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<td><strong>Authors(s)</strong></td>
<td>Reynolds-Feighan, Aisling J.</td>
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<td><strong>Publication date</strong></td>
<td>1993-09</td>
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<tr>
<td><strong>Series</strong></td>
<td>UCD Centre for Economic Research Working Paper Series; WP93/23</td>
</tr>
<tr>
<td><strong>Publisher</strong></td>
<td>University College Dublin. School of Economics</td>
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<tr>
<td><strong>Item record/more information</strong></td>
<td><a href="http://hdl.handle.net/10197/1734">http://hdl.handle.net/10197/1734</a></td>
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<td><strong>Notes</strong></td>
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EC Air Transport Liberalisation:
Implications for Small Communities

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Working Paper WP93/23
September 1993

UNIVERSITY COLLEGE DUBLIN

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EC Air Transport Liberalisation:
Implications for Small Communities

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Abstract

This paper looks at the impact of the EC 'Third Package' of Liberalisation measures on small communities. The liberalisation package came into effect on January 1, 1993 and allows for free entry on intra-European routes and freedom by carriers to set passenger fares and cargo rates. It is shown that in the case of the US, deregulation there produced many benefits to the travelling public. For small communities, the detrimental impacts of competition, namely a focus by carriers on the larger centres, were alleviated with the introduction of the 'Essential Air Services Programme' in 1978. This programme ensured that a basic level of air services was provided to designated small communities even if subsidies were required. The EC liberalisation does not include administrative or financial provision for an equivalent programme.

The case of the Irish regional airports is presented to highlight the detrimental impact of competition and liberalisation on small communities. These regional airports are vital to economic development in several peripheral regions of Ireland but are experiencing a reduction or removal of air services because carriers wish to focus on the more lucrative high density intra-community routes. A strong case is put forward for an EC community-wide Essential Air Services Programme, so that the benefits from the community-wide liberalisation package may be extended in a fair and transparent manner to small communities.

Abstract: 224 words

Key words: US Airline Deregulation; EC Air Transport Liberalisation; Essential Air Services Programme;
EC Air Transport Liberalisation:
Implications for Small Communities

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Introduction

The purpose of this paper is to examine how the 'Third Package' of air transport liberalisation measures in the EC will impact on small communities. These liberalisation measures which came into effect in January 1993 are expected to improve the efficiency of the European air transport industry and to reduce passenger fares and improve the frequency and general quality of Community air transport services. For small communities with limited air services, the danger is that competition and network reorganisation by the airlines will focus on the major airports and cities leaving the smaller communities with much reduced services or with a loss of all air services. With the passage of the Airline Deregulation Act in the US in 1978, legislative and financial provisions were made at the federal level to protect small communities from the adverse effects of deregulation. In Europe, while some legislative provision has been made, no equivalent of the US 'Essential Air Services' programme has been put in place to protect small communities.

This paper begins by describing the effects of US airline deregulation and the rationale for the provision of the 'Essential Air Service' (EAS) Programme. The impact of the EAS programme is briefly reviewed. In Section 2, the EC liberalisation package is reviewed and compared with the US legislation. In the third section of the paper, the case of the Irish regional airports is presented to highlight the potentially detrimental impact of air transport liberalisation for small communities. Finally, in Section 4, recommendations are made for the provision of a European community-wide EAS programme to ensure that the benefits of liberalisation can be extended beyond the Community core.
1: US Airline Deregulation and the Provision of the 'Essential Air Services' Programme


The US airline industry was regulated for a period of forty years by the Civil Aeronautics Board (CAB) and was formally deregulated in 1978 with the enactment of the Air Cargo Deregulation Act (1977) and the Airline Deregulation Act (ADA). This gave the airlines freedom to enter and exit markets, to set their own fares and to engage in mergers, acquisitions and takeovers under the same conditions as any other industry. The regulatory agency, the CAB, was to be disbanded with technical and safety standards being controlled after 1981 by the FAA. The Acts allowed for new airlines to freely enter the market once they had shown financial and technical competence. One of the outcomes of this new free market situation was that local scheduled services were withdrawn from many small communities.

With carriers being free to enter and exit routes (markets), three general trends could be observed:

1. The larger carriers focused on expanding their networks to serve the busier high density routes [CAB (1984); Moore (1986); Meyer (1986); Reynolds-Feighan (1993b)];
2. Fares on medium/long haul routes were reduced (often substantially) while fares on low density short-haul routes increased [Morrison & Winston (1986); Meyer & Oster (1987); Borton (1990)].
3. The smaller communities with low service levels experienced a reduction or withdrawal of scheduled service by the 'certificated carriers'. For example, in 1977, 638 communities were receiving scheduled service by certificated carriers. By 1985, 374 communities continued to receive scheduled service by the certificated carriers [NRC/TRB (1991); Reynolds-Feighan (1992)].

The US government recognised, in drafting the deregulating acts of 1977 (cargo) and 1978 (passenger services) that competition would be focused on the high volume routes and that small communities were vulnerable to reduction or withdrawal of service. Accordingly, the ADA of 1978 included provision for an 'Essential Air Service' Programme, which would ensure continued (subsidised) service to small communities after 1978. Air taxi and small commuter operators provided service to these small communities and linked them to the nearest hub airports where the larger
carriers were focusing their attention.

