might otherwise have visited France, a UK resident using the service would otherwise most likely have still holidayed abroad but at a different destination. So, an estimate of the inbound tourism benefits is included in the analysis.
- 16. However, the analysis does not include any estimate of the possible wider benefits to the regional economy that may arise, for example, because the new service encourages more foreign direct investment in the region or foreign firms to locate their European branch office there. These benefits are difficult to quantify and assign since air links tend to be just one of a number of key factors affecting these kind of decisions. Further, these wider effects are likely to be more a result of the development of the overall network at an airport so, again, a single route, although important, is just a contributory factor. Finally, the possibility of the displacement of an activity from another UK region would need to be considered. So, although a new service may well play a role in stimulating the wider economy, it is impossible to include a robustly quantified benefit in the analysis.

Other issues

17. The studies focus on the short-term direct economic impact of fifth-freedom services. There are, of course, wider and longer-term issues. In principle, the grant of regional fifth-freedom rights might be a bargaining chip of value in some circumstances, allowing the UK to obtain additional rights for UK interests or to

- take another step towards full liberalisation. The practical value of regional fifths as a bargaining chip is, however, questionable and would not seem comparable to the value overseas airlines tend to attach to fifth-freedom rights from the main London airports.
- 18. Some of the initial impacts of a new service can be expected to dissipate over time. For example, UK airlines may suffer initial losses because traffic on their London routes is diverted to the new service. However, the lost traffic at London will generally be restored through growth and so these airline disbenefits will diminish over time, falling to a relatively small loss of the long-run profit margin on the lost traffic. In a similar way, some initial UK passenger gains arise purely because the additional capacity provided by the new service lowers fares; these benefits may also not persist if the new service simply acts to delay capacity increases in existing services that would otherwise have occurred.
- 19. However, some effects may be more long lasting. For example, there is a significant gain to a regional airport from servicing a transit flow, which might otherwise have passed through an intermediate point outside the UK. Although this depends on the assumption that the new service uses airport capacity that would otherwise be spare, this would not appear to be an unreasonable assumption at most regional airports in the medium term. In some cases a fifth-freedom service may allow passengers to travel direct to their destination from their local regional airport for the first time, creating surface access benefits which represent long-term gains if the route would have been of no immediate interest to a third/fourth freedom carrier.
- 20. The way in which the impact of a new service changes with time will vary from case to case but the results of Table 4.1 suggest that, in most cases, although the magnitude of the impact will tend to diminish over time, its direction, i.e. whether the result of a new service brings a net benefit or a net disbenefit to UK interests, is unlikely to change.
- 21. The degree to which incoming fifth-freedom carriers would be competing fairly with existing services may also warrant consideration. Applicant carriers in receipt of continued state subsidy may be considered to be providing unfair competition to incumbent carriers. Such a scenario might, under certain circumstances, unfairly endanger the operation of existing third/fourth-freedom services. However, where a prospective service offers no threat to existing third/fourth capacity, there might still be a net gain to consumers through lower tariffs for users, although the granting of such services would have to be weighed against the UK's general policy of seeking formal commitments on state aid in its bilateral agreements where possible.

Policy implications

- 22. The evidence from the case studies indicates that the balance of benefits to UK interests from granting fifth-freedom rights is in most cases likely to be positive. One policy option could therefore be a unilateral declaration of open fifth-freedom rights from UK regions, which the evidence suggests would result in benefits for the UK.
- 23. However, there are drawbacks to such a unilateral declaration of open regional fifth-freedom rights. Firstly it could in some circumstances weaken the UK's negotiating hand in bilateral discussions by removing the ability of the Government to secure something of value in exchange (although the point above in relation to the practical value of regional fifths remains valid). In such instances, there may be greater longer-term benefit for UK interests, particularly

airlines, from linking the granting of regional fifths to negotiations aimed at extracting reciprocal freedoms in return. Secondly, third/fourth-freedom services can generally be expected to bring more benefits to UK passengers and other stakeholders than comparable fifth-freedom services. As the report shows, there may be certain circumstances when the granting of fifth-freedoms will create net losses to UK stakeholders. This would occur where total capacity on a route will be reduced, for example because a third/fourth-freedom service would have to be scaled down in the face of competition from the fifth-freedom service. If this can be substantiated, it could be sensible to deny the application for fifth-freedom rights. Similarly, special consideration could potentially be given in cases where a fifth-freedom service threatens the viability of a *proposed* third/fourth-freedom service, although there would have to be clear evidence that the service would be commencing in the near future (such as a formal announcement or other credible documentation) to avoid this reason being continually cited in opposition to any new fifth-freedom service.

- 24. In light of these factors, it appears preferable to adopt a shift in policy to an approach which favours the granting of fifth-freedom rights as opposed to the existing position where the presumption is that fifth-freedom rights should be refused. This change in policy could be applied both to the UK's approach to bilateral talks and when considering ad-hoc requests for fifth-freedoms.
- 25. Such a policy shift would represent a powerful signal of good intentions on the part of the UK and would send a strong message that the regions are "open for business". The benefits that arise from this kind of signalling are believed to be one of the main strengths of establishing Route Development Funds. A more liberal approach to fifths would give UK regional airports an opportunity to market themselves in a more welcoming fashion to foreign airlines, with less risk of prolonged administrative delay and of the airline switching its resources elsewhere before a decision is reached. It would also fit well with Government's stated aim to facilitate the growth of regional air services, and would do so by the means of removing a regulatory impediment and allowing the market to determine which opportunities would be most desirable (and would therefore be more likely to be commercially sustainable). It would also avoid many of the difficulties associated with policy approaches, which involve the use of public money and benefit only those airlines to which funds are allocated, rather than removing impediments to airline activity more generally.
- 26. With a presumption in favour of approving a fifth-freedom proposal, the burden of proof would fall on those who oppose the grant of rights. If the recommended shift in policy is to have any practical effect in delivering both new services and the "open for business" message then it is important that the grounds for refusing a fifth-freedom proposal are tightly drawn. In assessing whether there are grounds not to approve, the two key issues as regards UK interests as represented in this report appear to be:
 - whether there is a significant loss of leverage in the bilateral arrangement, and/or;
 - whether the rights would be used head-to-head on a route against a UK airline and whether the impact would be likely to cause significant and sustained disbenefits to UK passengers. It would be for the airline² which opposed the grant of fifths to demonstrate that its pre-existing (or pre-

² It is possible that the threatened third/fourth service could be one operated by a foreign carrier. As the loss of direct services might have a potentially negative impact on consumers, the likely withdrawal of such services may be valid justification for rejection of the application. However, the circumstances of the case would have to be considered carefully.

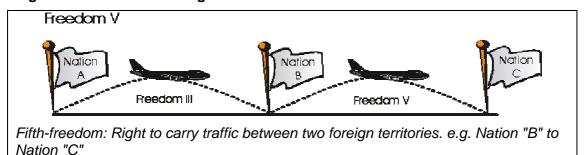
announced) third/fourth freedom service would have to be withdrawn — disadvantaging UK origin and destination passengers who would lose out from the consequent net reduction in capacity. In assessing whether such a withdrawal would actually take place, the presumption would be that this would seem unlikely to occur on the denser routes. Where relevant, consideration could be given to the degree to which the applicant carrier is in receipt of state aids, as this may help assess the degree of threat faced by the incumbent carrier's services.

