
Chapter 1

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Passenger air service to the Nation's small* communities has declined steadily since 1960, as the Civil Aeronautics Board (CAB) allowed first the trunks and then the local service airlines to withdraw from short-haul, low-density markets. Between 1960 and 1978, 187 small- and medium-size cities were dropped from regulated airline routes. In response to concern that deregulation would result in further deterioration, the Airline Deregulation Act of 1978 guaranteed continued scheduled air service for 10 years to any community currently receiving certificated airline service, with direct Federal subsidy if necessary. CAB established the Essential Air Service (EAS) program to implement this guarantee, for which a community becomes eligible when it loses its last certificated carrier.

Even before 1978, the certificated airlines had been replaced in many markets by unregulated, unsubsidized commuter airlines, whose smaller aircraft and lower operating costs were better suited to short-haul, low-density air service. The result in many cases was more frequent and convenient service than had been provided by subsidized local service carriers with large, uneconomical jets. This trend has accelerated since deregulation, as commuters have replaced certificated carriers in over 132 EAS-eligible communities, usually without subsidy. Commuters have also reentered markets previously abandoned by certificated airlines, again without subsidy.

Nevertheless, the changes that have taken place in air service patterns since 1978 suggest that many small- and medium-size cities, and some States and regions, may not have shared equally in the recent improvements in domestic air service. Communities in at least 34 States have appealed their EAS determinations, and some critics feel that the program provides for levels of service that are inadequate to maintain or develop markets in many small communities. More recently, 19 States have joined in a court case challenging CAB's administration of the transitional subsidy program. Congressional supporters of the program, however, point out that it provides greater protection than small communities had before 1978, and that the cost

*The term "small" in this report generally refers to communities with populations below 100,000, although some communities in CABs Essential Air

to the Federal Government of a nationwide "market development" program would be prohibitive.

The future of air service to small communities, both during and after the 10-year transition to full deregulation, will increasingly depend on the survival and health of the commuter airlines. Their future growth, like that of the major airlines, will depend on factors such as U.S. economic growth, inflation and interest rates, and the availability and price of aviation fuels. In the short term, commuter profitability and expansion are constrained by the current economic downturn, the flight restrictions imposed as a result of the Professional Air Traffic Controller Organization (PATCO) strike, and other factors, including the limited availability of some classes of small transport aircraft. In the medium term, some commuters (like the trunks and locals before them) may be tempted to abandon service to small communities in order to compete in denser, more profitable markets; commuter service to small communities may also be constrained by access limitations at congested hub airports or by rising operating costs.

In the longer term, however, many commuter operators doubt that air service to the smallest communities can be continued unless a new generation of commuter aircraft, embodying the full range of cost-cutting technologies now practical, can be put into service. The National Aeronautics and Space Administration (NASA) has identified several areas in which research could lead to improved technology for commuter aircraft. Although these improvements alone would not guarantee profitability, they do offer the prospect of important economic benefits to commuter operators. Some observers, however, doubt that the program would produce results soon enough, or that aerospace firms would apply the NASA results in a whole family of advanced-technology small transports. For the present, U.S. commuter airlines are buying and flying increasing numbers of foreign aircraft, and many observers have expressed concern that U.S. manufacturers may be losing their ability to compete in these key market segments.

Service program are as large as Bakersfield, Calif. (population **233,000**), and many communities of well under 50,000 have scheduled airline service.

REGULATION AND SERVICE TO SMALL COMMUNITIES

The history, structure, and behavior of the commercial air carrier industry have been shaped by three basic factors: aviation technology, the market for air service, and Government regulation. The Civil Aeronautics Act of 1938 created CAB and gave it authority over who could offer air service, where they could offer it, when they could terminate service to a given community, and what fares they could charge. When the original trunk airlines became more profitable and began to acquire larger aircraft after World War II, CAB created a new category of carriers—the local service airlines—to provide federally subsidized air service in low-density markets and small communities. As the locals, too, began adding larger aircraft to their fleets in the late 1950's, CAB's central concern shifted from protecting the financial viability of the trunks to reducing the total local service subsidy, which had risen from \$33 million in 1958 to \$62 million in 1961. The Board's response was to strengthen the locals' route structure by allowing them to drop service to the smallest communities and move into more profitable markets that were better suited to their new aircraft. To fill the emerging gap in air service, CAB created a new category of "commuter air carriers," whose numbers have grown from 12 airlines in 1964 to almost 300 in 1981.