1.2. The Essential Air Services Programme

One of the key components of the ADA was the explicit recognition that these small communities were vulnerable to withdrawal of air services in the new competitive environment. The Essential Air Service (EAS) programme was included in the act in order to guarantee a minimum level of service to small and medium size communities. The Act provided for the continuation of air services for 10 years to communities which were certificated to receive such services on the date of the enactment of the ADA into law (i.e., 24 October 1978). Financial provision was made to cover the costs of the nationwide programme.

Under The Airport and Airway Safety and Capacity Expansion Act (AASCEA) of 1987, the EAS programme was extended and reorganised for a future 10 years. This new EAS programme permits new or enhanced services for many communities but requires that these communities be located at least 45 miles from the nearest hub airport to be eligible for service. This programme was further modified in 1989 with more strict eligibility criteria. In order for a community to qualify for a subsidy under the EAS programme, that community must be located more than 70 highway miles from the nearest medium or large hub airport, 55 highway miles or more from the nearest small hub airport or at least 45 highway miles from the nearest non-hub airport which enplanes a minimum of 100 passengers per day. These more stringent eligibility criteria led to a reduction in the total federal subsidy payments between the early 1980s and the late 1980s/early 1990s. 1978 EAS subsidy payments amounted to $73.9 million while payments for 1992 and 1993 have been set at $38.6 million per year. 508 communities are receiving essential air services in 1992/93 compared with 322 communities receiving essential air services in 1978.

The Programme works in the following way:

The FAA hub classification schemes categorises communities/SMSAs on the basis of their annual number of enplaned passengers. Large hubs are communities handling at least 1% of the total US enplaned passengers in a given year; Medium hubs are those communities handling between 0.25 and 1% of total passenger enplanements; Small hubs cater for between 0.05 and 0.25% of passenger enplanements while nonhubs handle less than 0.05%. In 1991 for example, large hub airports handled at least 4.28 million enplaned passengers (i.e. passenger boarding aircraft); medium hubs catered for between 1.07 and 4.28 million enplaned passengers, while small hubs catered for between 214,000 and 1.07 million enplaned passengers. Passenger throughput at these airports would be approximately double the number of enplaned passengers.
1. Eligible communities/points are those communities which were receiving scheduled services in October 1978 when the the ADA was passed, or, were receiving scheduled air services when the AASCEA was passed in 1987, and are at least 45 miles from the nearest non-hub airport (as was explained above).

2. The Secretary of the Department of Transportation (DOT) determines what constitutes basic essential air transportation for each eligible point. In most cases this amounts to air services twice per day ("at reasonable times taking account of the needs of passengers with connecting flights"), six days per week, in aircraft with an effective capacity of at least 15 passengers, unless the community agrees to the usage of smaller aircraft. These service determinations are periodically reviewed by the DOT.

3. If it has been determined that the basic essential air transportation service will not be provided to eligible points without compensation to a carrier, the DOT invites applications from any carrier willing to provide the basic service level with compensation. Carriers are selected on the basis of such factors as: (a) carrier reliability in provision of services; (b) the marketing arrangements that the carrier has with larger carriers which will ensure service beyond the hub airport; (c) inter linking/code sharing arrangements with larger carriers allowing for efficient baggage transfer and ticketing; (d) preferences of actual and potential users of air transport in the community in terms of carrier arrangements and alliances.

The carriers selected receive compensation to cover the costs of providing the service after revenues have been deducted. The costs relate to the "fully allocated actual cost of performing the basic essential air service .....plus a fair and reasonable return on investment which shall not be less than 5 percent of operating costs; and .....to provide the carrier an additional return which recognises the demonstrated additional lost profits from opportunities foregone and the likelihood that such lost profits increase as the duration of the required basic essential air service increases." (Section 419, public law 100-223, Dec. 30, 1987, 101 STAT. 1510-1511).

4. Carrier applications give estimates of the fully allocated cost of provision of the service level, and in cases where several applications are received, carriers
with lower costs are more desirable, bearing in mind the role of additional factors mentioned above. Carriers will also make estimates of expected revenues on the basis of past traffic patterns on the route. Selected carriers, may with the DOT's permission enhance the service offered. Such additional services must be co-sponsored by the community, so that the federal government's subsidy is 50% of the required compensation. In addition, the DOT will not increase the service level unless the increased service level will result in self-sufficiency within three years of initiation of the increased level of service.

The EAS Programme involves a determination of a basic level of air services to small communities in the US. If this basic service level cannot be provided by a carrier without that carrier incurring a loss, then provision is there for financial compensation to cover carrier losses and ensure that the basic service level is present. The notion of subsidising air carriers rather than airports is attractive, since the benefits of air links for the community can accrue. Subsidising the airport company will not guarantee air service to the community and without air services, the airport infrastructure is of little or no benefit to that community.