- 27. Creating an administrative procedure that avoids long delays in decisions about regional fifths will be of almost equal importance to the success of the "open for business" message. If there is a perception that airlines have to go through a long and difficult process in the UK before they could secure rights to fly on form a regional airport, then this could deter applications, or favour alternative European airports. We would suggest a streamlined procedure along the lines of:
 - DfT receives formal application for fifth-freedom rights;
 - DfT publishes the application with an invitation for interested parties to comment;
 - 2 week period for interested parties to send in their views;
 - 1 week for CAA to scrutinise arguments made and give advice to DfT;
 - 2 weeks for the DfT to consider submissions and decide whether the application should be approved or whether it should be addressed as part of wider bilateral discussions;
 - DfT publishes decision.
- 28. This should create a transparent, reliable and expeditious system that would avoid any potential applications being deterred.
- 29. The policy option proposed here refers solely to UK regional airports. As suggested above, the circumstances at London are different: fifth-freedom rights from London are likely to be more valuable and may therefore be a significant bilateral bargaining chip; the use of these rights is more likely to affect directly the operations of UK airlines; and the possibility that fifth-freedom services would bring net new activity or use spare capacity, is lower. Although these different circumstances do not necessarily mean that granting fifth-freedoms rights at London would never benefit the UK interests as defined here (and indeed there could be significant competition benefits in some cases), they indicate that there may well be at present a different balance of potential benefits and disbenefits at London than at a regional airport.

1. Introduction

- 1.1 This report considers the likely impact on the UK aviation industry and its users of granting fifth-freedom rights to foreign carriers from the UK's regional airports. The report was commissioned by the Department for Transport (DfT) from the Civil Aviation Authority (CAA) as part of a review of UK policy on fifth-freedom services in the context of the Government's broader assessment of options for general liberalisation of the market and for enhancing regional services in particular. Following consultation, the CAA received views on an earlier version of this document in May 2005 from a number of stakeholders³. This subsequently amended report represents the CAA's final advice to Government on this policy issue.
- 1.2 Fifth-freedom rights are the rights of an airline of one nationality to carry passengers and cargo between airports in two other countries on a flight that originates in its own country. Both these other countries have to grant these rights for the fifths to take effect.
- 1.3 Under the Chicago convention, international aircraft have a right to stop and refuel in the territory of another state before flying on to their final destination in another state. An airline with fifth-freedom rights can also pick up passengers in the intermediate state and carry them to the final destination. For some markets where demand is relatively low (so called "thin" routes), the additional revenue from such "pick-up" passengers could make the difference between an economic and uneconomic route. For many airlines considering operating services via regional airports, where traffic volumes and network connectivity are lower than at competing London airports, this ability to increase revenues through picking up passengers at the middle part of the route could be crucial.

Figure 1 – Fifth-freedom rights



1.4 Fifth-freedom rights enable foreign carriers to compete to some extent against UK carriers on routes from the UK. For example, one of the theoretical studies considers a scenario in which Emirates based at Dubai in the U.A.E. (Nation A in Figure 1) is given fifth-freedom rights to operate transatlantic services from regional points in the UK to cities in the US (Nations B and C respectively in Figure 1). Emirates could in this case choose to use these additional rights to launch a service to Houston from Dubai via Manchester, which would compete with UK airlines for passengers in the Manchester-Dubai, Manchester-Houston and Dubai-Houston markets. However, it is likely to be difficult for the fifth-freedom operation to match the level of frequency, capacity or brand awareness that the third/fourth freedom operator will already have.

³ The CAA also hosted a consultative meeting on 18 May to give respondents a chance to discuss views in person.

- 1.5 Fifth-freedom rights can be equally important to UK airlines and the granting of fifth-freedom traffic rights to foreign carriers has typically been considered only when an equivalent package of rights can be obtained from the partner country. Occasionally, ad hoc requests for additional fifth-freedom rights are also countenanced but there has hitherto been a broad presumption against the granting of these rights unless the UK has something it wants in return.
- 1.6 The justification for this approach is the advantage to UK interests in using the prize of additional fifth-freedoms to leverage additional rights for UK interests in return (for example, reciprocal fifth-freedoms for UK airlines or other steps towards full liberalisation). The loss of these "bargaining benefits" should therefore be taken into account when considering any change in policy. A quantification of their scale is outside the scope of this study but, in terms of the density of the routes involved, fifth-freedom rights from London appear to be a far more important bargaining chip than those from regional airports and this may therefore justify a difference in policy approach between regional points and London.
- 1.7 This paper concentrates on evaluating the impacts of a change in policy in favour of granting fifth-freedom rights from regional airports. Such a change in approach would be consistent with the Government's stated liberalisation objective, its general pro-competitive stance, its White Paper strategy of improving consumer benefit through facilitating the sustainable growth of regional airports and its more general stance towards regional development. A CAA study in 2004 of the impact of PIA extending its transatlantic fifth-freedom rights at Manchester indicated that there was likely to be a net benefit to the UK. In order to help the DfT review the merits of the broader policy option, the DfT asked the CAA to undertake this comprehensive study to examine whether a net benefit would be the likely result in other circumstances.
- 1.8 The report is based on a total of seven case studies modelling the likely impacts of the granting of fifth-freedoms to airlines operating from different regional points. One is related to a specific proposal, the request by PIA to extend its transatlantic fifth-freedom rights noted above. The other six studies are not based on a specific request but have been selected to be representative of the other types of operation that could be expected to be facilitated by the granting of wider fifth-freedoms and where the data suggests there could be sufficient market demand. The report looks at the impact on UK consumers, airlines and airports. Details of the studies and the methodology adopted by the CAA are set out in detail in the following sections.
- 1.9 The granting of fifth-freedom rights would add to the competitive pressure on UK airlines operating in these markets and in most cases this would lead to a short-term loss of revenue for UK airlines (except perhaps where there is some kind of code-share agreement with the airlines involved or where there is partial UK ownership of the foreign airline). However, they typically offer more than compensating benefits to consumers from greater competition and choice (although, again, there may be instances when this may not be the case) as well as generating additional revenues for airports and related industries from the increase in activity.
- 1.10 Lastly, the report briefly covers other issues which maybe of interest to policy makers in assessing any change in policy, for example, the possible effect on the environment of such changes.

