

January 2003

COMMERCIAL AVIATION

Factors Affecting Efforts to Improve Air Service at Small Community Airports





Highlights of [GAO-03-330](#), a report to Congressional requesters.

Why GAO Did This Study

The airline industry, facing unprecedented financial losses as a result of the economic downturn and the terrorist attacks, has taken steps to minimize losses, including reducing or eliminating service to some small communities. In March 2002, GAO reported that small communities had almost 20 percent fewer departures in October 2001, as compared to October 2000. GAO was asked to follow up on that work by examining the challenges small communities face in attracting and keeping the air service they desire and what steps they have taken to overcome these challenges.

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What GAO Found

Small communities face a range of fundamental economic challenges in obtaining and retaining commercial passenger air service. The smallest of these communities typically lack the population base and level of economic activity that would generate sufficient passenger demand to make them profitable to air carriers. While larger communities in this group may have less difficulty in sustaining a base level of service, they may not be able to attract additional carriers to provide greater choice and lower fares. Smaller communities located near larger airports may also face reduced demand because passengers choose to use the larger airport with lower fares or more choices for flights. These communities also have difficulty because the airline industry is in turmoil, making less profitable operations increasingly vulnerable.

Communities have taken a variety of steps to try to obtain or improve air service, such as marketing to increase passengers' demand for local service or offering financial incentives to airlines to attract new or enhanced service. At communities GAO studied in depth, financial incentives were most effective in attracting new service. However, the additional service often ceased when incentives ended. Longer-term sustainability may rest on a community's commitment to making air service a priority.



Source: GAO.

This 34-seat turboprop aircraft is typical of the aircraft used to provide air service to many small communities.

www.gao.gov/cgi-bin/getrpt?GAO-03-330.

To view the full report, including the scope and methodology, click on the link above. For more information, contact JayEtta Z. Hecker at (202) 512-2834 or HeckerJ@gao.gov.

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Abbreviations

ACAIS	Air Carrier Activity Information System
AIR-21	Wendell H. Ford Aviation Investment and Reform Act for the 21st Century
ALPA	Air Line Pilots Association
ATA	Air Transport Association
BWI	Baltimore/Washington International Airport
CAB	Civil Aeronautics Board
DOT	U.S. Department of Transportation
EAS	Essential Air Service
FAA	Federal Aviation Administration
NASAO	National Association of State Aviation Officials
RAA	Regional Airline Association
RAP	Regional Aviation Partners
RFP	Request for proposals



G A O

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United States General Accounting Office
Washington, DC 20548

January 17, 2003

Congressional Requesters:

The airline industry has undergone profound change since 2000. The change was set in motion partly by the economic downturn that began during early 2001, and the terrorist attacks further reduced passenger levels and sent many airlines' revenues into a tailspin from which they have yet to recover. Many small communities, which already had relatively few flights to few destinations prior to those changes, lost additional service as airlines reduced capacity, streamlined fleets, and restructured networks.

In March 2002, we reported that airlines reduced the total number of daily departures from small communities by almost 20 percent between October 2000 and October 2001.¹ You asked us to follow up on that work by examining the problems these communities were facing and the steps that communities were taking to attract and keep the air service they desired. We focused our efforts on the following questions:

- What challenges do small communities face in obtaining or retaining commercial passenger air service?
- What actions have state or local governmental units or small communities taken to enhance air service, and how successful have certain ones been?
- What factors, if any, affect the likelihood of success?
- What implications does this analysis have for federal efforts to assist small community airports?

To answer these questions, we analyzed Department of Transportation (DOT) information and contacted numerous state, airport, community, airline and industry trade group officials. We defined small communities as

¹U.S. General Accounting Office, *Commercial Aviation: Air Service Trends at Small Communities Since October 2000*, GAO-02-432 (Washington, D.C.: March 29, 2002). See list of related products.

those served by small hub or nonhub airports.² This encompassed a wide variation in communities, from isolated areas with populations of a few thousand and no scheduled air service to urban areas with populations of several hundred thousand and service from multiple airlines. Using federal grant applications and interviews with officials throughout the aviation community, we identified 292 small communities that had taken some steps (many as part of state-commissioned air service studies) to try to increase passenger demand or increase or enhance the supply of air service. To determine what challenges they faced, what actions they had taken to improve air service, and how successful some of these communities have been, we interviewed officials at 98 airports where efforts appeared to be more extensive. To develop further information on the factors that may increase the likelihood of success, we studied 12 of these communities in more detail.³ We selected these communities principally because they had used a variety of programs to improve their air service. We also selected them because they varied in population, level of economic activity and geographic location. We conducted our work from March 2002 to December 2002 in accordance with generally accepted government auditing standards. Additional information on our scope and methodology appears in appendix I.

Results in Brief

The nation's small communities face a range of fundamental economic challenges in obtaining and retaining the commercial airline service they desire or making their existing service more attractive to potential passengers. The smallest of these communities, usually served by nonhub airports, typically lack the population base and level of economic activity that would generate sufficient passenger demand to make them profitable to air carriers. Larger communities in this group, often served by small hub airports, may have enough people to support some level of air service, but

²This definition is consistent with the definition of small community—small hubs or smaller—used for the Small Community Air Service Development Pilot Program authorized by the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), P.L. 106-181, Section 203. A “small” hub airport boards from 0.05 to 0.249 percent of all passengers. In 2000, 790,324 passengers boarded commercial aircraft at the average small hub airport. A “nonhub” airport boards less than 0.05 percent of all passengers for all operations of U.S. carriers in the United States. In 2000, 58,322 passengers boarded commercial aircraft at the average nonhub airport. Small hubs and nonhubs are defined in 49 U.S.C. 41731.

³The 12 communities we studied in more detail were: Mobile, Alabama; Pensacola and Tallahassee, Florida; Cumberland and Hagerstown, Maryland; Pellston, Michigan; Carlsbad, Hobbs, Roswell, Ruidoso, and Taos, New Mexico; and Eugene, Oregon.

not enough to attract additional carriers to compete at that community airport, thereby providing greater choice and possibly lower fares. Further, if a small community is located within driving distance of a larger airport, this already-limited demand is often diluted because passengers may drive to the larger airport for better service or cheaper fares. These challenges are exacerbated by an airline industry in economic turmoil. Wall Street analysts have estimated projected industry losses approaching \$8 billion in 2002. Some carriers have taken significant steps to cut costs and/or minimize losses by reducing service. At some small communities, this can mean eliminating service altogether.

Information on efforts to develop air service at 98 small communities showed that actions taken to obtain or enhance air service fall into three main categories: (1) conducting studies to determine whether adequate demand for new or enhanced service exists, (2) undertaking marketing efforts to increase demand for service, and (3) offering financial incentives for air carriers to introduce or expand service. Following is a description of each type of action:

- Airport and community officials' studies addressed such matters as the type of service and destinations desired by the community, the extent to which passengers may use other airports nearby rather than the local facility, and the parity of local airfares with comparable-sized communities.
- Officials used a variety of marketing strategies to educate the community about the importance of using local air service. These ranged from meeting with local business leaders to advertising through radio, television, newspaper, or billboards. Some communities provided marketing funds directly to airlines because airlines often do not advertise service to smaller communities.
- Financial incentives to air carriers included revenue guarantees (payments from communities to airlines if actual revenues did not reach agreed-upon targets), pledges of a certain level of passenger activity by local businesses, state subsidies, and an arrangement in which an airport provided the ground crew for a carrier's flights.

While studies and marketing can play an important role in air service improvement efforts, financial incentives may offer the best opportunity to attract the new or additional air service desired by a community. Eleven of the 12 communities we studied in depth took such actions, resulting in new or enhanced air service or lower fares, at least during the life of the program. However, even financial incentives may have difficulty bringing about service that can be sustained after the incentives end. Of the five

communities for which the financial incentive program had ended, only one—at a community with a small hub airport—retained the enhanced service after the program finished. The experiences of the four other communities—all with nonhub airports—illustrate the difficulty of sustaining service enhancements once the financial incentive or other subsidy ends.

A community's population is a key factor in its efforts to attract or retain air service, yet size is largely beyond a community's control. Our detailed review of 12 projects identified two other factors, more directly within a community's control, which were used to increase the likelihood of success. The first factor was the presence of a catalyst or driving force—normally local airport or community officials—who advocated air service improvements and spearheaded a program for change. Such a catalyst—important for beginning air service improvement efforts—was present in each of the 12 communities we reviewed. For example, state, city, and airline officials worked together in Taos, New Mexico, to begin new air service through the use of financial incentives. The second factor was a tangible community action signaling that obtaining improved air service was a priority. Three of the 12 communities took this action in various ways, such as by offering to pledge funds to a carrier providing new or enhanced air service in return for future travel. For example, Eugene, Oregon, obtained additional service from two airlines because numerous local businesses pledged travel funds to demonstrate their support for the service. These actions helped one community to initially attract air service and then develop sustainable service. Four other communities that relied on funds from the state or local government, without taking this additional action, lost the service when the subsidy ended.

The findings have potential implications for federal efforts to help small communities improve their air service.⁴ For example, our work for this report and recent work on air service to small communities indicates that there may be significant differences in the barriers faced by small hub and nonhub communities in developing sustainable commercial air service, and that effective approaches to addressing those communities' barriers

⁴In fiscal year 2002, DOT provided approximately \$100 million in direct subsidies to air carriers to serve certain small communities under the Essential Air Service (EAS) program. DOT also awarded \$20 million in grants to 40 small communities to implement air service improvement programs under the Small Community Air Service Development Pilot Program, authorized by the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), P.L. 106-181, Section 203.

vary accordingly. One small hub airport was able to use one-time “seed money” to attract additional air service. However, for nonhub airports we visited with smaller populations and less economic activity, one-time assistance was not sufficient to sustain the service. Yet ongoing financial assistance is no guarantee of viable air service. In other studies we conducted on the Essential Air Service (EAS) program, we found that subsidies paid directly to air carriers have not produced an effective transportation solution for passengers at many small communities.⁵ As airlines alter their operations in response to financial pressures, there may be an increasing demand for the federal government to assist small communities in attracting and maintaining air service. In selecting communities for assistance, federal efforts will be enhanced by recognizing variations among those communities, establishing realistic goals, and identifying some indicators of local commitment.

Background

In 1978 the Congress deregulated the airline industry, phasing out the federal government’s control over domestic fares and routes served and allowing market forces to determine the price, quantity, and quality of service. Most major “network” carriers, free to determine their own routes, developed “hub-and-spoke” networks.⁶ These carriers provide nonstop service to many spoke cities from their hubs. The airports in the small spoke communities include the smallest airports in the nation’s commercial air system. Depending on the size of those markets (i.e., the number of passengers flying nonstop between the hub and the spoke community), the network airlines may operate their own large jets or use regional affiliate carriers to provide service, usually with regional jet or turboprop aircraft.⁷ However, low-fare carriers, such as Southwest Airlines

⁵See U.S. General Accounting Office, *Options to Enhance the Long-term Viability of the Essential Air Service Program*, GAO-02-997R (Washington, D.C.: August 30, 2002).