The US authorities have a long term commitment to, and interest in the national airways system. The airport serves interests far beyond its geographical locality, as a CAA report of 1939 points out:

"The usefulness of every airport depends upon the status of its neighbouring airports...They are deeply dependent upon each other's existence; they are deeply influenced by one another's quality...Though communities may rival one another in the attractions that their respective airports offer to air traffic, their common interest is far more important than their rivalry. Every user of aircraft; every community that has drawn upon its resources for airport construction; every commercial interest that has a stake in an airport; all have the best of reasons to become zealous partisans of the maintenance of a fully adequate system of airports serving every part of the Nation. And beyond any local interest, the national interest in a free development of air commerce inevitably translates itself into an interest in airports" [Civil Aeronautics Authority report to the House Committee on Interstate and Foreign Commerce, 24 March 1939, Page 1].

Air transport plays a key role in providing fast and efficient access to information and as Kanafani and Abbas (1987) point out, air transport facilitates the movement of economic agents by offering high-speed mobility to business people. Airports attract industries which rely on good quality communications and contribute significantly to city or regional development strategies. The AACI Report concludes:

"airports are both commercial entities in their own right and create economic
synergies which reinforce economic vitality" [AACI (1992) page 14].

The US EAS programme has sought to ensure that the benefits of competition brought about through deregulation (most notably the lower fares and wider range of services available) have been extended to many small communities.

### 1.3. The Impact of the Essential Air Services Programme

Before the industry was deregulated in 1978, roughly 150 communities were receiving subsidised local air services. These services were being provided by the local service carriers who had been licensed in the 1960s and 1970s to supplement the services of the trunk carriers. With deregulation, many of these local services carriers, who were now free to enter higher density intercontinental routes, shifted their operations from the low density 'local' markets.

The effect of the EAS programme was to encourage the growth and development of new commuter airlines who quickly filled the gap being left by the local service carriers. These commuter carriers operate small turboprop aircraft and they grew from handling 10% of rural/small community enplanements in 1977, to handling 51% in 1988 [NRC/TRB (1991)].

Using data obtained from the US Regional Airline Association, Tables 1 & 2 were compiled. Table 1 shows the total number of EAS communities being served by regional carriers only and by major/national carriers only between 1978 and 1992. Table 2 shows the subsidy payments under the EAS programme between 1987 and 1991. Of the 505 communities to be determined to receive EAS in 1991, 122 required subsidy payments (ie. 24.2%). Before the revisions in the legislation in 1987, almost one half of EAS communities were receiving subsidy payments. The vast majority of EAS communities are now served by regional or commuter carriers only (in 1992, 417 of the 508 EAS communities were served by regional carriers only).

Total subsidy payments have risen from $23.7 million in 1987 to almost $32 million in 1991. As mentioned in the previous section, this represents a considerable saving on the subsidy payments which were being made under CAB regulation before 1978.

In a detailed analysis of passenger enplanements and flight frequency in small community air routes, the NRC/TRB (1991) report the following trends (based on their analysis of DOT RSPA Forms 41 & 298-C):
* Between 1977 and 1988, large carriers reduced their number of passenger enplanements in rural/small communities by 59%. Over the same period, commuter carriers increased their enplanements to these communities by 490%. The overall effect was that these rural/small communities experienced a decline in enplanements of 15%.

* Flight frequencies in most small communities have increased rapidly because of the proliferation of commuter carriers and the requirements of the EAS, which encouraged more convenient departure/arrival times from the hub airports. Despite the fact that fewer passengers overall are being carried on these small community routes, more frequent and convenient flights using smaller aircraft have resulted in an improvement in small community services since deregulation [see also Butler & Huston (1990)].

* There is evidence of consolidation of traffic at larger airports with many small communities (lying within a 100 miles radius of a larger airport) experiencing declining enplanements. The argument is put forward that small community travellers may be taking advantage of lower fares, direct service and a wider choice of carrier than at small community airports.

In relation to this last point, this is what Kanafani and Abbas (1987) have called the 'vicious circle of local air service'. The vicious circle occurs because for small community airports which lie in relatively close proximity to major hub airports, there is a reduced ability for the local airport to capture any significant proportion of the traffic. Because of the sensitivity of passenger demand to schedule convenience and the existence of economies of density and scope which encourage hubbing by air carriers, Kanafani and Abbas suggest that it is doubtful that sufficient service can be provided at local airports to effectively compete with the hub.

This 'vicious circle' is dependent to a significant degree on the availability and quality of substitute or intermodal transport links available to the passenger between his origin and destination. In their case study of Californian small community airports, Kanafani and Abbas cite the case of Bakersfield to highlight the concept. Bakersfield, the authors point out, enjoys a
"high level of regional accessibility. Interstate 5 runs north-south 25 miles (41 km) west of the town center. State highways 99, 178 and 58 provide additional connections....Amtrak serves passenger rail traffic. Intercity bus connections are ample with five major companies providing service to Bakersfield."

Where good quality substitute transport is available to small communities lying in close proximity to larger urban centres, the reduced potential for local services represents the choice by travellers of service convenience and flexibility and the choice of carrier at the larger centre. In determining EAS communities, the US government has set out more stringent criteria for qualifying communities and particularly for those communities qualifying for subsidies.

2: EC Air Transport Liberalisation

2.1. Impact of Liberalisation on EC Air Services

In January 1993, the so-called 'Third Package' of air transport liberalisation measures came into effect in the European Community. This liberalisation package covers scheduled and non-scheduled air passenger and freight services. The measures include licensing arrangements for carriers operating within the community, the gradual removal of capacity constraints on intra-European routes, more widespread approval of fifth freedom rights and cabotage within the community and automatic approval of fare changes (replacing the 'double disapproval' regime previously in operation) except in circumstances where "limited competition" conditions are met. This refers to situations involving congested airports with limited services or public service agreements [AEA (1992); EIU (1992)]. The Commission envisage full cargo pricing freedom with public access to rates as well as liberalisation of domestic routes by 1997.