2. Scope of the report

2.1 The focus of the report is on the impacts on UK interests of any change in policy, principally how wide-scale liberalisation of regional fifth-freedom rights is likely to impact on the welfare of UK consumers, UK airlines and UK airports, using as their evidence base, the series of case studies below:

Table 1: The current case studies

No:	Туре:	Airport:	Proposed Route: (Airline also specified)	Completed:
1	Westbound	Manchester	Dubai-Manchester-Houston (Emirates)	Nov 2004
2	Westbound Transatlantic	Glasgow	Prague-Glasgow- Los Angeles (CSA)	Nov 2004
3	Westbound Short Haul	Manchester	Manchester-Stockholm China (Air China)	Nov 2004
4	Westbound	Manchester	Singapore-Manchester- Washington (Singapore Airlines)	Nov 2004
5	Westbound Transcontinental	Manchester	Bangkok-Delhi-Manchester (Thai International)	Nov 2004
6	Eastbound Transatlantic	Birmingham	Toronto-Birmingham-India (Air Canada)	Nov 2004
7	Westbound Transatlantic	Manchester	Pakistan-New York/Chicago/ Toronto/Houston (PIA)	Oct 2004

- 2.2 All the studies evaluate the difference between a base case and a "fifth-freedom" scenario as regards UK passengers, UK airlines and aviation-related and tourist expenditure in the UK. In all of the studies the base case reflects current airline schedules together with 2003 annual traffic levels and yields whereas the scenario contains both the existing services and the potential new fifth-freedom operations.
- 2.3 For the purposes of the study, a UK regional airport is any airport other than the five main London airports, Heathrow, Gatwick, Stansted, Luton and London City. The studies which the DfT asked the CAA to conduct as illustrations of the impact of new fifth-freedom services concern Birmingham, Glasgow and Manchester. It is assumed that the conclusions drawn from the studies at these airports are applicable to similar services at other regional airports but that, for reasons set out below, circumstances will be different for a fifth-freedom services from one of the London airports.

The impact of fifth-freedom services

- 2.4 To exploit fifth-freedom rights to and from the UK, an airline clearly has to operate a multi-sector flight, which is either Home country (Nation A of Figure 1)-UK (Nation B) -Third country (Nation C) or Home country-Third country-UK.
- 2.5 On a Dubai-Manchester-Houston routeing as in Study 1, Emirates has rights between Dubai and Manchester and between Dubai and Houston because

Dubai is its home country and these rights are third/fourth freedom rights⁴. But, without fifth-freedom rights, the Emirates aircraft would fly across the Atlantic probably with many empty seats, not only those unoccupied when the flight left Dubai but also with the seats vacated by passengers leaving the aircraft in Manchester.

So, for the fifth-freedom airline, gaining fifth-freedom rights means access to a new market and the possibility of additional revenue at relatively low cost since the new passengers are occupying seats that would otherwise be empty. This incremental profit could make the difference between the routeing being viable or not. Markets other than that for which fifth-freedom rights have been granted could be affected. For example, the Manchester-Dubai market might be affected if Emirates were to decide to mount more (or less) Dubai-UK capacity because it obtained UK-US fifth-freedom rights.

Types of fifth-freedom service

- 2.7 Fifth-freedom services are of four types:
 - 1. Home country-UK-Third country with a long-haul fifth-freedom leg (Studies 1, 2, 4, and 6)
 - 2. Home country-UK-Third country with a short-haul fifth-freedom leg
 - 3. Home country-Third country-UK with a long-haul fifth-freedom leg (Study 5)
 - 4. Home country-Third country-UK with a short-haul fifth-freedom leg (Study 3)
- 2.8 In Types 1 and 2 the fifth-freedom sector is a "tag-on" to a third-fourth freedom service whereas in Types 3 and 4 the fifth-freedom sector is part of the third/fourth-freedom operation. Type 1 and Type 2 services carry Home country-Third country passengers through the UK in addition to the Home-UK third/fourth and UK-Third Country fifths. There is therefore more likely to be a possible network impact on UK airlines if the new service draws away passengers in the Home country-Third country market who would previously have connected at a UK airport⁵.

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⁴ Whether Emirates could fly such a route depends on the bilateral agreements between the UK and Dubai/UAE and between the US and Dubai/UAE.

⁵ So, in Study 1 UK airlines might lose Dubai-Houston passengers who previously travelled via London but who can now fly Dubai-Manchester-Houston. This kind of loss can also occur in Types 3 and 4 but is less likely because a connection in the UK would tend to involve a back-haul for the Home country-Third country market (e.g. Bangkok-Delhi passengers in Study 5 are hardly likely to connect over London).

3. Methodology

- 3.1 The general evaluation methodology as set out below is well established and the CAA has consulted stakeholders on individual studies on a number of occasions over the years. Some of the assumptions have been refined over the years to keep up with changes in the market and the industry. However, the fundamental approach remains the same for all studies⁶. This can be summarised in the following steps:
 - Identify the markets affected by the assumed fifth-freedom service;
 - Postulate what frequency and capacity the fifth-freedom carrier may offer;
 - Estimate the likely change in fare levels in these markets as a result of the changes in capacity and frequency introduced;
 - Estimate the possible traffic stimulation resulting from these lower fares and higher service levels;
 - Re-allocate this new, larger, market between the possible passenger choices:
 - Measure the change for each of these choices from the base case; typically, the fifth-freedom airline will gain traffic while other incumbent airlines, including UK airlines where applicable, will lose;
 - Calculate the benefits to UK passengers because of lower fares;
 - Where applicable, estimate the loss of UK airline traffic and revenue and hence the reduction in UK airline profit;
 - Calculate the likely additional spend of the fifth-freedom airline in the UK because of higher traffic levels and/or more flights. An estimation is typically made of the potential short-term profit on this spend for UK airports and other UK companies;
 - Examine whether there might be additional benefits over and above the fares benefit, e.g. time savings from more direct flights;
 - Calculate the net benefit to the UK, i.e. the sum of changes in passenger benefits and changes in UK producer profits. The changes measured are all the short-term effects in Year 1.
 - Some of these changes will persist over a longer period. The persistence or otherwise of the changes is discussed qualitatively but a formal NPV calculation has not been performed.
 - Calculate the extra foreign tourist visits that have been stimulated, the resulting spend in the UK and the associated short-term profit for UK companies.
- 3.2 Of the assumptions that are needed in the evaluation, the most significant is that concerning the way in which the fifth-freedom airline chooses to exercise the new rights and the assumption of no reduction in other services. The other assumptions are less important but can affect the scale of the impacts, for example, the extent to which fares reduce and hence the level of passengers' fare benefits. However, there are compensatory effects; if a smaller reduction in fares is assumed and passenger benefits fall, then the negative impact on UK airlines will also be lessened. In general, once the

⁶ "The Economic Impact of New Air Services: a study of new long haul services at UK regional airports", CAP 638, CAA, November 1994

assumption about airline behaviour is made, the direction of the effects of the new operation should not be affected by realistic changes in the other assumptions.