⁶Network carriers are defined as carriers using a “hub-and-spoke” system. Under this system, airlines bring passengers from a large number of “spoke” cities to one central location (the hub) and redistribute them to connecting flights for their final destinations. The major network carriers are America West Airlines, American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, and U.S. Airways.

⁷Major network carriers contract with or separately operate regional affiliates to provide service to smaller communities. For example, United Airlines contracts with Atlantic Coast Airlines to fly passengers to and from its hub at Washington Dulles International Airport. However, Delta Air Lines purchased two of its regional affiliates, Comair and Atlantic Southeast Airlines, in 1999 to feed its hubs.

and JetBlue Airways, use a different model, flying point-to-point generally to and from secondary airports in or near major metropolitan areas, such as Ontario International near Los Angeles and Chicago Midway. If passengers at many small communities wish to use the service of low-fare carriers, they have to drive to those airports.

The nation's commercial airports are categorized into four main groups based on the annual number of passenger enplanements—large hubs, medium hubs, small hubs, and nonhubs.⁸ The 31 large hubs and 35 medium hub airports together enplaned the vast majority—89 percent—of the more than 709 million U.S. passengers in 2000. In contrast, the 71 small hubs enplaned about 8 percent, and the 409 nonhub airports enplaned only 3 percent of U.S. passengers.

While airline deregulation has allowed increased competition and led to lower fares and better service for most air travelers, some small communities have suffered from relatively limited service and high airfares. The Congress, concerned about air service to small communities, established two programs—the EAS program and the Small Community Air Service Development Pilot Program—targeted at those communities' air service needs.

- The Congress established the EAS program as part of the Airline Deregulation Act of 1978. In general, the program guarantees that communities that received air service prior to deregulation will continue to receive air service.⁹ If an air carrier could not continue service to a community without incurring a loss, DOT (and before its sunset, the Civil Aeronautics Board) could then use EAS funds to award a subsidy to that

⁸The categories are based on the number of passengers boarding an aircraft (enplaning) for all operations of U.S. carriers in the United States. A large hub enplanes at least 1 percent of all passengers, a medium hub 0.25 to 0.99 percent, a small hub 0.05 to 0.249 percent, and a nonhub less than 0.05 percent. Nonhubs and small hubs are defined in 49 U.S.C. 41731; medium hubs are defined in 49 U.S.C. 41714; and large hubs are defined in 49 U.S.C. 47134. A passenger flying from Baltimore to San Francisco who connects to a different flight in Cincinnati counts as two passenger enplanements—one at Baltimore and one at Cincinnati.

⁹To be eligible for subsidized service, communities must meet three general requirements. They must have been listed on a carrier's Civil Aeronautics Board (CAB) issued service certificate and received scheduled commercial passenger service as of October 1978, may be no closer than 70 highway miles to the nearest medium or large hub airport, and must require a subsidy of less than \$200 per person (unless the community is more than 210 highway miles from the nearest medium or large hub airport, in which case no average per-passenger dollar limit applies). For additional information on the EAS program, see [GAO-02-997R](#).

carrier or another carrier willing to provide service. These subsidies are intended to cover the difference between a carrier's projected revenues and expenses and provide a 5 percent profit margin. As of July 1, 2002, the EAS program provided subsidies to air carriers to serve 114 communities, 79 of these in the continental United States. We reported in August 2002 that this number is expected to increase. Appropriations for the EAS program for fiscal year 2002 totaled \$113 million.

- More recently, the Congress authorized the Small Community Air Service Development Pilot Program as part of AIR-21 (P.L. 106-181) to help small communities enhance their air service. Under this program DOT is authorized to award grants to 40 communities served by small hub or nonhub airports that have demonstrated air service deficiencies or higher than average airfares. Priority is given to communities that provide local matching funds. Congress appropriated \$20 million for fiscal year 2002 for this program. The legislation contained provisions to allow DOT to work with and coordinate efforts with other federal, state, and local agencies to increase the viability of service to small communities.

Small Communities Face Challenges in Sustaining Desired Levels of Air Service

The challenges now faced by small communities in obtaining or enhancing air service center on two main issues—(1) limitations created by having a small population base from which to draw passengers and (2) an airline industry that, for the most part, is losing money and seeking ways to return to profitability. In economic terms, these challenges can be understood in terms of demand (the number of passengers, the level of service they desire, and the price they are willing to pay to obtain it) and supply (the potential providers and their costs in providing the service). A small population base may not generate sufficient demand to attract or retain competitive air service because the demand may be too low to generate a profit for airlines. As a result, the service that small communities obtain often does little to stimulate demand. Instead, if the community is located within driving distance of a larger airport, residents may forgo the local service and drive to a larger airport, where they have more choices and often pay lower fares. While small communities have reported that limited service is a long-standing problem, it has been exacerbated by the second main issue—the current financial condition of most major U.S. airlines. Hit with declining revenues brought on by the economic downturn and events of September 11, most carriers have taken steps to minimize losses and cut costs. The airlines use sophisticated computer models to help them identify whether certain markets can be served profitably. These proprietary models take into account such considerations as the carrier's operating costs, estimated passenger traffic, and competition in the market (including the type of aircraft competitors

used, the number of daily flights they scheduled, and the fares they charged). Small markets, which may offer little opportunity for profit, are prime candidates for cost-cutting considerations.

Challenges Created by Limited Demand

The demand-related challenges that small communities face are linked to their limited populations,¹⁰ relatively low levels of economic activity, and (for those communities located relatively close to larger airports) the tendency of residents to use other airports with better service and lower fares. Population is a critical factor because it partly determines the level of demand that carriers can expect in considering whether to provide service. The smallest of the communities in our review had such a limited population base as to make it difficult to attract and retain service from even one carrier. In those communities that had larger populations—such as those with small hub airports—passengers may have relatively limited air service; that is, service from a limited choice of carriers to relatively few nonstop destinations, often at comparatively high fares.

Relative to larger communities, small communities also tend to have lower levels of economic activity, as measured by such things as jobs or per capita income. In general, the level of economic activity present in small communities is positively correlated with the amount of air service those small communities received. We reported in March 2002,¹¹ for example, that for every additional 25,000 jobs in a county, jet departures increased by 4.3 departures per week, and turboprop departures increased by 4.8 per week. Similarly, for every additional \$5,000 in per capita income, jet departures increased by 3.3 per week and turboprop departures increased by 12.7. In other words, if two small communities were similar except that community A had \$5,000 more in income per capita than community B, community A can be expected to have 16 more departures per week than community B.¹² Changes in these same factors will also cause changes in demand and service within a community over time.

¹⁰See table 1 for information on the county population for the 12 communities included in our review.

¹¹See [GAO-02-432](#).

¹²The regression model holds other factors constant between the hypothetical communities A and B: population, manufacturing earnings, and distance from an airport served by a low-fare carrier.

Ironwood, Michigan, illustrates the effect of declining population and lowered economic activity on a community's passenger enplanements. Ironwood is located in the western portion of Michigan's Upper Peninsula. After the community's various iron and copper mines closed in the 1980s and 1990s, its population decreased from about 14,000 in the 1980s to about 6,800 today. Annual enplanements dropped from about 14,000 annually in the 1980s to 1,800 in 2001. Ironwood now receives subsidized air service through the EAS program. However, according to the manager of Ironwood's airport, many passengers choose to use an airport 90 miles away in Rhinelander, Wisconsin, because it offers better service and lower fares.

The relationship between population and economic activity can also be seen in the levels of air service at the 12 small communities we studied in detail. These communities varied substantially in size and economic activity (see table 1). The larger communities tended to have higher levels of per capita income, larger manufacturing earnings, and more air service.

Table 1: Key Year 2000 Data for the 12 Small Communities We Studied

City	State	County population	Employment (total full and part time)	Per capita income	Manufacturing earnings	Number of carriers	Enplanements	Awarded DOT funds
Small hubs								
Mobile	AL	400,063	220,979	\$22,677	\$923,085	6	389,280	X
Eugene	OR	323,271	188,965	\$25,584	\$1,041,093	3	374,174	
Pensacola	FL	294,323	178,360	\$22,360	\$354,989	7	524,811	
Tallahassee	FL	240,047	175,034	\$26,564	\$113,835	8	467,914	
Nonhubs								
Hagerstown	MD	132,130	76,094	\$24,267	\$430,662	1	25,923	
Cumberland	MD	74,740	38,472	\$21,098	\$157,379	1	4,815	
Roswell	NM	61,306	28,138	\$19,651	\$74,980	1	16,706	
Hobbs	NM	55,206	28,942	\$20,229	\$13,228	1	2,342	
Carlsbad	NM	51,473	25,776	\$21,007	\$42,009	1	7,355	
Pellston	MI	31,540	21,902	\$27,336	\$80,400	1	31,571	X
Taos	NM	30,065	16,096	\$17,815	\$7,662	1	1,233	X
Ruidoso	NM	19,531	10,464	\$17,745	\$4,464	0	13	X

Source: GAO analysis of Census Bureau, FAA Air Carrier Activity Information System (ACAIS), and other data.

Notes: X indicates the community was awarded a Small Community Air Service Development Pilot Program grant.

Pellston, Michigan and Ruidoso, New Mexico, were initially selected to receive Small Community Air Service Development Pilot Program funds but later declined to participate in the program. Pellston withdrew because Northwest Airlines, which is the one carrier that operates there, was not interested in participating. Ruidoso withdrew because the community decided that it wanted flights to El Paso as opposed to Albuquerque, but the carrier involved in the program was not willing to operate there at this time. Ruidoso's award was a joint award with Taos as part of the Taos/Ruidoso consortium.

The number of carriers for Mobile, Eugene, Pensacola, and Tallahassee is for 2001 or before the air service improvement programs began.

The number of carriers for all the nonhub airports is for the 1st quarter of 2000.

Small communities may also experience passenger “leakage”—that is, passengers seeking more choices, better schedules, or lower fares choose to drive to a larger airport instead. Leakage is a widespread challenge to air service at small communities. Of the 98 airport officials we interviewed, 83—including all 12 of the communities we studied in detail—cited leakage as a problem. Some small communities’ airports are relatively close to a major airport, making it easy for a small community’s passengers to use the larger airport. For example, a Maryland aviation official reported that many passengers drive 75 miles to the Baltimore/Washington International Airport. But even airport officials in Tallahassee, Florida, reported that passengers drove to such airports as Jacksonville (160 miles) in search of lower fares. In earlier work on air

service to small communities, we also found leakage to be widely reported as a challenge for small community airports.¹³

To the extent that airline passengers make their decisions on the basis of price, leakage away from small community airports to larger airports may increase as low-fare carriers expand their operations. Southwest Airlines added more than 20 cities to its system between 1990 and November 2002 for a total of 58 cities served, and JetBlue Airways, which began service in February 2000, now serves 20 cities. DOT data indicates that low-fare carriers' share of U.S. domestic passengers has also grown from 5.5 percent in 1990 to 18 percent in 2001. According to the DOT Inspector General in an October 2002 report, low-fare carriers have continued to expand between September 2000 and September 2002. They offered 11 percent more seats, and their share of domestic air service (as measured in available seats) increased from 16 to 19 percent. Their expansion to additional cities may shift even more demand away from small community airports as passengers choose to drive to airports served by low-fare carriers.¹⁴

Small Communities Are Vulnerable to Carrier Cost-Cutting

Against the backdrop of relatively limited demand, small communities face an additional set of challenges in that the nation's air carriers—the suppliers of the service—are facing considerable problems in operating profitably. Carriers are for-profit entities that need to recoup their costs and earn a profit. But in 2001 and 2002, the major airlines generally did not do so. Losses were in excess of \$6 billion in 2001, and Wall Street analysts expected losses to exceed \$8 billion in 2002. Just 2 years ago, most major U.S. carriers were earning profits.