These liberalising measures will have a very significant impact on the structure and operation of the EC air transport industry. It is expected that consolidation will occur, with several strategic alliances and mergers having taken place already. Carriers are expected to streamline their single hub operations and develop interactive hub-and-spoke network systems along the same lines as US carriers. In addition, a general reduction in fares is anticipated [Avmark Aviation Economist (1993); Reynolds-Feighan (1993)]. High growth rates in both passenger and freight services have been forecast for the EC for the 1990s by ICAO and other international industry agencies. This growth in traffic volume will be unevenly distributed, with
the larger community airports experiencing higher than average growth. Significant expansion plans are well underway at most of the major EC airports to cater for this growth [see Airport International (1989-93)].

2.2. Provisions for Small Communities in the EC

The EC has now taken substantial steps towards liberalising the internal European air transport market. While some of the negative outcomes associated with deregulation in the US have been controlled in the European liberalisation programme [ie., slot allocation issues relating to hub airport dominance, computer reservation system ownership and bias, predatory pricing practices] no broad financial mechanism has been put in place to cater for the reduction in air services to small communities which liberalisation undoubtedly brings.

The EC liberalisation package of June 1992 made a general provision for a public service obligation programme within the community. However a specific budget provision was not made for the programme. The EC report to the Council and European Parliament On the Evaluation of Aid Schemes Established in Favour of Community Air Carriers from March 1992 shows that Greece, France, Italy and the UK operate some system of direct operational aids to carriers for service on domestic routes. The detail and extent of these subsidies are not fully documented, though some specific examples are quoted in the report.

Along with the development of liberalisation policies, the air transport sector has seen recent rulings made by the Court of Justice in relation to the community’s competitive policy. Since 1988, the general rules in relation to competition are now applicable to the air transport sector. As the report to the council points out,

"Fair competition is a key issue for the community. In this respect a regulation empowers the Commission to take particular measures in order to prevent predatory behaviour." (Regulation 1284/91, OJ No L122. May 17, 1992).

In relation to public service obligations, the report states that,

"Compensation for the performance of the obligation to operate a particular route may be compatible with Article 92(1) on the grounds of not affecting trade between member states; or under Article 92(3) as promoting regional development. However, an exemption for intra-community routes would depend on the likely distortion of competition, the resulting effects on trade between member states, and on the fact that no other airline would be willing to provide the required level of service
without receiving aid." [page 8]

In assessing the current situation where direct financial assistance is being provided to community carriers for public service obligations, the report points to the need to (a) verify that such compensations do not contribute to the diversion of significant volumes of international traffic, (b) verify that such services do not allow carriers to cross-subsidise international routes on which they compete with other community carriers. In the Spanish case in 1992, an estimated 11.3 billion pesetas was paid to carriers in compensation for public service obligations to the Canary Islands, Balearic Islands and Melilla. The aid was strictly related to fare reductions and did not include direct aid for improving the financial situation of the particular air carriers. These flights are operated on the basis of Spanish regional policy considerations and since

"all community citizens being residents of the regions concerned are treated equally, no discrimination occurs."[page 23]

It is clear from the report that subsidies to carriers are permissible in situations where such service is deemed necessary for regional development and the compensation does not affect trade between member states nor does it distort competition through for example cross-subsidisation. The transparency of a state's policy and the equal treatment of all citizens, are essential from the Commission's point of view, if the public service obligation programme is to be permitted. Under Council Regulation No 2408/92, the Council of Ministers adopted a regulation permitting the imposition of a public service obligation in respect of scheduled air services

"to an airport serving a peripheral or development region in its territory, or on a thin route to any regional airport in its territory, any such route being considered vital for the economic development of the region in which the airport is located, to the extent necessary to ensure on that route the adequate provision of scheduled air services satisfactorily fixed standards of continuity, regularity, capacity and pricing, which standards air carriers would not assume if they were solely considering their commercial interest" [OJ No L240/10 June 23, 1992].

The Council regulation requires that the right to operate such public service obligations be offered by public tender either singly or for a group of routes to any licensed community carrier. Selected carriers may only offer passenger services under a public service obligation order. The regulation allows Member States to pay compensation:
"A Member State may reimburse an air carrier....for satisfying standards required by a public service obligation imposed under this paragraph; such reimbursement shall take into account the costs and revenue generated by the service." [OJ No. L240/11 June 23, 1992].

The Council did not put any financial instrument in place, nor were specific guidelines set out for the operation of such a programme. The fact that a community-wide programme was not put in place may lead to significant regional distortions in the quality and availability of small community air services, particularly between the richer states and the poorer, more peripheral states. These issues are discussed at length in Section 4 of the paper where the case for a community wide EAS/Public Service Obligation Programme is put forward. In the next section, the case of the Irish regional airports is examined to highlight the potentially detrimental impact of liberalisation for small community/regional airports.

