The Role and Provision of Social Air Services in Deregulated Air Transportation Markets

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Social air services continue to be provided by governments in liberalized air transport markets for reasons of regional economic development and social or political integration. Here the service policies for the US, EU and EFTA countries, Australia and Canada are examined and it is argued that policies should rely on market forces in order to obtain social, economic and political goals most economically.

Introduction

From the early stages in the development of commercial aviation, governments have been involved in the development of scheduled services in both domestic and international markets because of the strategic and economic advantages which are associated with the mode. The involvement in the development of air transport markets has continued despite deregulation or liberalization, with many governments seeking to provide air services within their territories for social, political and regional economic development purposes. Indeed until recently in the majority of the OECD countries, because the state owned the main airline or airlines, social air services were provided as part of the carrier’s mandate. The aims typically are to meet some or all of the following goals:

(a) to link small remote communities and/or islands to the main national transport networks;

(b) to develop domestic scheduled air transport as well as international scheduled air transport;

(c) to integrate socially or politically regions of the country by providing air access.

Air services which are not commercially viable may be provided through subvention by regional or national governments. Under deregulation or liberalization, these services continue to be provided in situations where alternative modes of transport (mainly surface modes) are not available and provision of the necessary infrastructure cannot be justified because of the large investment required. Air transport services require relatively small infrastructural investments at the margin. For countries with low population densities and/or dispersed population distributions, air transport can provide an effective means for meeting social, economic and political objectives. With the advent of liberalization and deregulation in several of the OECD countries in the last two decades, charges have been introduced in the procedures for providing these social air services. The new procedures in the United States, Canada, Australia and Europe are domestically focused and in the case of the EU and Canada, administered at the individual state or province level rather than federally. In the second section of this paper,
the provision of social air services before and after liberalization/deregulation will be briefly reviewed for the US, Canada, Australia and the EU12. In the third section some general issues will be discussed relating to efficiency and competition in social air service provision. Some broad policy recommendations are made in the concluding section of the paper.

Social Air Service Provision before and after Deregulation

US Approaches to Social Air Services Provision

Since the 1930s, the US government has been involved in the development of scheduled air services to small communities. Subsidies have been paid since that time to ensure the maintenance, growth and development of extensive air services to small, medium and large communities. Prior to deregulation, subsidy levels were relatively high and not tied to specific routes or services (USOTA, 1982). The industry was deregulated in 1978. Under the provisions of the 1978 Act, the ‘Section 406’ federal subsidy payments (i.e. the pre-1978 subsidies authorized under Section 406 of the 1958 Federal Aviation Act) were to be phased out by 1983. The ‘Essential Air Services’ (EAS) programme was established under Section 419 of the 1978 Airline Deregulation Act and permitted all carriers to avail of subsidies for service to small communities. Prior to 1978, commuter carriers were not eligible to receive federal subsidies for these services. In the 1978 Act, this restriction was removed and the Act required the Civil Aeronautics Board (CAB), the regulatory agency at the time, to draw up common safety, technical and operating standards for commuter carriers. The aim was to assure the travelling public that safety standards which prevailed for the certificated carriers (i.e. trunk and local service carriers holding a (Federal) Certificate of Public Convenience and Necessity) would now be applicable to the commuter carriers. Since 1978, the commuter carriers’ operations have expanded rapidly and the EAS programme is now largely serviced by these carriers.

The programme was originally set up to cover a 10-year period, but was extended in 1987 until 1998. The EAS programme is now administered by the US Department of Transportation (DOT) and continues to be funded by the federal government. The programme operates in the following way: eligible communities/points were identified as those communities receiving scheduled air services in October 1978 (when the ADA was passed). Several restrictions have been introduced in recent years to reduce the number of new communities qualifying for the programme and to reduce the total budget for the programme, which in 1995 is $33 million. These restrictions relate to the relative location of the community vis-à-vis larger regional and national ‘hub’ airports. The Secretary of the Department of Transportation (DOT) determines the level of essential air service for each community (usually two round trips per day, six days per week). If this service is not being provided by a carrier, the DOT invites applications from carriers to tender for the service provision and specify if necessary the level of compensation required to fulfil the required air service level. One carrier is selected by the DOT based on several factors including fare structure, reliability of the carrier and interlining and/or marketing arrangements with larger carriers at the hub airport which the applicant carrier proposes to use. The DOT issues an order naming the carrier, the level of compensation payable and the period covered by the agreement. The carrier may, with the DOT’s permission, enhance the service offered, provided that the enhanced service is co-sponsored by the community or state, and that the increased service will result in self-sufficiency for the community within three years.