One reason for the lack of profitability is a downturn in passenger revenues. Between June 2001 and June 2002, six major U.S. network airlines experienced drops in revenue passenger miles of between 8 and 20

¹³Over half of the airport managers responding to a survey said that local residents drove to another airport for airline service to a great or very great extent. Eighty-one percent of them attributed the leakage to the availability of lower fares from a major airline at the alternative airport. See [GAO-02-432](#).

¹⁴In our previous work, we found that 47 percent of the 202 small communities were within 100 miles of an airport served by a low-fare airline or that served as a hub for a major carrier. We adopted DOT's definition of a low-fare airline and included AirTran, American Trans Air, Frontier, JetBlue, Southwest, Spirit, and Vanguard (no longer operating). See [GAO-02-432](#).

percent. The drop in passengers included high-yield business travelers, according to the Air Transport Association (ATA). This group of flyers has become more price sensitive in the current economic climate. That is, they began to behave more like leisure travelers, who forgo the flexibility of refundable, often last-minute tickets, in exchange for the lower prices of seats booked well in advance. ATA also reported that average domestic fares in September 2002 were almost 18 percent below September 2000 fares.

A second reason for the lack of profitability is that air service is expensive to provide, partly because of carriers' high operating costs, which are incurred whether an aircraft is flown empty or full. These costs include labor, fuel, and maintenance. ATA data show that labor, fuel, and fleet costs make up almost 60 percent of carriers' total operating expenses and that increases in airline labor costs and aviation taxes have outpaced inflation. Carriers have taken many actions to lower their costs and restructure their operations since September 2001. However, they have not yet returned to profitability. Another major part of the expense of providing air service is "station" costs, according to airline officials. These stations require staff to handle passengers, bags, and cargo. One airline official estimated that it can cost as much as \$200,000 to set up a station for new service, and annual station operating costs can range from \$370,000 to \$550,000.¹⁵

Small communities may become cost-cutting targets because they are often a carrier's least profitable operation. To a degree, small communities shared in the overall service reductions that most carriers made in response to the economic slowdown and the events of September 11. We earlier reported that daily departures from 202 small communities had decreased by 19 percent between October 2000 and October 2001, with more of the reductions occurring after September 11.¹⁶ The DOT Inspector General reported recently that nonhub airports experienced a greater loss of direct service to and from 31 large airports than other airports, losing 17 percent of scheduled flights between September 2000 and September 2002.

¹⁵Costs depend on a number of variables, including the type of aircraft being operated. The estimates given were for 37-seat and 70-seat aircraft.

¹⁶See [GAO-02-432](#).

By comparison, small, medium, and large hub airports' reductions ranged from 5 to 10 percent.¹⁷

Even if the reductions in service to small communities were, in the aggregate, no greater than the reductions in larger communities, the effect on those small communities can be greater. In small communities, a service reduction can often mean not fewer flights, but a loss of service altogether, either from a competing carrier or from the only carrier providing service. For example, of the 202 communities included in our March 2002 study, the number of small communities served by only one airline increased from 83 in October 2000 to 95 in October 2001. Further, between September 2001 and September 2002, carriers notified DOT that they planned to eliminate service to 30 communities, 15 of which had service from only one carrier.¹⁸ Also, the remaining service might be so limited that it creates additional incentive for potential passengers to drive to larger airports. One state aviation official termed this cycle of reduced service and subsequently increased leakage as the “death spiral.”

Air Service Improvement Efforts Fall into Three Main Categories, but Financial Assistance Has Proven Most Effective

Among the 98 communities we contacted that had taken steps to develop an air service improvement program, efforts tended to fall into three main categories. Over 75 percent of communities undertook some sort of study, such as examining the potential demand for new or enhanced air service. In addition, 78 percent conducted some sort of marketing activity to educate the public about the air service available or to inform carriers about potential for new or expanded service opportunities. Finally, 45 percent of the communities offered some sort of financial incentive to encourage carriers to provide the new or additional service. Small hub airports were slightly more likely than nonhub airports to implement these three types of efforts (see table 2). To assist readers' understanding of the economic effect of various programmatic or policy mechanisms to attract

¹⁷U.S. Department of Transportation, Office of the Inspector General, *Airline Industry Metrics: Trends on Demand and Capacity, Aviation System Performance, Airline Finances, and Service to Small Airports*, Number CC-2003-001, (Washington, D.C.: October 7, 2002).

¹⁸Carriers are required to file a 90-day notice of intent to suspend or terminate service at EAS communities. DOT established an additional reporting requirement for air carriers in response to the emergency created by the events of September 11. From September 28, 2001, until March 31, 2002, DOT (under the Air Transportation Safety and System Stabilization Act, P.L. 107-42, Section 105) required air carriers to report any significant service reductions—i.e., terminations of all scheduled service or termination of the last nonstop service.

additional air service, appendix II discusses in more detail the general economic principles that underlie the level and type of air service at small communities.

Table 2: Types of Air Service Development Efforts Undertaken by 98 Communities with Small Hub or Nonhub Airports

Type of effort	Nonhub airports (81 airports)		Small hub airports (17 airports)		Combined total (98 airports)	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
Studies ^a	60	74%	15	88%	75	77%
Marketing	60	74%	16	94%	76	78%
Financial incentives	33	41%	11	65%	44	45%
Other	15	19%	0	0%	15	15%

Source: GAO analysis.

Notes: Columns will not add to total number of airports shown because some airports undertook multiple efforts.

The air service development programs were in various stages at the time we spoke with officials. We did not include programs in the table above that were in the proposal stage at the time of our discussions. We included communities with ongoing programs and communities that had completed their programs. In a few cases, we included communities that had developed financial incentive programs but had to put them on hold or discontinue their efforts due to the events of September 11, air carrier problems, or for other reasons.

^aStudies included both those conducted at a statewide level and those conducted or commissioned by an individual airport.

On the basis of our in-depth review at 12 of these communities, it appears that some sort of financial incentive is particularly important in translating a desire for new or enhanced service into an actual program that puts this service in place. However, even this level of effort may not be sufficient to sustain the service over the long term. Four of the five communities that had completed their service improvement efforts were unable to sustain the enhanced level of service.

Studies Aid in Determining Communities' Air Service Needs

Of the 98 airports we contacted, 75 reported conducting a study of their air service or participating in a multi-airport study. Studies covered such topics as potential demand for air service, types and levels of service desired by the community, extent of leakage to other airports, and barriers the community may need to overcome. These studies emanated from a variety of sources:

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- Airports with enough staff and expertise often developed and conducted studies themselves. For example, staff of the Mobile (Alabama) Regional Airport developed numerous service and leakage analyses in-house.
 - Some airports worked with aviation consultants to develop studies. Chico (California) Municipal Airport, for example, worked with a consulting group to analyze tickets purchased through travel agents, review air service profiles, and create marketing materials.
 - Some studies were done at the state level. Among the states we contacted, for example, Arizona, North Carolina, Mississippi, and Pennsylvania had commissioned statewide studies evaluating levels of air service and fares and developing recommendations for ways to improve scheduled commercial air service.

By themselves, studies have no direct effect on the demand for, or supply of, air service. However, while studies do not directly result in improved air service, they can play a key role in helping communities determine if there is adequate potential passenger demand to support new or improved air service. If adequate potential demand does not exist, then communities can avoid using scarce resources to pursue scheduled air service that the community cannot adequately support. If adequate potential demand does exist, studies can provide more specific information about the size of aircraft and level of service that could be supported and any marketing or financial incentives that might be needed.

Marketing Efforts Help to Inform the Community of Air Service

Of the 98 airports we contacted, 76 reported using some form of marketing to try to increase potential passengers' awareness of the air service or to try to inform carriers about the airport in an effort to attract new air service. The amount spent annually on these activities varied from a few thousand dollars to several hundred thousand dollars at some of the small hub airports. These efforts took different forms, such as the following:

- Some communities developed basic advertising campaigns. For example, the Chamber of Commerce in Paducah, Kentucky, implemented a "Buy Local, Fly Local" advertising campaign, which included newspaper, radio, and television ads along with a billboard campaign.
- Chattanooga, Tennessee, implemented a marketing incentive program. It dedicated funds to marketing a carrier's new or enhanced service. The Chattanooga airport provides funds to carriers designated specifically for marketing. For each new destination, new entrant carriers receive \$50,000, and incumbent carriers receive \$30,000.
- Some communities made presentations to airlines to try to obtain new or additional service. For example, the Olympia (Washington) Regional

Airport hired a consultant to prepare a presentation to attract service from Big Sky Airlines. The package included a proposed schedule, travel agent survey, estimated traffic, and a pro forma model of service. Big Sky initiated service between Olympia and Spokane on November 13, 2002. This was Olympia's first scheduled service since 1995.

Unlike studies, marketing efforts can have a direct effect on increasing demand for air service, if these efforts succeed in increasing the passenger base or reducing the amount of leakage to other airports. Marketing directed at airlines can have a direct effect on the supply of air service if the marketing efforts succeed in attracting new carriers or more service from existing carriers. The effect of marketing efforts is more difficult to ascertain, but many airport managers said educating passengers about available air service was an important step to increasing demand for air service. For example, an official from Shenandoah Valley (Virginia) Regional Airport said he believed marketing was a useful tool for airports to increase demand. He pointed to the fact that the airport's annual enplanements more than doubled—from 8,000 to 20,000—since the airport began its marketing and public relations campaign in 1996.

The Michigan Air Service Program is another example of how marketing efforts can help to enhance air service to small communities. Michigan provides airports with under 150,000 annual enplanements with grants that can be used for marketing, air carrier recruitment, or capital improvements. Pellston Regional Airport, one of the 12 airports we studied in detail, has received such funding and used it for marketing. Pellston has received over \$100,000 since fiscal year 1998, which the community has used for promotional materials; newspaper, radio, and television ads; and a newsletter. The airport has used the "Fly From Nearby" theme to communicate to the community the importance of using their local airport. While Pellston's enplanements declined from 1998 to 2001, they appear to have stabilized and as of August 2002, officials reported enplanements were up 11 percent from 2001. In addition, Pinnacle Airlines (operating as Northwest Airlink) provided regional jet service between Pellston and Detroit from June to September 2002. Though airport officials could not directly link the marketing program to the increasing enplanements, they said it had helped maintain passenger demand for air service at Pellston.