3: Case Study of the Irish Regional Airports

3.1. Description of the Network of Irish Airports and Recent Traffic Patterns

The Irish commercial airport system consists of three state owned international airports (Dublin, Shannon and Cork, all of which are operated by Aer Rianta) and six regional airports capable of handling international scheduled air services. The location of the airports is shown in Figure 1. Five of the six regional airports have tarmac runways of between 1230 metres and 1450 metres in length and the heaviest aircraft which can be accommodated are twin engined turbo-props (35-50 seaters). Connaught regional airports, known locally as Knock airport, has a 2300x45 metre runway and can accommodate two and three engined jet aircraft.

The regional airports were developed in the 1980s with the help of Irish Government grants and more recently with the aid of EC structural funds. The regional airport companies remain privately-owned concerns however. The six regional airports opened for scheduled passenger traffic between 1986 and 1988. This coincided with the deregulation of the Dublin-London air route by the Irish and UK governments, a move which encouraged the development of air services between the regional airports and London (with either direct services or indirect services through Dublin). The regional airports were supported by the Irish government because they were seen to
have an important role in long term regional economic and tourism development of the regions which they served. The Irish Industrial Development Authority supported investment in the airports on the grounds that air access to the regions was vital for maintaining and attracting export-oriented firms [see Reynolds-Feighan (1993a)]. The airports are located in predominantly rural areas at surface travel distances of generally at least three hours from Dublin (Waterford lies two and a half hours from Dublin by road) in regions considered to be peripheral in Irish as well as European terms. Other transport links to these regions and within these regions are necessarily of a minimum standard because of the low density and dispersed nature of the population. Arterial routes linking Dublin to the cities of Galway, Waterford and Sligo are being upgraded as part of the National Plan (with the aid of EC structural funds) but none of these routes would be of continuous dual carriageway standard.

The six regional airports experienced very rapid growth in passenger numbers in 1989 and 1990, with equally dramatic declines in their throughputs in 1991 and 1992. The total traffic volume through the six airports rose from 99,000 passengers in 1987 to 483,879 in 1990 (a 488% increase), falling to 255,946 in 1992 (a 43% fall from 1990 volumes). The annual traffic volumes are illustrated in Figure 2. The airline service frequency levels played a key role in determining the passenger throughputs. There was an average of 28 round-trip flights per week in 1990 (ranging from 2 flights per week at Carrickfin to 41 flights per week at Galway and Kerry) and this fell to 15 flights per week in 1992 (ranging from no scheduled flights to Carrickfin to 28 per week at Galway). In the Winter season of 1992/93, four of the regional airports continued to receive scheduled services: three of the airports had just one round trip per day (Sligo, Kerry and Knock) with Galway receiving two round trips per day.

3.2.1. Impacts of Liberalisation and Airline Competition

The six regional airports were served in 1989 and 1990 by both Aer Lingus (the 100% state owned national carrier) and Ryanair (a privately owned Irish carrier which commenced operations in 1986). Ryanair offered direct2 service to London-Luton Airport from Galway, Kerry, Knock and Waterford in 1989, extending the service to

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2 Some services to and from Galway stopped at Waterford en route from/to Luton.
include Donegal and Sligo in 1990. Aer Lingus services to and from the regional airports were 'hubbled' through Dublin. This was the outcome of the Government's 'Two Airline' policy which was in operation at the time and which sought to prevent direct competition between Aer Lingus and Ryanair. Aer Lingus offered varying levels of service to five of the regional airports in 1989 and 1990, withdrawing from Waterford in Winter 1990. The Aer Lingus schedule to the remaining four regional airports was not increased in Summer 1991 above the Winter frequency. In 1992 service to Kerry, Knock and Sligo was reduced to one round trip per day. The service to Galway involves an early morning flight to Dublin, an early afternoon Dublin-Galway return trip and a late evening Dublin-Galway trip (with the aircraft and crew staying overnight at Galway).

Both Aer Lingus and Ryanair were experiencing financial difficulties in 1991 due to intensive competition on the Dublin-London route, the general economic downturn in the Irish and UK economies and travel markets and due also to structural difficulties in both companies. The two carriers made losses on routes to/from the regional airports in 1989/90/91. For Ryanair, the maintenance and operating costs associated with operating two different aircraft fleets [ATR's (regional routes) and BAC1-11s] resulted in a revenue shortfall for the company. Administrative costs and staffing at the regional airports added to this problem. The company reorganised in 1992 and substantially cut-back on its regional route network. Ryanair chose to operate an all-jet fleet of older BAC1-11 aircraft, and no longer provide service to Galway, Carrickfin, Waterford, Sligo and Kerry (Kerry's proposed jet runway will not be completed until early 1994 at the earliest).

For Aer Lingus, the regional routes have been loss making from the beginning. Aer Lingus Commuter was set up as a subsidiary company to concentrate on short haul domestic, cross-channel and continental routes. While the direct operating costs are reasonably low, the maintenance and administrative costs apportioned from the parent company make the fully allocated costs of the regional services significantly higher. With the schedule reduced to one flight per day on three of the four routes served, the relative performance of the routes has further disimproved, given that the overhead costs and indirect operating costs are now spread over fewer passengers. The national carrier continues to operate these regional routes on social/political grounds only. Having reported heavy financial losses for 1992 and facing further structural and financial difficulties, the company was forced in 1993 to put forward a re-organisation plan which would make it commercially viable.
Given the very strong competition on the London-Dublin route in 1992 and 1993, fare levels have been kept very low with the cheapest round trip fare being I£59 ($90). It has been suggested that because of Aer Lingus 'yield management techniques', as few as 5 APEX seats may be available per flight on domestic routes and passengers paying higher fares are more inclined to travel to Dublin by car and avail of cheaper fares from there.