4. Summary of Stakeholder Impacts

Case Studies 1 to 6

4.1 The results of the six Case Studies carried out specifically for this report are shown in Table 2.

Table 2 - Overall economic results in Year 1 of Studies 1 to 6

	Study 1	Study 2	Study 3	Study 4	Study 5	Study 6
	Type	Type	Туре	Type	Туре	Type
	Α	Α	D	Α	С	Α
UK direct passenger benefits (£m)	10.96	1.06	1.70	-2.47	5.38	9.08
UK indirect passenger benefits (£m)	0.78	0.44			0.56	1.20
UK airline revenues (£m)	-4.90	-1.01	-1.18	-4.31	-1.15	-3.15
UK airline profits (£m)	-4.77	-0.98	-1.14	-4.15	-1.11	-3.04
UK airport-related revenue (£m)	12.65	3.26	2.59	7.16	5.14	15.37
UK airport-related profit (£m)	3.87	1.16	0.80	2.22	1.57	4.55
Tourism spend in the UK (£m)	1.97	0.75	0.80	0.50	1.65	5.55
Tourism profit (£m)	0.26	0.10	0.10	0.07	0.21	0.72
Net effect on UK (£m)	11.09	1.77	1.46	-4.33	6.61	12.51

Case Study 7 – Transatlantic rights for PIA at Manchester

- 4.2 The study relating to PIA's transatlantic fifth-freedom rights was complicated because PIA already has limited rights and it was seeking additional rights which it might use in a variety of ways given its extensive network at Manchester. So four scenarios were evaluated:
 - (Scenario 1a) PIA continues with its current schedule but uses its
 extended fifth-freedom rights on the five transatlantic flights which it
 currently operates (one on JFK, two on Houston, and two on Toronto) but
 without fifth-freedom rights;
 - (Scenario 1b) PIA continues with its current schedule but uses its
 extended fifth-freedom rights on the three of the five transatlantic flights
 that it currently operates (one on JFK, two on Houston), assuming that it
 is not granted fifth-freedom rights by Canada;
 - (Scenario 2) PIA operates the five services which currently terminate at Manchester through to the US/Canada with fifth-freedom rights (using two on JFK, two on Houston and one to Chicago);
 - (Scenario 3) PIA adds additional through services to its current schedule thereby increasing both its transatlantic and its Pakistan capacity. For present purposes it is assumed that PIA adds two services a week in order to increase to a daily service on JFK.

4.3 The evaluations have been carried out for a high case in which the attractiveness of PIA is assumed to be much higher than it currently appears to be (High case) and a base case in which PIA's attractiveness stays at the present, relatively low, level (Base case). PIA's actual attractiveness is expected to lie somewhere between the two but most likely closer to the base than to the high case. The results of Study 7 are contained in Table 3.

Table 3 – Overall economic results in Year 1 of Study 7

	Base case	High case
Scenario 1a	+£0.20m	+£0.69m
Scenario 1b	+£0.29m	+£0.82m
Scenario 2	+£2.57m	+£3.96m
Scenario 3	+£5.25m	+£5.63m

- 4.4 In Study 7, the possibility was considered that PIA might withdraw some of its present services if it were not granted additional rights and a scenario was evaluated to test the impact of PIA withdrawing the five through services for which it currently has no fifth-freedom transatlantic rights. This would result in a Year 1 loss of benefits equivalent to £3.4m.
- 4.5 The bulk of the present cases show a positive benefit for the UK. The exception is Study 4 where the fifth-freedom sector is head-to-head with an existing UK airline operation and where the capacity available to UK passengers on the third/fourth freedom sector is reduced rather than increased as a result of the new rights.

UK Consumers

- 4.6 Consumers will tend to be the main beneficiaries of an increase in capacity and competition that is likely to arise from liberalisation of any route, as well as an increase in the number of destinations available from the airport, which may stimulate additional passenger numbers. The scale of these increases tend to be affected by factors such as:
 - a. Whether or not a service already exists on the route;
 - b. The effect on frequency, capacity and fares on the route (the first factor most important to business passengers, and the second and third to leisure):
 - c. The quality and competitiveness of the airline in question.
- 4.7 In general, the bulk of the effect of fare changes on passengers occurs because fares fall for existing passengers. The effect on the stimulated market is comparatively small. So, the net effect of fare changes on passengers and airlines as a whole tends to be quite low with the money which passengers save from lower fares simply being a transfer from the airlines.
- 4.8 However, if the focus is only on the UK element of both passengers and airlines, the shares which the UK has of demand and supply tend to determine whether the results are likely to be positive or not. So, on a route where the UK airline share is low but the passenger share is high, the transfer from producers to consumers produces a strong result for the UK. The opposite is the case when the UK airline share is significantly greater than the passenger share.
- 4.9 Passengers may also gain because of timesavings and more convenient means of travel. Time savings can occur because the new flights mean more

convenient departure times for some passengers or because passengers can take direct flights rather than indirect flights and hence complete their flights more quickly. These passengers will also avoid the inconvenience of changing planes at an intermediate point.

UK Airlines

- 4.10 In the short term the granting of fifth-freedom rights and the additional competition which that may engender will have a negative impact on UK airlines' revenue and profits. The major factors affecting the magnitude of airline impacts are:
 - a. The UK airline share in the affected market and particularly whether there is already a direct service in operation.
 - b. The degree to which additional passengers are being drawn from elsewhere (e.g. the number of passengers being stimulated versus the number being taken from existing services).
 - c. The quality and competitiveness of the competing airline.
- 4.11 Where traffic is lost from the London services of UK airlines, it is assumed that some replacement of the lost traffic is possible even in the short term because of the excess demand at London except on the thinner routes such as London-Beijing.
- 4.12 Historically fifth-freedom airlines have found it difficult to compete effectively against the incumbent carriers although airlines such as Emirates and SIA may well be more successful. Nevertheless, even they may also be at a marketing disadvantage compared to the domestic incumbent carriers.

UK Airports

- 4.13 Airports will tend to be net beneficiaries of liberalised fifths through the added income they receive. Issues that affect the magnitude of airport impacts include:
 - a. The level of landing and service charges;
 - b. The level of additional support services necessary to supply the additional frequencies and the profit margin from these operations;
 - c. The level of employment;
 - d. The potential for displacement of existing services.
- 4.14 The new service will increase aviation-related expenditure in the UK if it generates new passengers to and from the UK or means that additional flights will be operated. For example, fifth-freedom routeings of the Home-UK-Third Country will produce extra flights on the UK-Third Country sector (and possibly, as noted above, on the Home-UK sector).

Tourism Spend

4.15 Tourism spend in the UK is counted as a benefit when it is generated by foreign passengers stimulated by the new service. The benefit will be greater in those markets where the foreign component of traffic is high and where the average spend per tourist is high. The level of stimulation will be higher in those markets where the fifth-freedom carrier is attractive and is assumed to expand its services significantly as a result of acquiring the new rights

5. Broader Economic Impacts

5.1 The studies undertaken by CAA have covered direct benefits. One area that has not been covered are the catalytic benefits that expanded fifth-freedom services and the development of a regional airport as a hub for a foreign carrier may bring to the region in the form of businesses which use air transport. Assessment of these benefits is difficult given the difficulty of identifying and quantifying these catalytic effects. In general terms, greater transport connectivity is likely to be a positive factor in business location and employment growth but there is uncertainty about the degree to which businesses' location decisions will be based on the existence of fifth-freedom services and therefore on the extra value which can be attached to these services.