Financial Incentives Provide Carriers With Greater Assurance for Making a Profit

Forty-four of the airports we contacted had created a financial incentive for a carrier to enter a market or to enhance the level of service already provided. Financial incentives all share the same basic characteristic—they mitigate some of the financial risk by providing a carrier with greater assurance about the financial viability of the service being provided. In practice, the incentives take a number of different forms with varying levels of complexity (see table 3). For example, in 2002, the community of Lancaster, Pennsylvania paid a subsidy of \$195,000 to Colgan Air to offset some of the airline's costs to begin providing service to the community. Ski communities in Colorado, Montana, and Wyoming provided airlines with revenue guarantees—payments to the airlines if revenues fell short of targets—in exchange for additional flights during the ski or summer tourist season. Stockton, California set up a travel bank—funds businesses pledged to use in the future to purchase tickets on the new service. Participating businesses will have 3 years to use these funds for travel; and at the end of the period, any unused funds will be given to the airline. The complexity of these programs varies in part due to the number of participants. For example, while airport officials can take action to reduce airport fees, subsidy or revenue guarantee programs may require government assistance, and travel banks require cooperation from many community businesses. See appendix III for information on the type of programs used at the 98 airports we contacted.

Table 3: Major Types of Financial Incentive Programs

Type of financial incentive	Description	Prevalence among nonhub airports studied (total = 81)		Prevalence among small hub airports studied (total = 17)	
		Number	Percent of total	Number	Percent of total
Reduced airport fees	Airport reduces fees charged to carriers—landing fees, lease rates, or fuel flowage fees in exchange for air service. (This is often only one element of an air service improvement program.)	10	12%	7	41%
Subsidies	Financial assistance to a carrier assists with start-up, operating or other costs. Carrier may receive a set amount per period or reimbursement for expenses incurred, sometimes up to a cap.	10	12%	1	6%
Revenue guarantees	Community and carrier officials set revenue targets and communities pay carriers only if revenue from operations does not meet agreed-upon target. Payments are often capped.	9	11%	3	18%
Travel bank	Businesses or individuals pledge future travel funds to a carrier providing new or expanded air service. Travel funds are deposited in an account, administered by a business entity (such as the Chamber of Commerce) and pledging businesses draw against these funds (often using credit card supplied for this purpose) to purchase tickets.	4	5%	3	18%
Other		6	7%	3	18%

Source: GAO analysis.

Note: The air service development programs were in various stages at the time we spoke with officials. We did not include programs in the table above that were in the proposal stage at the time of our discussions. We included communities with ongoing programs and communities that had completed their programs. In a few cases, we included communities that had developed financial incentive programs but had to put them on hold or discontinue their efforts due to the events of September 11, air carrier problems, or for other reasons.

**Analysis of 12 Projects
Indicates Financial
Incentives
Are Key to Increasing
Service, but No Guarantee
of Success**

We studied 12 communities that had taken a variety of actions to improve air service; all but 1 of the 12 communities instituted some form of financial incentive program for the carrier to attract additional service.¹⁹ All of these communities had undertaken some combination of studies or marketing in the past. However, the officials at many of these airports pointed out that while studies provided useful information about passengers' demand for service and marketing is useful for informing passengers about the air service, financial incentives were the most effective tool to attract new air service. According to an official with the airport in Eugene, Oregon, for example, the airport conducted studies and marketing, but it did not attract additional air service until the community eventually implemented a travel bank program. As figure 1 shows, the four small hub communities implemented varying financial incentives: travel banks, a revenue guarantee, and a model in which the airport provided the ground crew for a carrier's operation.

¹⁹See app. IV for a more detailed description of each community's program.

Figure 1: Programs Used at the 12 Communities Studied

Community	Size of airport	Type of program			If financial incentive, what type?
		Study	Marketing	Financial incentives	
Mobile, AL	Small hub	✓	✓	✓	New business model for ground staffing
Pensacola, FL	Small hub	✓	✓	✓	Travel bank
Tallahassee, FL	Small hub	✓	✓	✓	Revenue guarantee
Eugene, OR	Small hub	✓	✓	✓	Travel bank
Cumberland, MD	Nonhub	✓	✓	✓	Subsidy
Hagerstown, MD	Nonhub	✓	✓	✓	Subsidy
Pellston, MI	Nonhub	✓	✓		
Carlsbad, NM	Nonhub	✓		✓	Subsidy
Hobbs, NM	Nonhub	✓		✓	Subsidy
Roswell, NM	Nonhub	✓		✓	Subsidy
Ruidoso, NM	Nonhub	✓		✓	Subsidy
Taos, NM	Nonhub		✓	✓	Subsidy

Source: GAO analysis.

Note: ✓ indicates that the community used the type of program shown.

Officials in Mobile also used studies and marketing but developed a new staffing model after two airlines announced that they planned to cease service there. United Express indicated that it dropped service as a result of the effects of September 11. US Airways subsequently announced that it would be forced to discontinue service because United Express supplied their ground staff (i.e., ticket agents and baggage handlers). Officials decided that they needed to develop a new strategy to attract and retain carriers. Airport officials adopted a model under which the airport supplies the ground crew and equipment and charges participating carriers a fee for the service. With this new business model in place, US Airways decided to continue serving Mobile. Officials said they believe that this new way of conducting business may help encourage other carriers to

serve Mobile because there will be fewer barriers for airlines wishing to begin new service since the airport will supply staff and equipment.

Of the seven nonhub communities that implemented some form of financial incentives, each used subsidies to air carriers. Some of these subsidies were provided by the state, while cities, counties, or some combination of these sources funded the others. Our conversations with community and carrier officials indicated that these financial incentives were key to attracting carriers and actually putting the service in place.

The experience to date in these communities shows that the long-term sustainability of the service after incentives end is uncertain.²⁰ Financial incentives helped attract new or better service, leading officials in all 11 communities to rate their programs as successful in the short term. At 6 of the 11 communities, the programs were ongoing as of November 1, 2002. The remaining five communities had completed their programs—that is, they had moved beyond the initial period in which they were able to offer some form of financial incentive. Of these five communities, only one—Eugene, a small hub airport—retained the additional air service after the incentives had ended. The four others—all nonhub airports with low demand for air service—lost the additional service when the incentives ended. Figure 2 shows the status of each program.

²⁰As shown in figure 1, Pellston used studies and marketing. It was the only one of the 12 communities that did not implement a financial incentive program.

Figure 2: Sustainability of Air Service Improvements at 11 Small Communities After Incentives Ended

Community	Size of airport	Additional or enhanced air service during program	Improvement sustained after program ended
Program complete as of November 1, 2002			
Eugene, OR	Small hub	✓	✓
Carlsbad, NM	Nonhub	✓	
Hobbs, NM	Nonhub	✓	
Roswell, NM	Nonhub	✓	
Ruidoso, NM	Nonhub	✓	
Program ongoing as of November 1, 2002			
Mobile, AL	Small hub	✓	
Pensacola, FL	Small hub	✓	
Tallahassee, FL	Small hub	✓	
Cumberland, MD	Nonhub	✓	
Hagerstown, MD	Nonhub	✓	
Taos, NM	Nonhub	✓	

Source: GAO analysis.

Notes: ✓ indicates additional/enhanced air service and sustained improvement.

Pellston, Michigan did not use a financial incentive program and so was not included in this figure. Instead they had an ongoing state-funded program to assist with studies and marketing.

While each community confronts unique challenges and has adopted various programs to try to address these challenges, we believe that the performance to date of the six ongoing programs provides some indication of the likelihood of sustainability of the air service after the incentives end. Following are descriptions of the six ongoing programs:

- Mobile. The Mobile program—where the airport authority, rather than the airline, provides ground crew and equipment and charges participating airlines a fee for this service—differs from many of the other financial

incentive programs because there is not a specific time period or set amount of funding for the program. Rather, airport officials said they will consider their staffing initiative successful in the short-term if US Airways continues to provide air service to Mobile. Longer-term success will be measured by whether additional airlines choose to participate. To date, no airline other than US Airways, the initial participant, has done so.

- Pensacola and Tallahassee. Pensacola appears to be on track to reach sustainable service in 2003, and Tallahassee is renewing its revenue guarantee in order to retain the current levels of air service. While both airports used financial incentives to obtain AirTran service, Pensacola used a travel bank (businesses pledged future travel funds) and Tallahassee used a revenue guarantee program (the city guaranteed to pay AirTran if their revenues from the new service did not meet agreed-upon targets). An AirTran official said that they chose to serve both cities because they believed that these cities were capable of supporting service. In the short term, both programs have been successful because passengers have received lower average airfares. However, both agreements were reached before September 11, after which overall passenger loads throughout the country dropped dramatically. Further, airport and air carrier officials said that Delta, a major carrier serving these cities, has adopted a pricing strategy of matching AirTran's low fares as well as adding flights and capacity to counterbalance AirTran's entry into the Tallahassee market. Tallahassee airport officials said depressed demand and low airfares have resulted in lower-than-anticipated revenue and slower progress toward profitability. The Pensacola airport manager said that his airport's load factors (percent of occupied seats on flights) are now approaching the goal of 70 percent, and he believes that when the travel bank ends in September 2003, the service will be self-sustaining. Tallahassee officials said that profitability for AirTran's operation, initially projected for the end of the revenue guarantee (September 30, 2002), will probably not materialize until the third quarter of 2003. As of November 2002, officials stated that AirTran had requested an extension of the program and an additional \$1.5 million revenue guarantee in order to continue service. Tallahassee agreed to renew the \$1.5 million revenue guarantee for another year beginning in November 2002.
- Cumberland and Hagerstown. Neither of these airports with state-subsidized air service appears likely to sustain service when incentives end, based on the low level of passenger demand. While a Maryland official said they set a load factor target of 60 percent for the service, actual load factors in September 2002 (after 9 months of operation) were 12 percent.
- Taos. Taos, which has received state and local subsidies since 2000, also continues to struggle to generate enough passenger demand. Though the

state renewed the original 1-year state grant twice for a total of \$570,000 (in addition to local matching funds), monthly enplanements have not exceeded 295 (March 2000). According to an airline official, the service is still not profitable.

Available studies presaged some communities' inability to develop sustainable service. A consulting study of potential service for Hobbs and Ruidoso concluded that these communities would be unable to support additional service without some form of subsidy. As predicted, when the state-supplied subsidy ended, the communities were unable to sustain the service, and the carrier quickly discontinued service. Similarly, a consultant studying Cumberland and Hagerstown suggested that these markets would only support service with a small aircraft, such as one with eight seats. Further, the consultant concluded that Hagerstown showed the least promise because of existing service to the hub in Pittsburgh. Nonetheless, officials decided to go ahead with service to both communities using 19-seat aircraft because they thought passengers would be more inclined to fly in larger planes.