Dublin-London is the second busiest route within the EC after London-Paris, and was the seventh busiest international route in the world in 1990 (according to ICAO statistics). With liberalisation, carriers have been free to greatly boost capacity on this route in an effort to gain market share. Aer Lingus is competing with two lower cost carriers on this route and will have little opportunity to substantially raise its fares in the short-medium term. The foregoing analysis illustrates the downside of liberalisation. Under free market forces, small communities with limited air services are vulnerable to loss of service and no mechanism has been put in place to protect or promote 'public' or 'social' air services in rural or peripheral areas.

3.2.2. The Importance of the Irish Regional Airports

With fares on Dublin-London likely to remain at the competitive levels seen in the last two years, passenger potential at the regional airports will remain curtailed. Furthermore with Aer Lingus facing no competition in three of the four regional airports which it now serves, the numbers of passengers lost by further reducing or cutting its service to these airports will be quite small. Aer Lingus offers the widest range of flights to the UK provinces and Europe from Dublin, and passengers going to or from the regions in which the airports are located are most likely to continue availing of Aer Lingus services from Dublin.

This can be cited as further evidence of the 'vicious circle of local air services' that was discussed in Section 1.3. However in the Irish cases the regional airports are generally at substantial distances from the main Irish airport at Dublin. Galway, Sligo and Knock lie three hours by road from Dublin; Carrickfin and Kerry lie at least five hours by road from Dublin. With a reduction or removal of service,
these small communities and the regions which they serve will have little or no fast
links to the Irish capital and to the EC mainland. Before EC liberalisation, these
communities were enjoying frequent daily year-round air services. Now under
liberalisation, these communities have become and will continue to be more isolated
than before. Competition and the benefits which it brings have been focused on the
main centres particularly in the EC core.

As was pointed out in Section 1.2, small community airports play a vital role in
city or regional development by offering fast mobility and accessibility. In the
Irish case, the regional airports were developed to encourage the growth of tourism,
to maintain and attract new industries to the regions of Ireland outside of Dublin
and to provide more efficient transport links within Ireland, to the UK and to the
EC.

3.3. Comparison with UK Regional Airports

Having examined the traffic trends at the Irish regional airports and the factors
affecting the traffic patterns, a comparative analysis of UK regional airport
traffic trends was undertaken. For the Irish airports, it has been shown that the
airports experienced a very sharp decline in passenger traffic in 1991 and 1992
compared with traffic volumes in 1989 and 1990.

Data on the UK airports traffic performance in recent years was obtained from BAA
and CAA in London. The data provided give monthly passenger and freight statistics
for the 55 airports of the UK receiving air services in 1990-1992. Passenger
statistics are subdivided into scheduled and charter traffic. The traffic trends
were examined along with traffic trends at the Irish state and regional airports.
The UK airports were categorised into 5 groups with the larger London airports and
Manchester being left as a separate category. Table 3 summarises the statistics
computed for the small-medium airports (ie., airports with less than 3 million
passenger throughput in 1990).

The Table shows that the smallest airports, with less than 10,000 passenger
throughput experienced on average a slight increase in traffic in 1990/91 and
1991/92. The majority of this traffic is charter traffic [76.8% on average]. One of
these small airports experienced a 580% increase in traffic between 1991 and 1992.
This airport was not included in the second set of computations for the small

16
airports category in Table 3. Airports with traffic throughput of between 10,000 and 40,000 experienced on average a 16% fall in traffic between 1990 and 1991 with no significant change in 1991-92. Airports in the 40,000-200,000 category had the worst performance in the last 2 years, in parallel with the regional airports in Ireland. On average the 11 airports in this category suffered a 16% fall in traffic volumes between 1990 and 1991 and a further 12.5% fall between 1991 and 1992. For these airports, the average proportion of scheduled traffic was 77% in 1990. Airports in this category include Unst in the Shetlands (which suffered a modest 5% decline between 1990 and 1992), Alderney ((Channel Islands) which experienced a 25.5% decline in 1990-92), and Plymouth (Southwest England) which experienced a 47% fall between 1990 and 1992. Figure 3 illustrates traffic changes in 1990/91 and 1991/92 for all UK and Irish airports.

UK airports with a passenger throughput of between 200,000 and 400,000 experienced on average a 14% decline in traffic in 1990/91, but traffic rose by an average of 7% in 1991/92. For the larger regional airports with traffic throughput of between 600,000 and 3 million passengers, a small reduction in traffic was experienced in 1990/91 (2.2%) with a substantial rise of 13% on average in 1991/92. For the larger UK and Irish state airports, a small fall-off in traffic was experienced in 1990/91 with the effects of the Gulf War but traffic grew in 1991/92 to give an overall increase from 1990-92 of on average 5%.