If another carrier at any time proposes to offer subsidy-free service to an EAS community
where compensation is being paid to a carrier, the DOT may give notice to the incumbent carrier of its intention to discontinue the subsidy payments and the service obligation with that carrier. The new carrier may offer service covering the minimum service level. The incumbent carrier may choose to continue service without compensation on the route, or to withdraw its service. If one carrier remains serving the community, it cannot withdraw service without notice to the DOT and until a replacement carrier is found. A single carrier operating to an EAS community is obliged to meet the designated minimum service level.

In summary, the US programme involves designating eligible points (communities) rather than routes. Because it is federally operated, consistent qualifying criteria, service level designations and tendering procedures and selections result. In addition, the procedure for dealing with increased air service levels is clearly set out. Through the competitive bidding process and the threat of replacement of a subsidized carrier by a lower cost carrier, total subsidy payments are kept in check. In the last two years, additional restrictions have been set out for existing communities and new communities entering the programme in an effort to keep the total federal subsidy payments within the limits agreed by the Congress. These restrictions relate to the distance to the next nearest commercial airport and the maximum subsidy allowable per passenger. As figure 1 shows, the subsidy payments have been maintained in the 1980s at significantly lower levels than those prevailing in the 1960s and 1970s. Figure 2 gives a summary overview of subsidy provision in US aviation since the 1930s (for a lengthy discussion, see Reynolds-Feighan, 1995b).

Canadian Approaches to Social Air Service Provision

Canadian airline deregulation involved a gradual approach to liberalize air transport markets rather than the rapid approach adopted in the US. Canadian deregulation became official in January 1988, though freedoms had been gradually permitted since 1984. The deregulation related to southern Canada where an estimated 95 per

Figure 1. US Federal air subsidy payments, 1955-94. (Source: RAA, Annual Reports 1988-94; USOTA, 1982)
**AIM OF FEDERAL GOVERNMENT:**
Creation & Maintenance of National Airways System

### TRUNK AIRLINES

<table>
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<tr>
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<td>1940s</td>
<td>Larger Aircraft</td>
<td>Medium/Long-Haul Routes</td>
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<td>1950s-60s</td>
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**DEREGULATION 1978 - FREE ENTRY & EXIT TO ALL MARKETS**

### LOCAL SERVICE CARRIERS

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</thead>
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<td>Short/Rapidly Increasing</td>
<td>Subsidies to Develop Routes</td>
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<tr>
<td>Early 1960s</td>
<td>Larger Turbo-props/Piston Aircraft</td>
<td>Medium-Haul/Medium Densities Routes</td>
<td>Rising subsidy Payments</td>
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<tr>
<td>Late 60s/1970s</td>
<td>Small Jets</td>
<td>Medium-Haul/High Density Routes</td>
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</tr>
<tr>
<td>Early-Late 1970s</td>
<td>Small Jets</td>
<td>Medium-Haul/High Density Routes</td>
<td>Rising subsidy Payments</td>
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**DEREGULATION 1978 - FREE ENTRY & EXIT TO ALL MARKETS**

### COMMUTER CARRIERS

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<td>Small Turboprops</td>
<td>Short/Haul/Feeder Routes</td>
<td>No Subsidies paid to commuter carriers</td>
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<tr>
<td>1970s-80s</td>
<td>Small Turboprops/Small Jets</td>
<td>(Low/Medium Density)</td>
<td>Subsidies required EAS Program (Section 419)</td>
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Figure 2. Schematic representation of US air transport services to small communities.
cent of the population live. In the much more extensive 'designated area' in the north of Canada, a more restrictive regime continued, though it was less restrictive than the pre-1968 policies. Within this area, carriers are subject to controls over entry, fares and other terms and conditions of services (Oum, Stanbury and Tretheway, 1991). The National Transportation Agency (CNTA) reports that no federal subsidy payments are now made to carriers. Individual provinces make payments to carriers through a competitive bidding process. The CNTA does not monitor or become involved in the operation or provision of these social air services.