Catalyst and Community Commitment Are Important Factors in Developing Successful Programs

Our review of programs at 12 communities indicates that while each community confronts unique factors that could affect its air service improvement efforts, success in starting a program and improving its air service is predicated in part on the community's size. Simply put, smaller communities have fewer potential passengers to sustain service. However, size is largely beyond a community's control. We identified two other factors, more directly within a community's control, that were important for success. The first, the presence of a catalyst for change, was particularly important in getting the program started so that the sustainability of enhanced service could be tested. The catalyst—normally state, community, or airport officials—provides the critical impetus to recognize air service deficiencies and begin a program for change. However, the long-term sustainability of any air service appears related more to a second factor—a community consensus that air service is a priority. This second factor involves recognizing that enhanced air service is likely to come at a price and developing a way in which the community agrees to participate. We did not find indicators that communities broadly supported air service development in a number of the communities we studied (see fig. 3).

Figure 3: Factors Present in the 12 Communities We Studied

Community	Catalyst	Community commitment to enhanced air service
Mobile, AL	✓	
Pensacola, FL	✓	✓
Tallahassee, FL	✓	
Eugene, OR	✓	✓
Cumberland, MD	✓	
Hagerstown, MD	✓	
Pellston, MI	✓	✓
Carlsbad, NM	✓	
Hobbs, NM	✓	
Roswell, NM	✓	
Ruidoso, NM	✓	
Taos, NM	✓	

Source: GAO analysis.

Notes: ✓ indicates the presence of a catalyst or community commitment.

Most Communities Had a Catalyst for Change

All of the communities we studied had a catalyst or driving force behind their air service improvement efforts. These individuals recognized the need for air service improvements and led the program for change. Not all small communities or airports had such a change agent. Several airport managers we spoke with during our study said they had not taken any steps to improve air service. Some said that they had no local funds for air service development, and some did not know what steps they should take to help improve demand for or supply of air service.

Some of the catalysts were state aviation or economic development officials spearheading air service improvement efforts on a broad scale

through statewide studies, grant programs to fund airports' air service improvement efforts, or statewide meetings or other methods to disseminate information on successful practices. This was the case for the program we reviewed in Michigan. Since 1998, Michigan's Aviation Services Division has spent \$1.5 million to improve air service by performing studies assessing local air service and providing grants to 16 small community airports to aid them in attracting carriers and educating the public about the importance of air service.²¹ Officials at several small community airports in Michigan said that the state program is helpful because they lack local resources for these efforts.

At individual airports, the catalyst was generally some combination of airport officials and local government or community leaders. At Taos, New Mexico, the mayor led efforts to work with airline officials to attract new air service to the area, and in Eugene, Oregon, and Pensacola, Florida, airport officials worked with the local Chambers of Commerce and business leaders to develop travel banks. Having community leaders involved can provide important perspective for airport and airline officials on the type of air service the community desires and is useful for enlisting community support to increase local demand. For example, the Pensacola Airport manager said that involving key community leaders in air service development efforts helped convince other business leaders to lend their support to the program. Sometimes the impetus came largely from one source. In Mobile, Alabama, for example, airport officials came up with a new business model designed to attract or retain carriers by eliminating the need for the airline to find and retain local staff.

Community Consensus on the Priority of Service Underscores Commitment

Communities must be committed to supporting any new or enhanced air service. While this element can be difficult to quantify, indicators do exist. For example, the ability of a community to pledge funds for future air travel as a part of a travel bank demonstrates its commitment to air service. This pledge provides the carrier with guaranteed demand and revenue for the life of the travel bank and may change passengers' travel habits by encouraging passengers to try the new service. Eugene airport and community officials said that broad-based community support for the air service is more important than the total funds collected for the travel bank. Eugene's airport has used travel banks to attract service to two new

²¹The Michigan Air Service Program also provides funds to airports for capital improvements. Our study did not evaluate that portion of the program.

destinations and in both cases, kept the additional service after the travel banks were completed. In each instance, more than 50 businesses contributed to each travel bank, indicating widespread support for the additional service although total funds pledged to each travel bank were less than \$500,000. In Pensacola over 300 businesses and individuals pledged \$2.1 million to its airport travel bank.²²

Conversely, the inability or unwillingness of a community to contribute funds for new air service may indicate that the community did not view air service as a priority. For example, the service from Cumberland and Hagerstown to Baltimore/Washington International Airport was begun with \$4.25 million in state funds. Local communities did not contribute any matching funds, and a state aviation official said that neither community was interested in developing a travel bank. Since the subsidized air service started in December 2001, actual demand is significantly below set targets.

Officials we spoke with said that it is critical that stakeholders also agree on clear goals for air service and have specific agreements with airlines on departure times, funding, and time frames for the program. Officials from the New Mexico communities said they did not begin the program with full agreement on the air service goals (such as destinations to be served) and program structure (such as specific contract provisions for reimbursement). A Roswell official said that she eventually agreed to the proposed destinations and structure so the program would not be delayed. Further, while the communities had an agreement with the airline on the frequency of service to be provided, the carrier determined the flight times, which were not always convenient for travelers, according to consortium officials. The agreement also placed few limits on reimbursement of funds to the airline—that is, the equipment, staff, and training costs that would be reimbursed. The funds were depleted less than 4 months after the service began, and the service was discontinued

²²An AirTran official cited another example (Wichita, Kansas), which was not one of the 12 communities we studied but demonstrates the importance of community consensus that air service is a priority. Wichita was a marginally potential community for AirTran to serve, the official said, (because the population is smaller than the communities normally selected for service under the airline's low-cost business model), but the community support shown for the air service convinced AirTran to launch service there. Wichita airport officials said almost 400 organizations pledged a total of \$7.2 million in travel funds for AirTran. In addition, the program included a revenue guarantee and marketing component. Officials reported that since AirTran began service, fares have dropped significantly and passenger enplanements increased from 112,000 in 2001 to 130,000 in 2002.

shortly thereafter. Officials said that in the future, they would be more specific in their air service agreements.

Implications for Federal Air Service Assistance to Small Communities: Nonhub Communities May Require Different Assistance Than Small Hubs

Findings from our review of 98 small community airports—including our detailed review at 12 of those—coupled with our other work on air service to small communities and the EAS program, have potential implications for ongoing federal efforts to help small communities improve their air service. In fiscal year 2002, DOT projects it will provide approximately \$120 million in financial assistance to assist various small communities with air service—almost \$100 million in direct subsidies to air carriers to serve certain small communities under the EAS program and \$20 million in grants under the Small Community Air Service Development Pilot Program. Both programs face heavy demand for funds. Our work on this report and recent work on air service to small communities indicates that there may be significant differences in the barriers faced by small hub and nonhub communities in developing sustainable commercial air service and that the approaches to addressing the communities' barriers vary accordingly. Some communities with small hub airports were able to marshal local resources to develop air service improvement efforts. For these communities, a one-time grant may be sufficient to develop sustainable air service. In contrast, at four communities we studied with nonhub airports, when the financial incentives ended, the air service ended. These communities may not have the resources available locally to develop such a program. If financial assistance is provided to nonhub communities in hopes of attracting new or enhanced service, the assistance may need to be longer term. Yet, ongoing financial assistance is no guarantee of viable air service. Our previous work on the EAS program indicated that direct subsidies to air carriers have not been an effective transportation solution for passengers at small communities.

Demand Is Heavy for Two Main Forms of Federal Aid to Small Community Airports

To address air service needs at small communities, Congress has appropriated increasing sums over recent years. In fiscal year 1997, the amount appropriated for the EAS program was \$26 million; by fiscal year 2002, it was \$113 million together with another \$20 million for the newly created Small Community Air Service Development Pilot Program. Indications are that these sums only partially address the air service development desires of the nation's small communities. More specifically:

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- As we reported earlier this year, the amount of money needed to fully fund the EAS program as currently authorized is likely to increase further in the near future.²³ As of July 2002, DOT subsidized service to 114 communities, 79 of them in the continental United States. Between September 2001 and September 2002, carriers had notified DOT of their intent to discontinue service to 15 subsidy-eligible communities. With the continuing financial deterioration of the industry, that number may increase yet further.
 - While DOT had \$20 million available for grants to 40 small communities under its Pilot Program, demand for the funds far exceeded this amount. In all, DOT received 180 applications from communities in 47 states, and the applications totaled over \$142.5 million, or more than seven times the amount available. By December 2002, DOT had awarded grants totaling about \$20 million to 40 communities (or consortia of communities).²⁴ The grants, which ranged in size from \$44,000 to \$1,557,500, were applied to such purposes as studies, marketing programs, financial incentives, and other transportation options. The expectation in awarding such grants is that the communities that receive them will be able to parlay the grant into an ongoing program that can be self-sustaining. For example, in a community that is trying to enhance its existing service, the grant might help provide a revenue guarantee to the airline for the first months of the expanded operation, with the expectation that the expanded service will stimulate the market, creating a sustainable base of passengers. The grants are not designed to be renewable. The authorizing legislation contains provisions to allow DOT to coordinate efforts with other federal, state, and local agencies to increase the viability of service to small communities, which could include disseminating information on “best practices” identified by the program.

²³ [GAO-02-997R](#).

²⁴ DOT announced the applicants selected for grants on June 26, 2002. Four communities involved in three grant awards withdrew from the program. Ruidoso, New Mexico withdrew from the Taos/Ruidoso consortium, but was replaced by Angel Fire and Red River, New Mexico with no change to the original grant award. Pasco, Washington and Houghton/Pellston, Michigan (consortium) declined DOT’s grant offers, collectively totaling \$320,000. Additionally, \$14,944 remained available from the original allocation and, based on an arithmetic error, the award to Beaumont/Port Arthur, Texas was reduced from \$510,000 to \$500,000, making a total of \$344,944 available for reallocation. On December 20, 2002, DOT reallocated the available funds to Telluride, Colorado, (\$300,000) and Chico, California (\$44,000).

“Seed Money” Approach May Work Only in Limited Circumstances; Nonhubs May Require Continuing Assistance to Sustain Air Service

Although it is too early to ascertain the pilot program’s success, with the grants having been effective only since October 2002, our review of the efforts already attempted by small communities suggests that a “seed money” approach may have limited effectiveness in creating sustainable programs. Under current regulations for the pilot program, communities served by small hub or smaller airports are eligible to apply for a grant. However, based on our review of the programs launched by the 12 communities we studied in detail, the communities served by nonhub airports have been less able to successfully develop air service over the longer term. In such communities, the smaller populations and lower level of economic activity meant that when the financial incentives provided through some outside funding source ceased, the additional or enhanced air service also ceased. For example, additional service to four small communities in New Mexico ceased when the funds were depleted.