6. Environmental Impacts

6.1 The main impact on the environment will be the primary problems of noise and air quality impacts from an increase in the number of air traffic movements (ATMs), the size and age of the aircraft involved. In the short-term the route analyses assume no reduction in existing services so the fifth-freedom flights will tend to increase the number of ATMs at UK airports and, if the level of transit traffic is high, may not carry many UK-originating passengers. However, fifth-freedom services could allow more passengers to fly from their local airports thereby reducing pollution caused by surface transport to more distant airports. In the longer term it is assumed that existing services will adapt to the fifth-freedom operations and so environmental benefits may start to occur as passengers switch not only from surface modes but also from indirect flights.

7. Main Drivers of the Results

- 7.1 The most crucial elements in these studies appear to be:
 - The extent to which UK passengers and UK airlines are involved in the markets affected by the new service (i.e. driving the fares benefit to passengers and the profit losses to airlines);
 - The extent to which fifth-freedom rights bring in new services to a regional airport, (i.e. driving the aviation-related expenditure benefits). The new services need to be considered in net terms with account taken of any immediate or longer-term displacement of other present or future services. This displacement could be of other international regional services or of regional services to London and international services out of London.

UK shares of long-haul regional services

7.2 Table 4 below shows the long-haul scheduled services from UK regional airports in the latest available twelve-month period.

Table 4 - Long-haul scheduled services at UK regional airports in the year to August 2004

From	To	Airline	Passengers
Manchester	Dubai	Emirates	331,424
Manchester	Orlando	Virgin	219,003
Birmingham	Dubai	Emirates	177,623
Manchester	Philadelphia	US Air	163,151
Manchester	Newark	Continental	162,707

Manchester	Singapore	SIA	157,111
Manchester	Islamabad	PIA	142,829
Manchester	Chicago	bmi	142,510
Manchester	Chicago	American	133,796
Birmingham	Newark	Continental	133,507
Glasgow	Newark	Continental	131,972
Manchester	New York (JFK)BA	129,268
Manchester	Atlanta	Delta	126,788
Manchester	Kuala Lumpur	MAS	110,025
Manchester	Washington	bmi	107,387
Manchester	Doha	Qatar	72,037
Birmingham	Ashkhabad	Turkmenistan	67,054
Birmingham	Islamabad	PIA	59,189
Glasgow	Chicago	American	52,939
Glasgow	Dubai	Emirates	49,406
Manchester	Lahore	PIA	42,517
Glasgow	Toronto	Air Canada	41,318
Manchester	Toronto	Air Transat	40,996
Manchester	Toronto	bmi	39,774
Glasgow	Toronto	Air Transat	37,970
Glasgow	Philadelphia	US Air	35,957
Birmingham	Tashkent	Uzbekistan Air	35,349
Manchester	Boston	American	35,212
Manchester	Kingston	Air Jamaica	26,461
Edinburgh	Newark	Continental	26,191
Manchester	Vancouver	Air Transat	23,851
Manchester	Karachi	PIA	21,804
Glasgow	Toronto	JMC Air	21,591
Glasgow	Vancouver	Air Transat	21,012
Belfast Int.	Toronto	Air Transat	17,449
Glasgow	Toronto	Zoom	16,463
Manchester	Port of Spain	BWI	16,205
Manchester	Toronto	Air Canada	12,834
Birmingham	Toronto	Air Transat	12,798
Glasgow	Vancouver	Zoom	11,890
Manchester	Vancouver	JMC Air	11,808
Edinburgh	Toronto	Air Transat	9,861
Newcastle	Toronto	Air Transat	8,694
Cardiff	Toronto	Air Transat	8,315
Birmingham	Toronto	JMC Air	8,123
Exeter	Toronto	Air Transat	6,897
Manchester	Montego Bay	Air Jamaica	6,386
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Source: CAA Airport Passenger-Related Statistics, year to August 2004
Notes: Excludes routes with 5,000 or fewer passengers during the year.

Includes non-revenue passengers. UK airline services in bold

7.3 The routes in Table 4 are split between those to North America and those to other long-haul points. The UK airline share is about 20% overall and this is focused on the North Atlantic (see Table 5).

Table 5 – Regional long-haul scheduled passengers by type in the year to August 2004

Operated	To	То	
By	US/Canada	Other long-haul	Total
UK airlines	679,464	0	679,464
Foreign airlines	1,272,568	1,315,420	2,587,988

Total 1,952,032 1,315,420 3,267,452

Source: CAA Airport Passenger-Related Statistics, year to August 2004

7.4 This could be taken to suggest that UK airlines play a relatively small role in the carriage of long-haul passengers from UK regions. While that may be so as regards direct services, many passengers still travel via London and the UK airline share of this market is strong. Table 4 illustrates the position as regards passengers travelling between the North West of England and the US. The table separates passengers according to whether they fly on an international service from Manchester (which could be a Manchester-Chicago service or a flight to Amsterdam to connect with a US flight) or whether they flew to London to connect on to the US. Passengers are then categorised by whether they used a UK or a foreign airline on the transatlantic segment of their journey.

Table 6 - Scheduled North West-US traffic in 2003

Carried by	Mode	Passengers	Share
UK airlines	International service from regions	252,587	33%
	via London	121,338	16%
Foreign airlines	International service from regions	357,027	46%
	via London	39,021	5%
Total		769.972	100%

Source: CAA O & D Survey 2003

Note: The table shows all passengers in the 2003 survey who travelled to a US destination either directly or indirectly. The categorisation is by the airline on the transatlantic leg of the journey. Although the 2003 survey did not cover all the airports in the UK, Manchester and London were covered and so the table, although not comprehensive, should include the vast majority of long-haul scheduled passengers.

- 7.5 Despite the majority of US services from Manchester being operated by US airlines, UK airlines still retain relatively large shares of the US traffic from UK regional airports. But the traffic consists of 12% UK business, 58% UK leisure, 9% Foreign business, and 22% Foreign leisure. So, the UK passenger share is 70% compared with a UK airline share of 49%. In broad terms, this tilts the balance in the evaluation towards the passenger benefits and away from the costs to airlines although the situation in a particular case will depend on the circumstances.
- 7.6 The position is more pronounced on long-haul routes other than those to the US as is illustrated in Table 7.

Table 7 – Scheduled North West traffic to long-haul destinations in 2003

	All long-haul		All long-haul	
			excl US	
UK airlines	563,875	33%	189,950	20%
Foreign airlines	1,146,159	67%	750,112	80%
Total	1,710,034	100%	940,062	100%

Source: CAA O & D Survey 2003

7.7 The traffic mix for North West long-haul traffic to points other than the US is similar to that for the US (11% UK business, 63% UK leisure, 6% Foreign business, 20% Foreign leisure) but the UK airline share is only 20%. So, in broad terms, it can be expected that UK passenger benefits might outweigh UK airline losses by a factor of over 3:1 (74:20) on long-haul routes to points

- other than the US. On US routes UK passenger benefits are still likely to outweigh UK airline losses but the factor is much lower (1.4:1 or 70:49).
- 7.8 The position will vary from case to case with one extreme being where the fifth-freedom service competes head-to-head with a UK airline and where the airline losses could well exceed the passenger gains. However, the general conclusion is that fifth-freedom rights should bring net benefits to the UK as regards fares with the greater level of net benefits to be expected on the routes to long-haul points other than North America.
- 7.9 The impact on UK airlines as a whole is further mitigated by the assumption that congestion at London will allow the airlines which have lost traffic on London routes to replace some of this traffic from demand which otherwise would not be served. This assumption has been applied to the denser routes but not to routes such as London-Beijing.