**Australian Approaches to Social Air Service Provision**

The Australian domestic airline industry was gradually deregulated during the 1980s, with the deregulation affecting only the interstate routes (Forsyth, 1991). Government subsidies are provided under the Remote Air Services Subsidy Scheme (RASS). These subsidies are paid to five small airlines predominantly operating in Queensland and Northern Territory, with a small number operating in South Australia and Western Australia. These carriers have operated the scheme for many years and while they do not receive entry protection from the Federal government, state level licensing arrangements in some cases may afford entry protection. The subsidies generally cover weekly air services to almost 200 ports and for an estimated 9,000 passengers per annum. The most recent government estimate of the costs of the scheme was put at aus$1.2 million (1994/95). Eligibility for inclusion of ports in the RASS is assessed on the basis of the port's remoteness or on the need for social air service provision. No new centres or ports have been admitted to the scheme since 1990.

**EU Approaches to Social Air Services Provision**

The process through which European governments have been paying subvention to carriers and the extent of the subventions prior to 1993, were the focus of a study undertaken by the European Commission in 1992. The Commission prepared a report for the Council and European Parliament On the Evaluation of Aid Schemes Established in Favour of Community Air Carriers in March 1992. In this report it was shown that Greece, France, Italy and the UK were operating some system of direct operational aids to carriers for service on domestic routes. The detail and extent of these subsidies were not fully documented as this information was not forthcoming in many instances from the state governments. In relation to public service obligations, the report suggested that compensation was reasonable and compatible with the Treaty of Rome providing trade between member states was unaffected, or where regional development goals were being pursued. In assessing the 1993 situation where direct financial assistance was being provided to community carriers for public service obligations, the report pointed to the need to (a) verify that such compensations did not contribute to the diversion of significant volumes of international traffic, and (b) verify that such services did not allow carriers to cross-subsidize international routes on which they compete with other community carriers. As part of the EU's Third Package of Air Transport Liberalisation Measures, these general considerations were codified in Council Regulation No 2408/92, which permitted the imposition of a public service obligation (PSO) in respect of scheduled air services. This regulation applies to new services introduced after 1993 and requires that contracts for any existing social air services be subject to the new rules upon their expiration or from January 1996, whichever was the earlier. By 1996, eighteen EU and EFTA countries are expected to have adopted the Third Package measures and thus be subject to the new rules for imposing PSOs. In the Third Package, these PSOs are defined as
any obligation imposed upon an air carrier to take, in respect of any route which it is licensed to operate by a Member State, all necessary measures to ensure the provision of a service satisfying fixed standards of continuity, regularity, capacity and pricing, which standards the air carrier would not assume if it were solely considering its commercial interests. [OJ No L240/10 July 23, 1992].

The PSOs may be imposed by Member States in relation to scheduled air services, and relate to airports serving peripheral or development regions within the state, or on thin routes to any regional airport where the route is considered vital for the economic development of that region. The EU PSOs are defined and operated in terms of routes (rather than airports). The new regulations require 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 EU carrier. The selected carrier is permitted to offer only passenger services under a PSO order, and fares and conditions may be quoted by the Member State to the selected carrier. In the event of no carrier being willing to offer the required level of services, the regulation allows Member States to pay compensation and to limit access to the route to just one carrier for up to three years. The Member State must demonstrate to the Commission that other forms of transport cannot adequately ensure service when capacity offered exceeds 30,000 seats per year (this amounts to just over 80 seats per day and is a very low threshold). The regulation allows other member states to propose satisfactory alternatives fulfilling the same PSO.