The principal function of the low-density, short-haul air service provided by the commuter airlines has been to provide small- and medium-size communities with access to the Nation's primary air transportation system. This service is particularly vital in areas that are isolated by low population density, long distances, and physical barriers. A number of studies have also shown that scheduled air service is an important factor in nonmetropolitan economic growth and in the ability of small- and medium-size cities to attract the industries needed for their future economic growth. Federal policy has consistently stressed the development of an air transport system that meets the present and future service needs of all regions, and the Airline Deregulation Act of 1978 specified that this would require "the maintenance of a comprehensive and con-

venient system of continuous scheduled airline service for small communities and for isolated areas, with direct Federal assistance where appropriate." To guarantee such service, section 419 of the act establishes a subsidy program to be administered by CAB.

Airline deregulation, however, has been a mixed blessing for small communities. Many small cities are enjoying new or improved service, but deregulation has also created new market opportunities that tempt established commuter airlines—like the locals before them—to abandon service to smaller communities. Almost all recent commuter growth has taken place on routes where commuters have begun or expanded service since 1978; existing commuter routes sustained traffic declines, particularly during the 1980 slump. Nonhub airports (the smallest communities) experienced the smallest increase in both departures and available seats in 1979 and the greatest decrease in both measures of air service during the 1980 slump. More flights are available from nonhubs to large hubs, which indicates improved access to the national air transport system; but departures from nonhubs to small hubs and other nonhubs has decreased 20 percent since deregulation. At least 33 nonhubs ineligible for EAS have lost all scheduled air service, although service to EAS points has remained stable since deregulation.

A similar unevenness emerges when service is considered on a State-by-State basis: 13 of the contiguous States experienced a decrease in either departures or available seats between October 1977 and October 1980, while 16 States plus the District of Columbia have suffered declines in both measures of air service; the Southeast and Midwest have been particularly hard hit. Studies by the North Carolina and New York State departments of transportation found that their small- and medium-size communities were vulnerable to a loss of scheduled air service because of the lack of well-developed commuter net works. These studies also suggested that the EAS levels determined by CAB may be too low to provide adequate or sus-

tainable levels of service. Another study by the Appalachian Regional Commission found that almost half of the communities in its 13-State area have experienced service reductions, including 11 nonhubs that have lost all certificated service; that certificated service is being withdrawn faster than commuter replacement service is being initiated; and that the region's route network is becoming substantially less capable of facilitating intraregional air travel.

These and other studies have raised a number of questions about the adequacy and long-term effects of the EAS program and 419 subsidies, as implemented by CAB. Communities in at least 34 States have appealed their EAS determina-

tions, and CAB faces a legal challenge to its determination for Bakersfield, Calif., in a suit that has been joined by the attorney generals of 19 States and by the National Conference of State Legislatures. In addition, at least 10 medium-size communities have formed an organization to work for changes in CAB policies and EAS determinations. Critics have suggested that the EAS program might permanently depress traffic levels and thereby lead to demands that it be extended beyond its scheduled 1988 sunset. Congressional sources, however, emphasize that EAS is intended only to ensure basic service during the 10-year transition; it is not a market-development program.