Our findings suggest that the communities that may be best able to use a “seed money” approach are those with a larger population and economic activity base—generally communities with small hub airports. For example, the experience of Eugene, Oregon, with a population of over 200,000²⁵ and a financial commitment from the community demonstrated that a limited financial incentive program can yield sustainable enhanced air service. For communities with adequate size and resources, such a strategy can continue to challenge them to use the one-time infusion of money to jump-start the potential market into a sustainable program. For communities with smaller, nonhub airports, ongoing financial assistance may be necessary. We believe that our earlier work on the EAS program provides insights on strategies that may be more effective for developing air service to nonhub communities. The EAS program essentially provides one type of ongoing federal financial assistance to those communities—a direct grant to air carriers that operate to and from those communities. However, we found that providing funds to the carrier, rather than the community, has often not produced the type of air service that meets the travel desires of the communities’ residents. Faced with relatively high airfares and limited service options, travelers to or from most EAS-subsidized communities “leak” to other airports. As a result, federally-subsidized air service tends to serve only a small portion of the potential passenger traffic at these communities. On average, each flight to or from an EAS-subsidized community carries only three passengers. In our earlier report, we suggested a number of options that could be examined to

²⁵The population is for the Eugene-Springfield metropolitan area.

enhance the long-term viability of the EAS program. These options include eliminating subsidized service to certain communities that were relatively nearby other larger airports (where most local travelers had demonstrated a clear preference for using the competing large airport), providing eligible communities with direct grants to allow them to tailor air service to unique local needs, and allowing communities to use air carriers that operated aircraft smaller than those currently permitted.

Alternatives to Scheduled Commercial Air Service Are Developing, but Passenger Acceptance Is Unknown

Some small communities may find it difficult to generate the level of demand needed to support scheduled, commercial air service even with a substantial subsidy. For these communities, alternative transportation programs are developing that could offer an opportunity for connection to the national air transportation network. These innovative alternatives may meet some small communities' needs, but they raise significant questions. Whether passengers will embrace alternatives such as 9-seat aircraft—particularly in light of the long-recognized aversion of many passengers to comparatively larger 19-seat turboprop aircraft—remains to be seen.

Smaller Aircraft

Some communities that do not have the population or demand to support service from 19-seat turboprop aircraft have received service from smaller aircraft. In New Mexico, Rio Grande Airlines is flying 9-seat Cessna aircraft between Albuquerque and some of the state's smaller communities, including Taos. (See fig. 4.) Such an alternative may be appropriate since a community like Taos, with a population of 6,200,²⁶ generated only a limited level of demand. Taos received service to Albuquerque from a carrier flying 19-seat turboprop aircraft in the past. According to a state aviation official, the carrier ceased service because it was not profitable; the aircraft were too large and costly. Rio Grande's smaller, less costly aircraft better match seating capacity to Taos' demand. Whether that service can become self-sustaining depends on many factors, including the carrier's ability to offer more economical fares or its ability to connect to the larger network through codesharing.²⁷ Rio Grande has established marketing and codeshare arrangements with Great Plains

²⁶This was Taos' population in 1995.

²⁷Codesharing allows an airline to sell seats on its partner's plane as if they were its own, enabling the airline to expand its route network without adding any planes.

Airlines to connect passengers beyond Albuquerque.²⁸ However, some state officials and airport managers have noted that many passengers do not like to fly on these smaller aircraft, and this may depress demand for the service.

Figure 4: Cessna Caravan Used by Rio Grande Air



Source: GAO.

Another potential approach combines the idea of smaller aircraft with a more flexible “taxi” approach to scheduling flights. In Oregon, communities lacking air service are testing a new air taxi business. SkyTaxi, which had its inaugural flight in April 2002, is a blend of an airline and a charter company that primarily serves communities in Oregon, Washington, and Northern California. According to company officials, SkyTaxi franchises use 6-seat (4-passenger) Cessna 414 aircraft (see fig. 5) and have a comparable seat price to regional carriers that serve spoke

²⁸Great Plains has an interlining agreement with American Airlines that allows passengers to travel from a community served by Rio Grande Air to a community served by American Airlines on one ticket and without having to recheck bags when changing airlines.

airports, but also provide the on-demand service of a charter. Individuals, private entities, or local governments can invest in a SkyTaxi franchise that includes a franchise license fee, purchase of aircraft, and other ongoing fees such as operations and marketing. Using a dispatch system similar to a ground taxicab service, passengers call for an aircraft to pick them up at a given location and fly them to another community. This business model is still relatively new. It may be necessary to educate the traveling public about this new option for air travel.

Figure 5: Six-Seat Cessna 414 Used by Sky Taxi



Source: GAO.

Finally, other efforts are also under way to develop new jet aircraft that are small (six seats or less) and less costly than other types of jet aircraft now available for commercial applications. Two aircraft companies, Eclipse and Safire, are in the developmental and testing phases of their aircraft programs. Eclipse has determined that the original engines selected for its jet did not provide adequate thrust. As of January 2003, Eclipse had not yet selected a replacement engine provider. (See fig. 6.)

Figure 6: Eclipse 500 Jet's First Flight on August 26, 2002



Source: Eclipse Aviation.

In the future, these aircraft may be options for small communities that cannot support scheduled, commercial air service with bigger aircraft. These smaller aircraft may be targeted toward personal or corporate use and not scheduled, commercial air service. However, nonscheduled airlines may use the aircraft to serve smaller communities in a charter capacity.

Other Options

Combining several small underutilized airports or investing in other forms of transportation to connect small communities to the national air transportation network may serve as solutions for very small communities that, by themselves, cannot support any form of air service. Regionalization—combining two or more airports and their resources into one regional airport so that services and passengers can be consolidated—is a way for communities to possibly streamline costs and create greater demand at an airport. Intermodalism—the concept of using alternatives such as buses, shuttle vans, or trains to connect to air service at larger airports—is another alternative for small communities. However, we found that many communities are not interested in either of these concepts. Communities have a strong sense that air service is important

not only for transportation needs but also for economic development. For example, Salem, Oregon officials believe that despite its proximity to Portland, Salem can attract and support new air service from their community. Though Salem appears to have an adequate population base to support air service (139,320 in 2001), the airport is located just 47 miles from the Portland International Airport, a medium hub. Salem no longer receives scheduled air service. A shuttle bus service supplements travelers' own vehicles to transport passengers between Salem and the Portland airport.

Concluding Observations

Small communities are facing increasingly difficult challenges in not only attracting new air service but also retaining their current service. Many network air carriers, experiencing unprecedented financial losses, are taking steps to minimize losses such as cutting unprofitable service. Some Wall Street analysts have projected that airline losses will continue into 2004. Because service to small communities is often relatively unprofitable, these communities may be hard hit. This could place further pressure on the EAS program as additional communities qualify for federally-subsidized air service. It could also increase the demand for grants under the Small Community Air Service Development Pilot Program, which in fiscal year 2002 already had requests far in excess of available funds.

Our work looking at both small community air service and the EAS program indicates that there is not a "one size fits all" solution to assist small communities maintain or improve their access to the national air service system. Communities that want to increase the demand for or supply of air service may need to consider some combination of available tools, including marketing or financial incentives. However, the effectiveness of the methods chosen, especially financial incentives, will likely depend to a large extent on the community size. Of those small hub airports we visited, one was able to use a seed money approach to attract new air service and sustain it after the grants ended. The evidence suggests, however, that small communities served by nonhub airports may need continuing assistance to sustain air service improvements. These communities generally have limited local resources and greater need for ongoing assistance to attract, retain, or enhance air service. Further, some communities that desire scheduled air service but do not have demand adequate to support it may need to examine other alternate transportation solutions, such as small aircraft providing on-demand service.

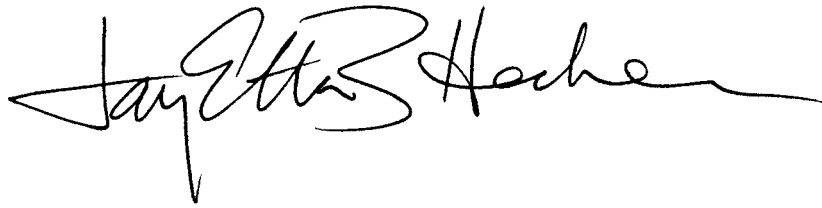
Underlying any successful air service improvement efforts is a community's commitment to the air service. We found that the likelihood of successful initiatives to obtain additional air service increases when the small community demonstrates that enhanced air service is a priority—for example, by financially participating in air service improvement programs and, more importantly, by providing sufficient passenger demand at the local airport. Without adequate demand for air service, long-term financially viable service is unlikely. Our EAS work demonstrated, for example, that small communities with an average of only three passengers per flight required substantial EAS subsidies to maintain their service. Furthermore, low-fare carriers are expanding the number of destinations they serve, and many travelers are choosing to bypass flights from local airports and use other larger nearby airports to obtain lower fares or more air service. Such actions create new options for local travelers but further diminish already-limited demand for air service from small communities. As passenger demand diminishes, small communities become even less attractive targets for airlines to serve.

Agency Comments

We provided a copy of the draft report to DOT for review and formal comment. We also provided sections of our draft report for technical comment to state or airport officials for the 12 communities we studied in detail. DOT, state, and airport officials offered technical comments, which we incorporated into this report as appropriate.

We are sending copies of this report to the Secretary of Transportation, the Regional Airline Association, and other interested parties. We will also send copies to others upon request. In addition, this report also will be available at no charge on our Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me, HeckerJ@gao.gov, or Steve Martin at (202) 512-2834, MartinS@gao.gov. Other key contributors to this report are listed in appendix VIII.

A handwritten signature in black ink that reads "JayEtta Z. Hecker". The signature is fluid and cursive, with a long horizontal stroke at the end.

JayEtta Z. Hecker
Director, Physical Infrastructure Issues

List of Congressional Requesters

The Honorable Don Young
Chairman

The Honorable James Oberstar
Ranking Minority Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable John Rockefeller, IV
The Honorable Olympia Snowe
The Honorable Ron Wyden
United States Senate

The Honorable William Lipinski
The Honorable John Mica
The Honorable John Peterson
House of Representatives

Appendix I: Objectives, Scope, and Methodology

The objectives of this project were to identify (1) challenges that small communities face in obtaining or retaining commercial passenger air service; (2) what actions state and local governmental units or small communities have taken to enhance air service and how successful they have been; (3) what factors, if any, affect the likelihood of success; and (4) what implications this analysis has for federal efforts to assist small community airports.

For this study, we included all nonhub and small hub airports, which various statutes define as small communities.²⁹ For enplanement data, we used the carrier-submitted data for nonhub and small hub airports that comprises the Federal Aviation Administration (FAA) Air Carrier Activity Information System (ACAIS). The ACAIS database categorizes airports by the number of annual enplanements.