The European Council did not put any financial instrument in place, nor were specific guidelines set out for the operation of such a programme. Compensation paid to carriers under these PSOs is to come from the individual state concerned. By mid-1995, the Irish government was the only authority to have invoked this new regulation (see Reynolds-Feighan (1995a) for discussion).

Issues Relating to Competition and Efficiency in the Provision of Social Air Services

In liberalizing air transport markets, the broad aim would be to permit market forces to yield an improved overall outcome in terms of fares, service, choice and costs or economic efficiency. Several difficulties can be identified in the way in which governments have proceeded to deal with social air service provision after liberalization. Essentially these difficulties arise because the procedures for operating the social air service programmes often include unnecessary barriers or restrictions to competition which will result in a suboptimal or less efficient outcome. These difficulties will be dealt with in this section of the paper and relate to two broad areas. In the first subsection, obstacles to competition are identified and discussed. In the second subsection, procedures resulting in inefficiencies are reviewed.

Barriers to Competition in Social Air Service Provision

If carriers receive protection from entry or replacement by other carriers, or if they are prevented from competing for social air service contracts, then subsidy payments may arise over time, and development of enhanced services may not be forthcoming even when demand conditions may favour them. For example, the new EU regulations explicitly permit the Member State imposing the PSO to restrict entry to the route to one carrier for a period of up to three years (Article 4.1 (d) of Regulation 2408/92). This procedure does not allow flexibility. The rigidity of the European PSO procedure hampers expansion of services by the designated carrier or prevents entry by another carrier for periods when economic conditions may increase demand for the air services. By contrast, under the US programme, the (subsidized) carrier does not receive protection from entry by other
carriers, since the main function of the US programme is to provide a safety net for small communities by ensuring that air service levels do not fall below a specified minimum level. In the event of improved demand for services, other carriers are free to enter the market at any time or to offer to provide the minimum service level for a lower level of compensation. Exit by a carrier from a route is permitted when at least one other carrier services the route. Exit is not permitted however if no other carrier services the route. Under these circumstances, the carrier is paid a higher subsidy by the USDOT and a replacement carrier is sought.

While intra-European routes have been liberalized since 1993, domestic markets will not be liberalized until at least 1997. Because of the phased introduction of cabotage then, carriers registered in the state imposing the PSO have an advantage over non-national carriers. This arises because of the capacity restriction placed on the latter carriers by the 'consecutive-cabotage' rule, i.e.

a Member State shall not be required to authorise cabotage traffic rights within its territory by Community air carriers licensed by another Member State, unless the air carrier does not use, for the cabotage service, more than 50% of its seasonal capacity on the same service of which the cabotage service constitutes the extension or the preliminary. [Article 3 of Council Regulation 2408/92].

This restriction and the fact that routes are specified by the individual states means that cross-border PSO routes are less likely. The expansion of existing regional or commuter carriers across borders is also curtailed until 1997 at least by the consecutive-cabotage rule. The House of Commons Transport Committee report of 1991 called for clear guidelines to be set out for the terms of tenders, because under the current legislation, the committee was concerned that member states could use 'their discretion with respect to the selection criteria to favour particular airlines' (House of Commons Transport Committee, 1991). The consecutive-cabotage rule compounds this. Free entry and exit from routes is seen to be a key component in the development of competitive and efficient air transport markets (Baumol, 1982; Levine, 1987; Comité des Sages, 1994). Where it is feasible for only one carrier to service a route, competition through tendering procedures for meeting social air service requirements and the ongoing possibility of replacement imposes cost-minimizing behaviour on the incumbent, provided that there is a real possibility of replacement.²

On thin short haul routes, it would be expected that such routes would be operated by commuter carriers using turbo-prop aircraft. The efficient organization and growth of 'third level' carriers and their networks can lead to an expansion of the air networks to increasingly smaller communities. Given free entry, one would expect that the larger the geographical and voluminous size of the markets, the greater will be the number of competitors. As the number of competitors increases, more favourable impacts on costs and prices can be expected (see Graham, Kaplan and Sibley, 1983; Moore, 1986).