U.S. COMMUTER AIRCRAFT INDUSTRY COMPETITIVENESS

The original commuter fleet in the 1960's consisted of single-engine and light-twin aircraft that had low initial costs but few passenger amenities. As the industry grew, the carriers began to operate commuter derivatives of more modern executive aircraft; but CAB still restricted commuters to aircraft of no more than 12,500 lb—between 15 and 19 passengers. This meant that there was little domestic market for larger commuter aircraft, and even when CAB raised the limit to 30 passengers in 1973 many commuters preferred to stay with the smaller aircraft. As a result, no U.S. manufacturer developed a new aircraft in the 20- to 30-seat range, and the new foreign aircraft that were available captured most of the market. Deregulation raised the size limit to 60 seats, and once again those carriers who wanted to upgrade their fleets had no modern U.S. option: they could buy the one new foreign aircraft that was available, or settle for older piston or twin-turboprop aircraft—many of them also foreign-made—of the type once flown by the local service airlines.

Commuter airlines have added 1,000 aircraft to their fleets since 1965, and current forecasts indicate a worldwide demand for as many as 8,000 commuter aircraft between 15 and 60 seats by the year 2000, perhaps as many as 2,500 in the United States alone. This represents poten-

tial domestic sales of \$5 billion to \$10 billion in 1980 dollars, and total world sales of \$10 billion to \$25 billion, for which U.S. firms must compete with foreign manufacturers, many of them government-subsidized. The General Agreement on Trade and Tariffs in 1980 made even the domestic market even more competitive, however, and most U.S. manufacturers have remained reluctant to enter the field with a high-risk, new-technology aircraft. Few of the commuter aircraft currently under development in the world are American, and most of these are either dated designs or derivatives of current-technology executive aircraft. This has in turn raised questions about the loss of the traditional U.S. technology lead and the future competitiveness of the U.S. aircraft industry, not only in capturing a share of the growing foreign market but in holding onto its share of the domestic market as well.

One possible approach to addressing the needs of small communities, commuter airlines, and aircraft manufacturers alike is contained in the Small Transport Aircraft Technology (STAT) program initiated by NASA in 1978. In its first phase, STAT identified technology needs and potential advanced-technology applications in four specific areas: aerodynamics, propulsion, aircraft systems, and structures. The second phase consisted of technology-application

studies by three aircraft manufacturers—Cessna, General Dynamics-Convair, and Lockheed-California—each of whom designed both a current-technology “baseline” aircraft and an advanced-technology aircraft incorporating these potential improvements. These studies indicated that an advanced-technology 30- to 50-seat commuter aircraft would reduce fuel consumption by 16 to 40 percent and reduce direct operating costs by 16 to 24 percent compared to baseline designs, and would also reduce airframe production costs by as much as 25 percent, while improving reliability and safety and providing passenger comfort (e.g., headroom, cabin noise, and ride quality) equivalent to large jet transports.

The special Commuter Air Transport Subcommittee of the NASA Advisory Council’s Aeronautics Advisory Committee recommended in November 1980 that NASA should sponsor a dedicated research and development (R&D) program to bring the necessary technologies to a stage of readiness for commercial development and application. The subcommittee’s report outlines three options for a possible STAT technology-readiness program:

- small option (supporting and enabling technology, experimental engineering designs,

and small-scale fabrication)—3 years, \$18 million;

- medium option (above elements plus large-scale component fabrication, simulation, and wind-tunnel testing)—4 years, \$58 million; and
- large option (above elements plus integration, ground and flight testing; and evaluation)—5 to 6 years, \$80 million to \$135 million.

Some commuter operators and aircraft manufacturers agree that a program along these lines would encourage U.S. firms to develop an advanced-technology commuter aircraft, and that the availability of such aircraft could be very important both for commuter airline profitability and for small communities that might otherwise lose their air service. Others, however, feel that NASA should look also, or instead, at faster or larger or longer range aircraft. One major manufacturer feels that any version of the proposed program would take too long—that foreign manufacturers have already begun to move on some of these technologies, and that NASA should concentrate on a few high-priority areas that will produce quick results for application by U.S. manufacturers. Particular priority has been assigned to new aircraft configurations and efficient turboprop engines.