To identify (1) challenges faced by small communities in obtaining or retaining desirable and economical air service and (2) steps governmental units or communities had taken to try to improve air service or lower fares, we reviewed all 180 applications submitted to the Department of Transportation (DOT) for grants under the Small Community Air Service Development Pilot Program. These applications provided information on a range of issues relating to air service at these communities, including the type and amount of air service at the community, level of airfares, challenges faced, and information about previous air service improvements undertaken. We also interviewed state aviation officials from all 50 states to gather information about the state's role in air service improvement efforts and suggestions for specific airports to contact that had undertaken air service improvement programs. We interviewed officials at several airlines (AirTran Airways, American Airlines, Northwest Airlines, US Airways, Big Sky Airlines, Boston-Maine Airways, Colgan Air,

²⁹For example, the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), P.L. 106-181, defines small communities as including both nonhub and small hub community airports. The categories of airports—large hub, medium hub, small hub, and nonhub—are defined by statute. Nonhubs and small hubs are defined in 49 U.S.C. 41731; medium hubs are defined in 49 U.S.C. 41714; and large hubs are defined in 49 U.S.C. 417134. The categories are based on the number of passengers boarding an aircraft (enplaned) for all operations of U.S. carriers in the United States. A large hub enplanes at least 1 percent of all passengers, a medium hub 0.25 to 0.99 percent, a small hub 0.05 to 0.249 percent, and a nonhub less than 0.05 percent. In 2000, there were a total of 546 commercial passenger airports: 31 large hubs, 37 medium hubs, 74 small hubs, and 404 nonhubs. The Federal Aviation Administration (FAA) sometimes defines hubs as geographic areas rather than as airports. In this report, however, when we discuss hubs, we are referring to airports.

Rio Grande Air, and Mesa Air Group) to discuss air service issues and identify air service improvement efforts. We also interviewed officials from the National Association of State Aviation Officials (NASAO), Regional Airline Association (RAA), Regional Aviation Partners (RAP), and Air Line Pilots Association (ALPA).

After identifying 292 airports as having taken some steps (often studies and marketing) to improve air service, we then contacted airport or community officials at 98 communities where available information suggested that more extensive improvement efforts had been undertaken. We discussed with officials the air service challenges faced by the community and gathered more specific information about the types of air service improvement programs implemented or ongoing between 1997 and 2002. We asked for information about the specific type of steps undertaken, costs (if known), time frames, goals, status, and the officials' self-defined perspective of project success. We allowed officials associated with the project to define its success because each community faced unique challenges and had defined their own air service needs. Officials could determine whether their community's needs had been met by the program.

To identify the factors that contribute to the effectiveness of air service development initiatives, we developed case studies of individual community efforts. We adopted a case study methodology because, while the results cannot be projected to the universe of small communities, case studies are useful in illustrating the range and complexity of programs communities implemented, specific problems encountered and the outcome of the program. We selected 12 communities in 6 states for a more in-depth review. We chose these sites principally because they had used a variety of programs to try to improve their air service. We also selected them because they varied in population, level of economic activity, and geographic location. The communities were served by a mix of small hub and nonhub airports. We visited the states and met with airport and community officials to discuss air service challenges, the type of programs implemented, project costs, the success of the program, and any lessons learned that might help other communities contemplating a similar program. We also gathered information about the type and amount of air service before and after the improvement effort as well as the level of enplanements (i.e., passenger boardings) and airfares.

To identify implications for other federal programs relating to air service at small communities, we reviewed recently completed relevant studies, along with information on the DOT Small Community Air Service

Development Pilot Program. We reviewed relevant legislation, DOT guidance for the program, program applications, the grant amounts awarded, and selected grant agreements. We also interviewed DOT officials to discuss the selection process and status of the program.

We conducted our work from March 2002 to December 2002 in accordance with generally accepted government auditing standards.

Appendix II: Background on Underlying Economic Principles

Economic principles provide the foundation to explain the level and type of air service any community receives.³⁰ The independent and interdependent forces of supply and demand are critical to understand how a community's air service changes over time as the national, regional, and local marketplaces evolve. In the short run, for small community airport managers and local policymakers' purposes, the knowledge of what factors influence the travel decisions of potential passengers and airlines' service decisions are essential to identify policies that may affect the level of service a community receives. In the long run, a small community's ability to maintain commercial air service—without public financial assistance—depends on the effectiveness of various policies to fundamentally alter travelers' choices to increase demand for local air service.

Demand for Air Service

Demand for air service in a region stems from the collective demand of individual consumers. As a result, the economic factors that influence consumers' choices and decisions are critical to understanding demand for air service. The influence of prices—fares, in this case—on a potential passenger's decision-making process is no different for air service than with other products or services. All else being equal, consumers are willing to purchase more tickets for air travel the lower the airfare.

Variation in demand for air service between different communities results in large part from differences in community size and economic factors that influence consumers' choices. The population of the community and region surrounding an airport, residents' level of income, economic activity, the quality and type of air service available at the local airport, the distance to the nearest competing airport, and the quality and type of service offered at that competing airport are a few factors that create differences in passenger demand between communities. All else being equal, demand for air service is generally greater in communities with more population and employment, higher per capita income, and greater economic activity. Similarly, all else being equal, communities that are more geographically isolated—further from the nearest competing airport—will generally have greater demand for air service because the

³⁰The ensuing discussion is intended only as a general overview. For a more detailed description of the economics of air service, interested readers should consult *Handbook of Airline Economics*, Darryl Jenkins, Executive Editor, New York, The McGraw-Hill Companies, 1995.

cost of accessing alternative forms of air travel is higher, and thus there is less “passenger leakage” from the community.

“Passenger leakage” refers to individuals either driving away from their local community airport to an alternative airport for service, or simply driving to their final destination. Potential passenger leakage is a critical factor in determining a community’s demand for air service. Passenger leakage occurs for a number of reasons, however, the two primary reasons are the difference in airfares and the quality of service between a local and competing airport. All else being equal, communities generally experience greater levels of passenger leakage if a competing airport, within reasonable driving distance, is able to attract travelers by offering better service—more destinations, greater flight frequency, larger planes—or lower fares.

Supply of Air Service

Just as market demand for air service is derived from individual consumer’s demand for service, the potential air service supplied in a region is determined by the economic factors that influence individual carrier’s decisions and corporate goals. Broadly speaking, a producer or supplier of a good or service must receive some minimum price as compensation in order to remain in business. This concept holds true for air carriers when determining whether to serve certain markets, and if so, with what type of aircraft and with what daily frequency. Unless a carrier is able to charge a fare that covers the operational costs of a flight at a minimum, it will not provide service to a market. All else being equal, carriers are willing to provide additional service as airfares rise.

The economic factors that affect the supply of air service to a market, as well as changes to supply over time, are the number of carriers serving the community, labor, fuel, and capital costs, government policies and regulations, fleet distribution (i.e., size and type of aircraft available in the carrier’s fleet), airport expenses (such as landing fees, ground and terminal crew costs, and gate charges), and relative market and route profitability. Changes to airlines’ cost structures can directly affect the supply of air service. Fuel price spikes, renegotiated labor contracts that increase wages, new government safety or security regulations, and increased airport landing fees are all examples of factors that affect structural costs and cause airlines to reconsider markets served and route structure.

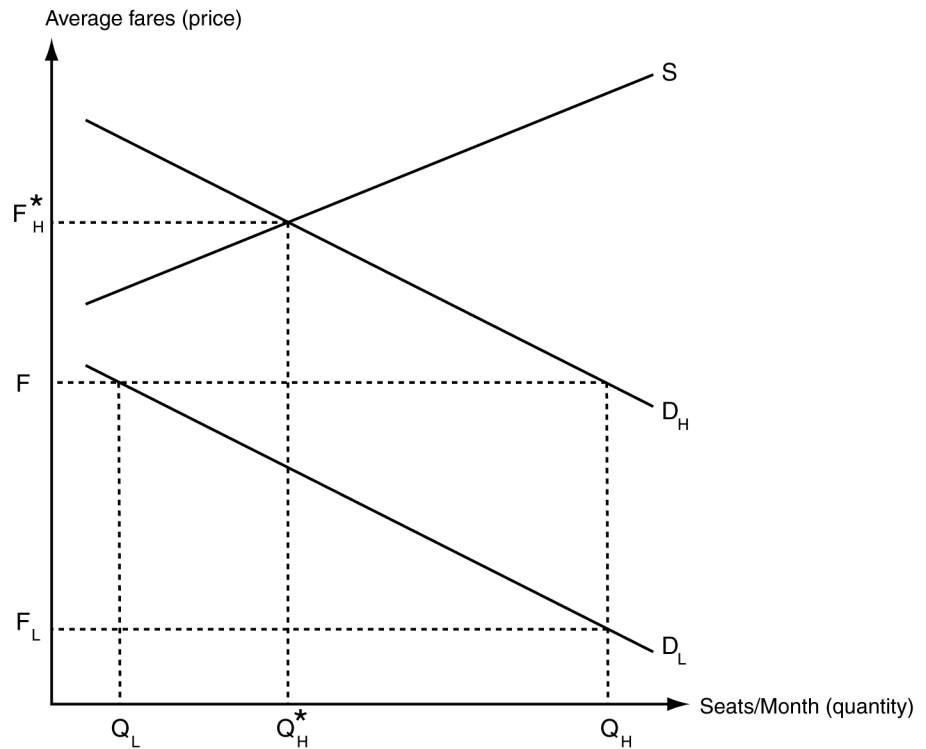
The Traditional Supply and Demand Model

The traditional supply-and-demand model provides a simple conceptual framework to broadly discuss (1) air service in small communities and (2) the economic factors that create and explain differences in service between communities and variations in service within communities over time. The size of a community and the corresponding demand for air travel is arguably the most important element in determining whether a community receives commercial air service. For each community, unless a certain minimum level of demand for air travel exists, carriers are unable to provide sustainable service at fares that cover costs.

Figure 7 illustrates the demand (D) for air service in two hypothetical communities—H a high-demand community and L a low-demand community—and the potential supply (S) representing carriers' willingness to provide service to the communities at different fare levels.³¹ As discussed previously, all else being equal, an inverse relationship exists between airfares and the number of seats demanded by consumers; whereas, carriers are willing to supply additional seats as fares rise. Demand for air service in community H (as illustrated by the line labeled D_H) is shown to be greater than the demand from community L (as illustrated by the line labeled D_L). At an average airfare of F (shown on the vertical axis), the quantity of seats demanded in one month (shown on the horizontal axis) in the high-demand community, Q_H , exceeds that of the low-demand community, Q_L . Another way to consider this is that to purchase the same number of seats, Q_H , consumers are willing to pay more per seat in the high-demand community, F , than consumers in the low-demand community, F_L .

³¹For simplicity, the supply curve representing the relationship between average fares and seats available per month is illustrated as a straight line. However, because a carrier would not add an additional seat as fares increase but rather an entire flight (or larger aircraft) consisting of many seats, the supply curve is more accurately captured as a line increasing in a stepped fashion.

Figure 7: Supply and Demand for Air Service in a High- and Low-Demand Community



Source: GAO analysis.