In the US, the commuter carriers have maintained strong and consistent growth in passenger volumes since 1978. These carriers provide vital links between small centres and the main regional and national nodes of the air transport system. The EAS programme is now largely serviced by the commuter carriers (in 1994, 419 of the 503 eligible communities were served exclusively by regional/commuter carriers (RAA, 1994)). These carriers have expanded the size of their operations and their links with the larger major and national carriers. Many however remain unaligned. As was shown earlier, the EAS programme has rationalized Federal subsidy payments to small communities and ensured Federal safety regulations for the commuter carriers. The commuter carriers have increased their number of
enplaned passengers by 378 per cent between 1978 and 1993. The number of operators has declined from 228 carriers in 1978 to 196 in 1983 and 130 in 1993, through mergers, acquisitions and a small number of failures. The result has been a steady rise in the typical commuter carrier’s network and in its average fleet size. The total number of commuter aircraft in operation in 1978 was 1047; this rose to 1545 in 1983 and to 2208 in 1993 (RAA, 1988-94). The average number of aircraft operated by a commuter carrier in 1993 was 17, a substantial increase since 1978 when the average fleet was 4.6 aircraft. Within the EU, commuter carriers and air taxi operators are large in number and small in terms of their average fleet size. The overall average number of aircraft per carrier is 3.4 for the EU (Reynolds-Feighan, 1995a). A very large number of operators utilize a single aircraft. These carriers typically service short-haul low-density routes on a scheduled, non-scheduled or air taxi service basis. In the single internal EU market, these carriers have the potential to offer flexible access and mobility to small communities by linking small centres or rural/ peripheral regions to the main transport networks.

The EU commuter carrier sector is clearly at an earlier stage of development. This sector has the potential to offer vital links to the main EU transport networks, particularly for small and peripheral communities. But the carriers need to build up their networks in order to avail of economies of scope and to complement the services of the larger carriers. At this stage, the networks are nationally focused and competition with national or other EU flag carriers is difficult. The US experience has shown that the commuter carrier sector plays an increasingly more important role in linking small communities and offers consumers attractive scheduling and pricing arrangements.

The ownership of commuter carriers however can present additional difficulties. In the US and Canada after deregulation, the major carriers developed feeder networks through alliances, financial interest or majority ownership of feeder carriers. In Canada where feeder or commuter carriers are in the majority of cases affiliated with one of the two trunk carriers (Air Canada and CAL) Oum et al. (1991) argue that this imposes a significant entry barrier. Potential entrants need access to feeder traffic, but the feeder carriers in the Canadian case are owned by the two majors. With very low population densities in extensive tracts of land, it may not be economically viable for more than one carrier to operate. In such circumstances, the costs of the social air service programme may be higher because the single carrier may be able to exploit its monopoly position. Once again, non-discriminatory tendering procedures and Federal operation of social air service programmes may offer an improved outcome for the reasons outlined earlier.

Procedures Producing Inefficiencies in Social Air Service Provision

The Canadian National Transportation Agency leaves administration and funding of social air services to individual provinces. The European PSO regulations also leave the administration and funding of these orders to the individual states. The EU has not set out criteria for designating PSO routes, nor has it set out procedures for selecting among applicant carriers; this is left to the individual states. Consistent designations of PSO routes and service levels as well as federal funding for the programme would lead to a more efficient and more transparent programme, with better matching of funds to regional needs. A Federal administration along US lines would also reduce the total administrative costs. The administration of social air service programmes at province or state level compared with Federal level perhaps reflects the extent of political and economic integration within the unions or federations, but can limit the geographical size of markets if barriers to
entry are permitted, as was outlined in the previous subsection. Furthermore, consistency in dealing with enhanced or increased service levels is necessary if social air services subsidies are seen as largely temporary growth-inducing measures. The ultimate aim should be that such services become commercially viable over time, particularly when they are introduced as regional development measures. The mechanisms for dealing with increased air service levels (i.e. above the level required by the public service obligation) in the cases of the EU, Canada and Australia are not clearly specified.