Feasibility of fifth-freedom routes

- 7.10 None of the services in Table 4 are operated by fifth-freedom airlines (although some have been developed using the support of fifth-freedom services such as SIA's Manchester-Singapore route⁷). The services are of three main broad types:
 - Spokes from a foreign carrier's hub (Dubai, Philadelphia, Newark, Singapore, Atlanta, Chicago (American), Kuala Lumpur, and Doha);
 - Spokes from an alliance partner's hub (Chicago (bmi), Washington (bmi), Toronto (served by bmi for Air Canada in summer 2004))
 - Dense point-to-point/leisure routes (Orlando, JFK, the Canadian services which are often seasonal)
- 7.11 Long-haul OD markets⁸ tend to be relatively small and many long-haul routes therefore need to attract passengers from other OD markets in order to be viable. As the categorisation above suggests, many long-haul routes from regional airports are linked into a major hub at the other end of the route. For example, survey data indicates that American's service to Chicago in 2003 drew on the passenger flows from at least 82 cities behind Chicago. So, generally, these routes can only be served viably by the hubbing carrier which is, by definition, a foreign airline or a UK airline partner.
- 7.12 The other services tend to be routes tapping into large point-to-point markets and both Orlando and New York are exceptional, the former with very high levels of UK resident leisure traffic (although this may not be the same for other countries) and the latter which has very high levels of both business and leisure demand (and this does seem likely to apply to other countries).

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⁷ For example, in 1996 SIA operated between Manchester and Singapore three times a week. Two of the flights were over Mumbai and the other over Paris or Amsterdam, mainly the former. According to the 1996 CAA survey, SIA carried 16,000 fifth-freedom passengers between Manchester and Mumbai but less than 1,000 fifth-freedom passengers on the European sectors.

⁸ An OD market classifies passengers by the air origin (O) and the air destination (D) of their complete air journey, not by the route they are currently travelling on. Thus, a passenger travelling from Manchester to New York via London is in the Manchester-New York OD market.

Type 1 services

- 7.13 From the point of view of the UK, fifth-freedom services were classified into four types in paragraph 2.6 above. The feasibility of these services from the airline's point of view depends to some extent on their type.
- 7.14 The rationale for serving the Home-Third country market via an intermediate point depends on the size of the market, the distance and available technology, and alliance formation. Adding a beyond sector may increase revenue by avoiding pro-ration on the transit revenues but may add considerably to costs in addition to creating both problems of aircraft utilisation if the airline's operation is built around a hub like Emirates at Dubai and of crew utilisation where the frequency is low.
- 7.15 Where the market is thick enough to support a direct service there would seem no point in an airline giving away the quality advantage of a direct service by downgrading it towards the indirect alternatives offered by sixth-freedom carriers. So, it seems likely that thick long-haul routes will progressively served directly when and if that becomes technically possible.
- 7.16 Thin long-haul markets may be difficult to serve viably either with direct services or with through-plane services. Where the frequency is very low, they are vulnerable to competing connecting services.
- 7.17 Fifth-freedom services may find difficulty in penetrating markets, particularly where their frequency is relatively low or their brand is not well known at either end of the fifth-freedom sector. This difficulty is compounded by the thinness of individual long-haul OD markets from regional airports. For example, with the possible exception of New York and Orlando, the markets between regional airports and the US are unlikely to be large enough to support a frequent "point-to-point" service. So, the fifth-freedom airline would need to be an alliance partner with a US airline. But the route would then need to be one that the US airline itself or any UK partner did not wish to serve. (The SIA service postulated in Study 4 may be implausible for this reason.)
- 7.18 The general implication is that a service of Type 1 will probably need to be based on a strong Home-Third country through market (but one which it cannot yet serve non-stop). In many cases the Third Country destination will also be a major generator/attractor of traffic to/from the UK. Excluding Orlando as a special case, fifth-freedom airlines may therefore tend to focus on serving the type of destination from a regional airport, which is also more likely to be of interest to a UK airline, for example JFK.

Type 2 services

7.19 Where the fifth-freedom sector is a short-haul tag-on (Type 2), the problem of competing in the local market is even more acute. Many more short-haul destinations are now served from UK regional airports than in the past and the pricing is often aggressive. A fifth-freedom carrier would have the disadvantage of little brand recognition, low frequency and possibly greater problems in maintaining punctuality. So, the capture of fifth-freedom traffic is likely to be low and the small additional revenue may be unlikely on its own to incentivise significant capacity increases.

Type 3 and 4 services

7.20 Although Type 3 is different to Type 1 (and Type 4 different to 2) as far as the UK is concerned, they are the same from the airline's point of view operation.

7.21 In summary then, fifth-freedom operations at least as far as passenger services are concerned appear to be rational in a very limited set of circumstances and it is difficult to see that even in a completely liberalised environment they would necessarily be used extensively. Indeed, the studies suggest that some of the examples are more likely to be illustrative than to be operated in practice.

Displacement of existing services

- 7.22 The results in Table 3 are predicated on the assumption that existing services will continue. Airlines have argued that fifth-freedom (and indirect) carriers pose a different and potentially more de-stabilising threat than competing third/fourth freedom services. The argument is that they are able to price on a marginal basis, forcing down yields below a level that is sustainable for third/fourth-freedom operations since these have to cover fully allocated costs. If the new fifth-freedom service is competing with a marginal third/fourth-freedom service, then there is a risk, however remote, of the third/fourth freedom service being withdrawn.
- 7.23 Also, airlines argue that fifth-freedom services are more volatile, particularly those of the Home-UK-Third Country type when the main focus of the airline is on the Home-Third Country market. The UK may be a temporarily convenient intermediate point with the airline being prepared to switch its enroute stop to some other country if it is cheaper or offers better revenue opportunities.
- 7.24 The withdrawal of third/fourth-freedom services could disbenefit UK passengers by reducing service quality and continuity and by muting competition. A third/fourth-freedom service can also be expected to generate more activity in the UK economy than an equivalent fifth-freedom service because, for example, it will be more likely to employ UK-based crew. The risk would be higher if there was a proliferation of fifth-freedom services and therefore a cumulative effect on the existing third/fourth-freedom operation. By the same token, the use of fifth-freedom rights may also deter third/fourth freedom entry onto the route in the future. On the other hand, fifth-freedom rights could encourage airlines to establish overseas bases in the UK as PIA has at Manchester, which is apparently its largest base outside Pakistan. An airline with a base at a UK regional airport is likely to bring greater benefits in terms of job creation and other spillover benefits than an airline that simply routes some aircraft via a UK regional airport.
- 7.25 Study 4 illustrates the possibility of a strong negative impact on an existing UK operation and, by extension, of displacement. As noted above, Study 4 may not be plausible unless, perhaps, as part of a STAR agreement. Nevertheless, to the extent that transatlantic fifth-freedom carriers concentrate on New York or Washington, then that may pose a threat to the current BA and bmi operations.
- 7.26 On the other hand it can be argued that if third/fourth freedom services are so marginal that the entry of fifth-freedom service with frequency and branding disadvantages is sufficient to destabilise them, then they do not provide a sound platform for the development of long-haul services at regional airports. In such a difficult economic climate, arguably the characteristics of fifth-freedom services may be better attuned to cope, given their ability to draw on transit flows.