The larger international airports in the UK and Ireland have a less pronounced seasonal fall-off in their traffic volumes, compared with the smaller regional airports. In addition, their traffic volumes are less sensitive to economic conditions, at least in terms of substantial reductions in traffic from one year to another. Figure 4 shows the ratio of the minimum traffic in one month in 1990 and in 1992 compared to the maximum traffic in one month in 1990 and in 1992, for 8 categories of Irish and UK airports. The categories are based on the 1992 traffic volumes. The figure shows no consistent trend between airport size and traffic seasonality. However the larger international airports (with more than 5 million passengers) have the highest ratio while the smallest airports (with less than 10,000 passengers) have the lowest ratio. For the regional and smaller international airports, the ratio varies from between 29% and 45% on average.

3 Both 1990 and 1992 ratios of minimum-to-maximum traffic are shown because of the substantial variation in traffic volumes between 1990 and 1992.
The main conclusion that can be drawn from the analysis of Irish and UK airport traffic trends is that it is the smaller regional airports, handling throughputs of between 40,000 and 200,000 passengers per annum which have been worst affected by the economic recession in the UK and the downturn in the European air transport sector. While the larger airports recovered in the 1991/92 period, these smaller regional airports continued to experience declining traffic volumes. These airports are now vulnerable to traffic losses because of liberalisation and the expected trend by carriers to focus on more lucrative higher density markets.

4: Conclusions: Recommendations for an EC 'Essential Air Services' Programme

4.1. Justification for, and Operation of a Community Wide Programme

In the previous section, it was shown how the Irish and UK regional airports have suffered a sharp decline in traffic volumes in both 1990/91 and 1991/92 due to the Gulf war and the economic recession in the UK economy. Based on the US experience, small local or regional airports are vulnerable to reductions in traffic under more competitive market conditions. For the Irish airports, Aer Lingus is operating domestic services at a loss, and under liberalisation, the company 'should' cut services completely to these regional airports and focus on entering new more lucrative markets in the UK and mainland EC. The EC liberalisation policy did not provide an administrative structure nor a financial instrument for implementing a community wide EAS/Public Service Obligation (PSO) programme. In this section, the arguments in favour of such a policy are put forward.

The arguments for a single community wide EAS programme (as opposed to each state operating its own policy) are broadly similar to the arguments which can be made for a community wide regional policy [see Armstrong & Taylor (1987)]. If, as in the US, EAS community designations and service levels are determined at the community level, then there is a consistency in these decisions in terms of the size of the communities, the distance to the nearest hub airport and the influence of alternative transport modes available. Subsidy payments decided in this way can be more closely matched to the requirements of each region. For isolated peripheral regions in the poorer states, the extent and level of air services provided will not be completely dependent on the state's ability to subsidise air services. Similarly for small communities in the richer member states, where a higher level of subsidy
and thus a higher service frequency can be provided, consistent EC decisions on the service level will ensure more equitable operation of the subsidy programme. It will also prevent abuse of PSO payments by member states to their flag carriers.\(^4\)

With the phased liberalisation of domestic routes by 1997, the development of domestic feeder traffic from smaller centres will be encouraged through entry by existing community carriers but also by a commuter airline sector nurtured with the operation of a community wide EAS programme. Under EC administration, multiple designations by commuter airlines to service routes in several states is possible. In this way interaction and co-operation among member states will be encouraged and greater integration achieved. A community EAS programme will ensure that a more equitable distribution of the benefits of the new community air transport policy to peripheral regions, island and small communities as well as to the core regions.

The US EAS programme provides a good blueprint for the operation of a transparent community-wide subsidy programme. For the EC, such a programme makes sense because it provides for the potentially detrimental impacts of a community wide air transport policy at the community level rather than leaving it up to each state to make up for the downside of liberalisation by itself. In operating such a programme, the partial payment of subsidies by the state or regional government should be established in order to involve member states and local administrations in the decision process and to allow them to indicate support for continuation of the air service programme. This would allow for co-ordination of air transport requirements with other regional development projects.

For the EC, the role of intermodal transport or substitute transport is of much greater significance in relation to air transport compared with the US. Many small communities particularly at the EC centre are linked to larger centres by rail (high speed and conventional) and by road. An EC-wide EAS designation programme should seek to determine those communities which are not linked to the main transport networks. In assessing the spatial situations of such communities, their relative locations should be measured in travel times rather than in metric distances, since the quality of the alternative links varies substantially.

\(^4\)It is clear in the 1992 EC report to the Council (discussed in Section 2.2), that several existing PSO routes within the community should be commercially viable and should not require the subsidy payments which are being provided.
4.2. Regional Development and the Impact of Transport Services on the Peripheral Regions of the EC.

In examining the impact of the Irish regional airports on regional development it is argued that the airports offer a degree of mobility and accessibility which is crucial for sustaining and promoting regional economic development. There is strong support for this argument in the literature on regional economics and infrastructural development and economic growth. The provision of a basic level of transport services is a prerequisite for long term suitable economic development.

The literature on transportation and development has shown that in general, the quality and cost of transportation is a primary barrier to economic development (see for example Sinha et al (1983) and the US Congressional Budget Office (1978). The empirical literature on transportation and economic development suggests that for developing economies, the impact of transport investments on regional and national economic development is substantial. For developed economies, Stephanedes and Eagle (1986) suggest that

"the majority of studies indicate that, as long as today's well-developed transportation system provides good accessibility, transportation improvements no longer contribute significantly to economic development... (however)... the literature on large scale regional models presents a different picture."