The Irish PSOs were imposed because several of the regional airports (which are privately owned) were in financial difficulty because of withdrawal of service by one or both Irish carriers. The length of time which has elapsed between the decision to impose the PSOs and the commencement of the PSO orders has been 12 months in the best cases and more than 18 months in others. For small airports requiring PSO interventions because of cyclical downturns in traffic, such delays may defeat the whole purpose of the PSOs – to maintain (or establish) air services deemed necessary for reasons of regional economic or social development. Continuous air services to small centres have important demonstrative effects to local and non-local businesses, commuters and tourists, guaranteeing access to the region for a reasonable time period. With Federal administration, one set of ‘teething problems’ needs to be resolved, rather than every state which invokes the regulations being required to go through a learning process.

The US system does not require local funding to contribute to carrier compensation for the minimum essential air services to that community. While it is argued here that a federally operated programme is preferable to a regional or state-level programme, matching funding from the regional or state government should be required in order to gauge continued interest in air service provision. In addition, in determining subsidy payments, all sources of revenue for the air services provided should be encouraged in order to minimize the subvention. In the European regulations, services are restricted to passenger seats only. In the US, carriers make their predictions of their expected revenues on EAS routes based on forecasts of passengers and freight (express and mail) carried.

The carriers providing social air services typically operate lighter commuter aircraft linking small communities with a larger regional or national centre. The services require availability of slots at a medium or large hub airport. When that hub airport is congested, the costs attributable to these users are significantly higher than for larger jets servicing higher density national or international routes. The US require that a proportion of slots at the four large FAA slot-controlled hub airports be allocated to commuter carriers serving small communities, making the true economic cost of such services higher than the operational costs incurred by the carrier (see for example USGAO, 1994). Assuming that air travel between small or peripheral centres and a larger hub is usually part of a larger segment also by air, then the hub to which the community is connected is not highly significant. If congestion or capacity constraints at a large hub make the true economic costs of social services from small communities prohibitive, secondary hubs offering significant onward connections may satisfy national and regional objections.

Conclusions
In providing social air services, the governments should rely as far as possible on market forces to minimize the extent of subsidy payments, allow for flexibility in service levels to small communities which are more vulnerable to cyclical downturns in traffic and encourage the development and growth of all classes of airlines so that scope and density economies may generate
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Efficiencies at all levels. Encouraging all forms of revenue generating business (i.e. passenger, freight, express and mail services) minimizes subsidy payments. The social air services programmes now in operation by the EU, USA, Australia and Canada all require a competitive bidding process for carrier selection in cases where subsidies are required. In some cases however, carriers are treated in a discriminatory manner because liberalization does not extend to intra-state or intra-province air markets. Larger markets, both in terms of geographical coverage and potential passenger volumes, are associated with greater numbers of competitors and more favourable fares and firm cost structures. For these reasons and in order to reduce administrative costs and achieve a better balance between regional needs and funding for social air service provision, it was argued that a federally administered social air service programme was a superior framework compared with a state-level programme.

For reasons detailed in the last section existing policies in some cases may not be optimally formulated. In the EU for example (which covers 75 per cent of OECD countries in 1996) there is much scepticism on the part of the Commission about the provision of PSOs at all. It is reasonable however to argue that ‘nurturing’ or ‘growing’ scheduled air services to small communities offers access to the key national and international transportation networks as well as increasing the place utility of often substantial areas of regional or national territories.

REFERENCES


NOTES

1. The restrictions place a maximum limit on the per passenger subsidy level, and also give minimum and maximum distances for eligible communities from FAA hub airports.

2. The US experience of the 1950s and 1960s showed that where subsidies were being paid to carriers without checks or efficiency mechanisms, carriers used the subsidies to help fund purchases of new and larger aircraft, raising subsidy payments and causing mismatches between route characteristics and the equipment used (see figure 2 and USOTA, 1982).

3. Cunningham and Eckard (1987) have shown that in the case of the US EAS Programme, the average size of small communities receiving federal subsidies has been declining since the programme was introduced. This would seem to indicate that the larger ‘small communities’ are gradually moving to a situation in which commercially viable air services can be provided without federal intervention.