7.27 Lastly, it should be noted that this study has not attempted to judge the commercial status of any of the airlines featured in the case studies, including the extent of any state aids. This may be a relevant factor when considering the degree of threat posed to UK airlines, particularly incumbent third/fourth-freedom services. This dimension may be an important part of any final decision on whether or not to approve an application for regional fifths.

8. Conclusions

- 8.1 The evidence from the case studies indicates that the balance of benefits to UK interests from granting fifth-freedom rights is in most cases likely to be positive. The analysis therefore points towards a shift in policy to an approach which favours the granting of fifth-freedom rights as opposed to the existing position where the presumption is that fifth-freedom rights should be refused. The policy change should be applied to the UK's position at formal bilateral negotiations as well as to consideration of *ad hoc* requests for fifth-freedoms from foreign carriers that come outside of such official talks.
- 8.2 Such a policy shift would represent a powerful signal of good intentions on the part of the UK and would send a strong message that the regions are "open for business". The benefits that arise from this kind of signalling are believed to be one of the main strengths of the Route Development Fund approach. A more liberal approach to fifths would give UK regional airports an opportunity to market themselves in a more welcoming fashion to foreign airlines, with less risk of prolonged administrative delay and of the airline switching its resources elsewhere before a decision is reached. It would also fit well with Government's stated aim to facilitate the growth of regional air services, and would do so by the means of removing a regulatory impediment and allowing the market to determine which opportunities would be most desirable (and which would therefore be more likely to be commercially sustainable). would also avoid many of the difficulties that are linked to policy approaches such as Route Development Funds which involve the use of public money and benefit only those airlines to which funds are allocated, rather than providing opportunities which any airline may take advantage.
- 8.3 With a presumption in favour of approving a fifth-freedom proposal, the burden of proof would fall on those who oppose the grant of rights. In assessing whether there are grounds not to approve, the two key issues as regards UK interests as represented in this report appear to be:
 - whether there is a significant loss of leverage in the bilateral arrangement, and/or:
 - whether the rights would be used head-to-head on a route against a UK airline and where the impact would be likely to cause significant and sustained disbenefits to UK passengers. It would be for the airline⁹ which opposed the grant of fifths to demonstrate that its pre-existing (or pre-announced) third/fourth freedom service would have to be withdrawn disadvantaging UK origin and destination passengers who would lose out from the consequent net reduction in capacity. In assessing whether such a withdrawal would actually take place, the presumption would be that this would seem unlikely to occur on the denser routes. For all cases, consideration should be given to the degree to which the applicant carrier is in receipt of state aids, as this may help assess the degree of threat to the services of the incumbent carriers.
- 8.4 Creating an administrative procedure that avoids long delays in decisions about regional fifths will be of almost equal importance to the success of the "open for business" message. If there is a perception that airlines have to go

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⁹ On the whole, one would expect the airline to be UK-based. However, it is possible that the threatened third/fourth service could be operated by a foreign carrier. As the loss of direct services might have a potentially negative impact on consumers, the likely withdrawal of such services may be valid justification for rejection of the application. However, the circumstances of the case would have to be considered carefully.

through a long and difficult process in the UK before they could secure rights to fly on from a regional airport, then this could deter applications, or favour alternative European airports. We would suggest a streamlined procedure along the lines of:

- DfT receives formal application for fifth-freedom rights;
- DfT publishes the application with an invitation for interested parties to comment;
- 2 week period for interested parties to send in their views;
- 1 week for CAA to scrutinise arguments made and give advice to DfT;
- 2 weeks for the DfT to consider submissions and decide whether the application should be approved or whether it should be addressed as part of wider bilateral discussions;
- DfT publishes decision.
- 8.5 This could create a transparent, reliable and expeditious system that would avoid any potential applications being deterred.
- 8.6 The policy option proposed here refers solely to UK regional airports. As suggested above, the circumstances at London are different: fifth-freedom rights from London are likely to be more valuable and may therefore be a significant bilateral bargaining chip; the use of these rights is more likely to affect directly the operations of UK airlines; and the possibility that fifth-freedom services would bring net new activity, or use spare capacity, is lower. Although these different circumstances do not necessarily mean that granting fifth-freedoms rights at London would never benefit the UK interests as defined here, they indicate that there may well be at present a different balance of potential benefits and disbenefits at London than at a regional airport.

APPENDIX A: METHODOLOGY

A1. The methodology used in the case studies is based on a 1994 study carried out by the CAA on the economic effects of new air services¹⁰ amended as necessary for different circumstances and incorporating some aspects of subsequent work which the CAA has carried out on the impact of transatlantic liberalisation. The methodology was used in the CAA's study of PIA's request for additional rights (Case Study 7) and was subject to review by the UK airlines and UK airports directly affected.

Passenger categories

A2. Passengers in the affected OD markets are categorised by their current means of travel (direct, indirect etc.) and main routeing, by journey purpose (business/leisure) and residence (UK/foreign) using CAA survey data. The model uses current data to estimate how passengers in these various categories may respond to the introduction of a new service. It works by first allocating business passengers to the available services and indirect options and then by allocating leisure passengers to the remaining, rather than the total, capacity. Where applicable, the capacity dedicated to transit and connecting passengers is excluded from the total capacity.

Business Passengers

A3. For each type of business passenger, a CPIF (Competitive Performance Index based on Frequency and measured by the ratio of market share to frequency share) is calculated for each option (see Annex C). If a scenario involves increasing the non-stop frequency on a given route, then it is assumed that the passengers carried will be stimulated and the increase is calculated using a frequency elasticity of e:

$$P_1/P_0 = (f_1/f_0)^e$$

where

 P_0 = passengers at the base frequency f_0

 P_1 = passengers after the frequency increases to f_1

A4. A frequency addition by an unattractive carrier is likely to produce less stimulation than a similar addition by an attractive airline so the frequency in the formula above is weighted by the carrier CPIFs. In reality the impact of additional frequency (or, in the case of leisure passengers, capacity) on the competitiveness of the route will be much more complex so the methodology captures only the generalised effect of the change.

Yield Changes and Stimulation in the Business market

A5. Additional capacity on a route may encourage the airlines to widen their range of public fares, discount more heavily and promote their services more vigorously. The effect will depend on the assumed CPIs but the additional capacity should

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¹⁰ "The Economic Impact of New Air Services: a study of new long haul services at UK regional airports", CAP 638, CAA, November 1994

reduce fares, offering benefits to existing and stimulated passengers. For business traffic it is assumed that prices on a particular route will react to frequency changes on that route and that yields for business traffic might fall in percentage terms by 10% of the increase in frequency¹¹. The market price elasticity of business passengers is assumed to be -0.5.