Because the large scale regional models evaluate the impacts on a sector by sector basis and explicitly take account of the interrelationships among sectors and transportation services, (while these interactions are omitted from small-scale models) Stephanedes and Eagle suggest that the inclusion of these interactions may provide a plausible explanation for apparent contradictions in the literature on developed economy relationships between transportation and regional economic development.

The main conclusion drawn here is that the regional airports are seen as being very important in attracting and sustaining industrial and enterprise development in the long run in the regions. The EC Commission in their Fourth Report on the Regions emphasises the vital role which transport infrastructure plays for the 'lagging regions' especially (1991). With air transport liberalisation, substantial benefits can be gained from free market access, competition in the areas of price, service quality and service frequency. There will be winners and losers in this process. It
is vital that at least some of the benefits be spread to the small communities.
Acknowledgements

I am very grateful to Michael McDonnell, Gay Sellars and Brendan Twomey of the Irish Department of Transport, Energy and Communications for their invaluable assistance.

This research was supported by the Irish Department of Transport, Energy and Communications.
References


Butler, R., & J. Huston "Airline Service to Non-hub Airports Ten Years After Deregulation" The Logistics and Transportation Review, 26(1), pp.3-16.


EIU, European Trends, Economist Intelligence Unit, 2, pp.42-52, 1992


Table 1

Services to Designated 'Essential Air Service' Communities 1978–1992

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of EAS Communities</th>
<th>EAS Communities Served by</th>
<th>Total Number of US Airports Receiving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Regional Carriers Only</td>
<td>Major/Net*1 Carriers Only</td>
</tr>
<tr>
<td>1978</td>
<td>322</td>
<td>112</td>
<td>149</td>
</tr>
<tr>
<td>1988</td>
<td>327</td>
<td>276</td>
<td>5</td>
</tr>
<tr>
<td>1989</td>
<td>326</td>
<td>268</td>
<td>4</td>
</tr>
<tr>
<td>1990</td>
<td>300</td>
<td>243</td>
<td>4</td>
</tr>
<tr>
<td>1991</td>
<td>505</td>
<td>413</td>
<td>14</td>
</tr>
<tr>
<td>1992</td>
<td>508</td>
<td>417</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Regional Airline Association, Annual Reports 1988–92

Table 2

EAS Subsidy Payments ('Section 419 Compensation')

<table>
<thead>
<tr>
<th>Year</th>
<th>48 Contiguous States &amp; Puerto Rico</th>
<th>Overall Total (Incl. Alaska)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Payments Average per Point</td>
<td>Total Payments Average per Point Total Number of Points</td>
</tr>
<tr>
<td>1987</td>
<td>$21,341,370 $217,769</td>
<td>$23,680,517 $63,220</td>
</tr>
<tr>
<td>1988</td>
<td>$23,629,096 $222,916</td>
<td>$27,719,850 $75,263</td>
</tr>
<tr>
<td>1989</td>
<td>$19,571,434 $244,643</td>
<td>$21,936,933 $192,429</td>
</tr>
<tr>
<td>1990</td>
<td>$19,398,328 $236,565</td>
<td>$21,197,197 $184,323</td>
</tr>
<tr>
<td>1991</td>
<td>$30,249,530 $332,412</td>
<td>$31,980,772 $262,137</td>
</tr>
</tbody>
</table>

Source: Regional Airline Association, Annual Reports 1988–92
Table 3
UK Regional Airports – Summary of Traffic Trends, 1990–92

<table>
<thead>
<tr>
<th>Airport Size Category</th>
<th>Number of Airports</th>
<th>% Scheduled Traffic</th>
<th>Traffic Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10,000*</td>
<td>8</td>
<td>23.2</td>
<td>74.9</td>
</tr>
<tr>
<td>10,000–39,999</td>
<td>7</td>
<td>71.5</td>
<td>-16.4</td>
</tr>
<tr>
<td>40,000–199,999</td>
<td>11</td>
<td>77.1</td>
<td>-16.0</td>
</tr>
<tr>
<td>200,000–599,999</td>
<td>11</td>
<td>73.1</td>
<td>-14.4</td>
</tr>
<tr>
<td>600,000–3,000,000</td>
<td>11</td>
<td>67.3</td>
<td>-2.2</td>
</tr>
</tbody>
</table>

* One of the small airports in this category experienced a 580% growth in passenger throughput in 1991–92. This airport is excluded in the second set of calculations for this category.
Irish International & Regional Airports

Figure 1
Passenger Throughput at Irish Regional Airports, 1987-92

Figure 2a

Figure 2b
UK and Irish Airports Traffic Changes 1990-1992

Percentage Change in Passenger Traffic

Airport Size (Thousands of Passengers)

- Change 1990-91
- Change 1991-92

Figure 3
UK and Irish Airports Traffic Changes 1990-1992

Ratio of Min. Traffic to Max. (%)

Airport Size (Thousands of Passengers)

- Min:Max 1990
- Number of Airports
- Min:Max 1992

Figure 4