FURTHER ISSUES

Unresolved issues relating to air service to small communities, commuter airlines, U.S. commuter aircraft industry competitiveness, and the STAT program include the following:

- *Essential air service.* —The EAS determinations made by CAB ensure minimal levels of air service to small- and medium-size communities, but they may not be sufficient to provide “threshold” levels of service that will permit the development of sustainable passenger traffic and self-supporting future markets. (CAB notes that EAS is not a market-development program.) Will the perceived inadequacies in EAS or 419 programs result in higher subsidies in the future or demands for extension of the programs beyond their scheduled sunset in 1988? To what extent will potential service inadequacies damage the future economic development of affected communities?
- *State and local capabilities.*—Will the States be able to assume responsibility for necessary monitoring and regulatory functions, particularly if (as has been proposed) airline reporting requirements are reduced or CAB sunset is moved forward to 1982? To what extent can State and local governments or regional associations encourage market development in small communities through promotional and marketing activities, thereby compensating for perceived inadequacies in current EAS determinations

and 419 subsidies? To what extent can State, local, and private loans or direct-financing programs be used to supplement or replace Federal funding for subsidizing the equipment purchases or operating costs of commuter airlines?

- *Commuter airline concerns.*—The single most important issue to commuter carriers is the mandatory joint fare program, an arrangement that benefits commuter airlines. They feel that this is vital to their financial viability, particularly in maintaining service to small communities. They also claim that joint fares result in savings for the traveling public when they connect between commuter and other carriers. Eligibility for the Federal Aviation Administration's (FAA) Equipment Loan Guarantee program is another concern: commuters became eligible for equipment loan guarantees following deregulation and received guarantees totaling \$15 million in fiscal year 1979 and \$79 million in fiscal year 1980. The authorization of \$400 million in fiscal year 1981 contained a \$100 million set aside for commuters, and for fiscal year 1982 the provisional authorization is for \$100 million, all of it set aside for commuter aircraft loans. Other commuter operator concerns include the price and availability of fuel, as well as the availability of low-cost, economical aircraft.
- *Airport capacity and air traffic control.*—Local communities, commuter carriers, and Federal officials alike have expressed concern over the ability of the Nation's airports and air traffic control system to accommodate the future expansion of commuter operations. The loss of small airports, the need to upgrade existing airports with improved navigational and landing aids, and the allocation of landing slots to commuters at major hubs are of particular interest. The restrictions imposed as a result of the PATCO strike have limited commuter access to some hubs, and FAA foresees serious capacity problems at a number of major airports in the mid to late 1980's (and at many

of the 30 largest U.S. airports by the end of the century) unless improvements are made in the present airport and airways system. (These and related topics will be addressed in OTA'S forthcoming assessment, *The Airport and Air Traffic Control System.*)

- *U. S. commuter aircraft competitiveness.*—Some foreign governments have erected barriers against imports of whole U.S. aircraft; others subsidize R&D costs and make export loans or incentives available to their manufacturers, who then practice what has been characterized as "predatory financing" in the U.S. market. U.S. firms (and airlines that insist on buying U.S. aircraft) must rely for the most part on private investment and commercial financing at substantially higher rates, and many banks have little familiarity with or confidence in commuter airlines. Recent cutbacks in funding for NASA aeronautics research, the FAA loan guarantee program, and the activities of the Export-Import Bank have aggravated this situation. Some U.S. manufacturers now feel that R&D costs have become so high, and the FAA certification process for new aircraft so onerous, and the technical risks so great, that the development of an aircraft containing the full range of technological improvements would entail unacceptable financial risks.
- *Commuter-oriented NASA research.*—There is some difference of opinion about whether a NASA technology-readiness R&D program (at any funding level) is in fact the best way, or even an appropriate way, to encourage the eventual production of a *U.S.-manufactured* "economic vehicle" for the commuter airlines. Supporters contend that such a program would encourage U.S. firms by reducing the technical and financial risks or by demonstrating Government support. Some observers, however, think that the program should focus on short-term priorities, while others contend that there is no assurance that the technologies, once developed, will actually be used by U.S. aerospace manufacturers.