Leisure Passengers

Yield Changes and Stimulation in the Leisure Market

A6. The CPICs (Competitive Performance Index based on Capacity) for leisure passengers are calculated as the ratio of market share to the capacity share where capacity is the total capacity of the service less the number of seats used by the local business traffic, by transit passengers, and by connecting passengers. The allocation of leisure passengers therefore follows on after the allocation of business passengers. However, before doing so, the model estimates whether any stimulation has taken place. As in the business market the assumption is made that additional capacity will cause a reduction in yields. As the available capacity for leisure passengers changes then the price and the demand are assumed to change according to: -

$$P_m/P_b = (S_m/S_b)^{-k}$$

$$Q_m/Q_b = (P_m/P_b)^{-e}$$

where P_m , S_m , and Q_m represent the price, the capacity and the demand in scenario m and P_b , S_b , and Q_b refer to the base case values. Yields for leisure traffic are assumed to fall in percentage terms by 50% of the increase in capacity of the scenario concerned. A reasonably optimistic view about the stimulative effect of new capacity and lower fares is used in this study and it assumes a price elasticity of -1.5.

- A7. A capacity addition by an unattractive carrier is likely to produce less stimulation than a similar addition by an attractive airline so the capacity in the formula above is weighted by the carrier CPICs.
- A8. Although CPIs can be established for existing services, assumptions need to be made concerning the attractiveness of the new services considered in this study. Empirical data indicates the preference which connecting passengers show for online connections and the lack of success which fifth-freedom carriers generally have in penetrating connecting markets and local business markets. Accordingly it is generally assumed here that the fifth-freedom airline will not attract passengers who connect at either end of the fifth-freedom sector and so will be restricted to the point-to-point segment, i.e. the "local" market of passengers whose air journey consists only of the fifth-freedom sector. In this local market fifth-freedom services are generally assumed to be more successful at penetrating leisure markets than at attracting business passengers.

¹¹ Past CAA studies of liberalisation have generally assumed a greater response of business fares to frequency and capacity increases but they concerned additional third/fourth freedom competition and the reaction to a fifth-freedom increase of frequency would seem likely to be more muted.

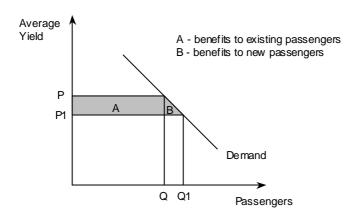
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¹² On-line connections are made from one flight of an airline to another of the same airline.

Passenger Fare Benefits

A9. The model calculates the effect of lower fares on business and leisure passengers. Existing passengers are assumed to gain by the equivalent of the fall in the average yield for the relevant market segment while stimulated passengers are assumed to benefit on average by half the yield decrease. Figure A1 illustrates the expected impact of a fall in average yield from P to P1 which leads to an increase in total passenger volume from Q to Q1. This leads to a passenger benefit for existing passengers represented by area A and a benefit to stimulated passengers represented by area B. Area A is a transfer from producer to consumer surplus and so has no direct impact on overall benefits whereas Area B represents a real overall gain, reducing deadweight loss.

Figure A1 - Passenger Benefits



Passenger Non-Fare Effects

A10. Passengers may also gain because of increases in frequency or convenience. The likelihood of gains will vary from case to case and therefore needs to be examined in the individual circumstances of each route. For example, if the new fifth-freedom service is on a sector which currently has no direct flights, there should therefore be time savings when a direct service is introduced and these may be of high value to business passengers. Passengers who switch to the direct service will also avoid the inconvenience of making a connection at the intermediate hub. The same type of savings is far less likely on a route that already has a reasonable direct service.

Airline Costs and Profits

A11. A new fifth-freedom service may affect UK airlines in two ways. First, they may lose passengers and the revenue they generate while saving only the related

marginal costs. Second, yields may fall across the market so that the UK airlines also lose revenue from the passengers they retain while but making no cost savings apart from any related commission payments. The effect on UK airlines may be mitigated by the market stimulation that takes place.

- A12. Arguably, the third/fourth-freedom airlines would not need to match any discounts offered by the fifth-freedom airline. However, although this would preserve yield, it would lead to the loss of more passengers because of fares are now lower on the fifth-freedom carrier and because fewer passengers will be stimulated if lower fares are only available on the one of the airlines. In terms of the effect on UK airlines' profit, the result would probably be little different if this alternative assumption were made.
- A13. It is assumed that the services that lose traffic as a result of the new service do not reduce frequency or capacity in the short term. The number of passengers lost to indirect services is very small in relation to the total traffic on the sectors involved. The loss may be more significant for the direct services from which traffic is drawn but the scope for reduction is limited as is discussed in the relevant chapters below. So, UK airlines which lose passengers are assumed to save only marginal costs with a consequent effect on profit. In the longer term with traffic growth, supply and demand should come to a new equilibrium with additional capacity being added slightly later than would have otherwise been the case.
- A14. Heathrow and, to a lesser extent, Gatwick are congested and demand is suppressed at peak times. Because of this and the greater ability to draw, for example, on international-international connecting markets, a passenger lost from a service at either of the airports can be replaced much more easily than one from a relatively thin route from a regional airport. However, there are peaks and troughs in demand even for services from London and it would be overly optimistic to suggest that every lost passenger could simply be replaced at the same yield in the short term. This problem was discussed in the 1994 CAA study and it was concluded that on a high seat factor flight replacement could be assumed on up to 35% of occasions¹³. London is more congested now and it may therefore be appropriate to raise this short-term replacement rate to 50%, at least for the denser, high seat factor, routes.

Aviation-related expenditure and profit

A15. Aviation-related expenditure, i.e. the spending of airlines at and around UK airports. consist of payments to the airport itself through aeronautical charges and commercial income and those to other companies (which may include the airport) for catering services, accommodation, fuel etc. The short-run profit element associated with changes in these expenditures have been calculated in the following ways:

90% of the additional airport revenue is assumed in the short-run to be profit.
The number of extra passengers is small relative to the size of the airport and
there is assumed to be spare capacity so the marginal costs associated with
a small increase in throughput are likely to be low;

¹³ The study examined the effects of replacing traffic by lowering yield and of replacement stemming from reduced overspill at peak times, together with the implications of the sophisticated yield management techniques which airlines use extensively.

the profit element on other expenditures is taken as the percentage which the
gross operating surplus of the relevant industry forms of the total output of the
industry. These figures have been taken from the latest available input/output
matrix of the UK economy.

A16. The evaluation is of the <u>net</u> effect both in terms of passenger-related expenditure and aircraft-related expenditure, i.e. it takes into account any negative effects on, for example, UK airports which lose throughput as a result of the new service.

Tourism Spend

A17. Finally, the evaluation includes an estimate of the possible additional expenditure by foreign tourists in the UK. This calculation is based on the number of stimulated foreign-resident journeys resulting from the new service and the average expenditure of foreign visitors from the relevant country or area as estimated by the IPS survey. The profit element of this expenditure is taken as the percentage that the gross operating surplus of the hotel/catering industries forms of their total turnover, using the approach described above for aviation-related expenditure.

APPENDIX B: Case Studies 1 to 6