Incorporating supply to the model, community H is shown to receive scheduled commercial air service because a price exists (F_H^*) at which carriers' quantity supplied is equal to passengers' quantity demanded. Another way to consider this is that passengers' willingness to pay (F_H^* , as shown on the demand curve, D_H) for a level of service (Q_H^*) is the same as what carriers are willing to accept for providing the service (F_H^* , as shown on the supply curve, S). The level and type of service being provided may not be adequate in the minds of community members; nevertheless, the community receives service. Conversely, community L receives no air service due to the lack of demand. Potential passengers in the community are not willing to pay ticket prices for any level of service that carriers would be willing to accept as compensation for the provision of service (a price does not exist where quantity supplied and quantity demanded are equal).

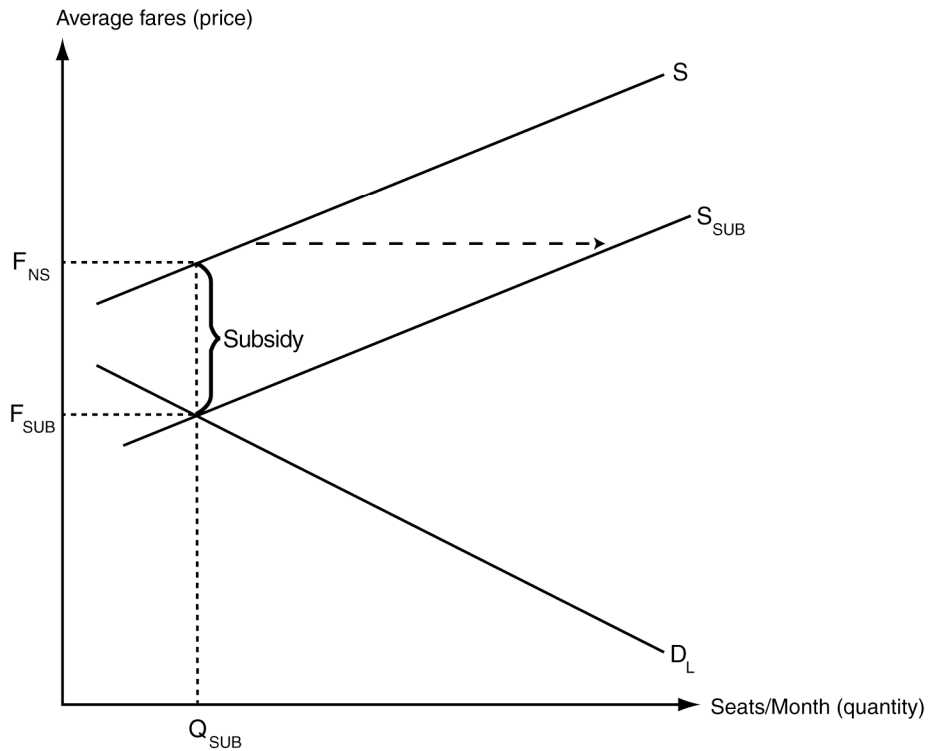
Policy Issues and Market Response

The challenge for policymakers in attracting, maintaining, or improving market-provided, commercial air service in the long run to small communities is to identify the most effective short-term policies that attempt to grow (or maintain) the market to sustainable levels. Granted, policymakers only have the tools to influence a few of the economic factors that affect the supply of and demand for air service in a community. A community's population and its geographic location (in relation to other communities with airports) are fixed in the short run.³² However, local planners can undertake programs that attempt to alter potential passengers' travel choices and decisions, with the objective of capturing a community's potential passenger base by reducing leakage. In addition, airport managers may introduce programs that attempt to reduce the cost burden carriers face when serving or beginning service in a community. Ultimately, however, some communities may not have the sheer size or level of economic activity or be able to compete with the lower fares and/or better service of a nearby airport, to maintain the necessary demand for air service. Thus, for certain smaller communities, sustainable service, without some form of government intervention, may be unachievable in the long term.

Government intervention in the form of a subsidy to carriers (for example, a cost-sharing agreement) may enable a small community to receive air service that commercial carriers would otherwise not serve. The example discussed above of the low-demand community that does not receive market-provided air service, is revisited in figure 8. The government subsidy effectively lowers the carrier's costs, creating an environment in which it can afford to provide service to the community. The amount of air service provided to the community is illustrated by Q_{SUB} . The effect of the subsidy is illustrated graphically by shifting the supply curve outward from S to S_{SUB} . For the same amount of service (Q_{SUB}), the average fare passengers face with the subsidized service, F_{SUB} , is less than the minimum that the carrier would have been willing to accept in a situation with no subsidy, F_{NS} . The end result of the program is government-subsidized air service in a community that otherwise would not receive commercial air service. Without the subsidy, the carrier would not provide service because passengers would not be willing to pay any price that carriers would be willing to accept for providing service (the supply and demand curves do not intersect).

³²Of course, as illustrated by low-fare carriers' expansion into new cities (e.g., Southwest launching service in Manchester, New Hampshire), service at those cities can change.

Figure 8: The Effect of a Government-Provided Subsidy on Community Air Service



Source: GAO analysis.

The DOT Essential Air Service (EAS) program provides an example of how government intervention can enable a small community to receive air service that commercial carriers would otherwise not serve. In general, the EAS program provides a subsidy to carriers that serve certain communities. The subsidy is calculated to cover the difference between a carrier's projected revenues and expenses and provide a minimum amount of profit.

Hypothetical Example of Efforts to Improve Air Service

In the short term, a number of different programs may be successful at providing or enhancing a community's air service. However, to be successful at sustaining air service in a community in the long run without prolonged government intervention, a program will need to target factors that ultimately influence consumers' decisions and increase passenger demand in the market. The following hypothetical scenario provides a general example of how a policy can potentially increase the level of air service in a community.

The local small community market: Consider a community that receives air service but at levels that the community deems inadequate (i.e., a single carrier, with poor on-time performance, that operates only a few daily flights to one destination on small aircraft at relatively expensive airfares). Because of the relatively poor service at the local airport and increased availability of service elsewhere, many or most potential local passengers drive to other nearby airports for better service and lower fares. As a result of the high level of passenger leakage, demand in the local community has been declining, and the carrier is considering dropping the market.

The policy and objectives: The local airport and community-planning bodies initiate a program that provides (for a fee) the ground and terminal labor and capital necessary for airport operations (i.e., similar to the Mobile, Alabama business model). The short-term objective of the initiative is to encourage the carrier to remain in the community and improve service (i.e., frequency of flights, number of destinations, on-time performance) by lowering its local operational costs. The long-term goal of policymakers is also to improve service, but by increasing demand through reduced passenger leakage.

The potential market response following program implementation: Following the program's introduction, the reduced costs create an incentive for the carrier to improve service by offering a greater frequency of daily flights, adding an additional destination, and enhancing on-time performance. The improved service at the local airport may alter the choices and travel decisions of potential passengers in the community. As a result, more passengers may choose to use this service rather than driving elsewhere, so demand increases due to a reduction in passenger leakage. The increase in demand increases load factors, thus potentially improving the market's profitability, which in turn may attract new carriers into the community offering additional flight destinations and frequencies. The introduction of a competitor at the airport further increases supply and creates competition between the carriers for passenger traffic. At the then-current level of demand, average airfares drop and the total amount of seats demanded at that new lower fare level increases. The addition of other carriers also may increase flight frequency and destinations and thus may increase demand as passengers reconsider their mode and trip choices. The cycle continues to evolve over time as changes in the local, regional, and national marketplace occur.

The above example may paint too rosy a picture for what policymakers in smaller communities could expect from initiatives aiming to attract or

improve service. This may be especially true at this time, because the current climate in the aviation marketplace consists of the exact opposite story: the downward spiral of declining demand and increasing costs, resulting in service being reduced or eliminated in certain markets.

Air Service Improvement Initiatives

The EAS program and the hypothetical scenario presented above are examples of policies with a supply-side orientation—the direct impact of an initiative is aimed at the supplier of the service, the carriers. Other programs that attempt to grow a market may be demand oriented, where the focus of the initiative is on potential passengers. For instance, a marketing proposal aimed at educating potential travelers in a region about air service from a local airport is a demand-oriented program. Regardless of orientation, the goal of policymakers developing short-term initiatives such as travel banks, revenue guarantees, cost-sharing agreements, direct subsidization, and consumer education (marketing) is to attract, maintain, or improve air service in their community. Ultimately, a sustainable level of service will result from the effectiveness of various policies to change travelers' decisions and increase demand within a community. In the long run, some communities simply do not have the size and level of economic activity necessary to maintain commercial service without a government subsidy. Others may simply be unable to curb passenger leakage because they cannot compete with larger airports within relatively close driving distance that offer better service from more carriers, especially low-fare carriers.

Appendix III: Air Service Improvement Efforts at 98 Nonhub and Small Hub Airports

State	City	2000 Enplanements	Category	Study ^a	Marketing	Financial incentives					
						Travel bank	Revenue guarantee	Reduced airport fees	Subsidy	Other financial	Other
Alabama	Huntsville	529,052	small hub	X	X						
	Mobile	389,280	small hub	X	X			X		X	
Arizona	Show Low	4,059	nonhub	X							X
	Yuma	63,987	nonhub	X							X
California	Bakersfield	148,200	nonhub		X						X
	South Lake Tahoe	2,289	nonhub		X			X			
	Stockton	238	nonhub	X	X	X		X			X
Colorado	Alamosa	4,888	nonhub	X							
	Colorado Springs	1,205,552	small hub		X						
	Durango	91,276	nonhub		X			X			
	Gunnison	55,131	nonhub					X			
	Lamar	322	nonhub	X	X						
	Montrose	67,242	nonhub	X	X			X			
	Pueblo	5,213	nonhub		X						
	Telluride	17,107	nonhub	X	X			X			
Connecticut	New Haven	38,159	nonhub	X	X			X			
Florida	Gainesville	144,078	nonhub	X	X						
	Naples	54,791	nonhub	X				X			
	Pensacola	524,811	small hub	X	X	X					X
	Sarasota/ Bradenton	743,603	small hub	X	X			X			
	Tallahassee	467,914	small hub	X	X			X	X		X
Georgia	Augusta	208,444	nonhub		X	X		X			
	Brunswick	20,980	nonhub	X	X						
	Columbus	87,450	nonhub	X	X						
	Savannah	879,821	small hub		X			X			
Iowa	Dubuque	58,531	nonhub		X						
	Sioux City	85,684	nonhub	X	X						
Idaho	Hailey	73,072	nonhub	X							
Illinois	Quincy	10,173	nonhub		X						X
	Springfield	71,065	nonhub		X			X		X	X
Indiana	Gary	24,588	nonhub	X	X			X			
	Lafayette	20,128	nonhub		X						X
	Terre Haute	523	nonhub	X							X
Kansas	Wichita	584,160	small hub	X	X	X		X			
Kentucky	Lexington	507,334	small hub	X	X						

**Appendix III: Air Service Improvement
Efforts at 98 Nonhub and Small Hub Airports**

State	City	2000 Enplanements	Category	Study ^a	Marketing	Financial incentives					
						Travel bank	Revenue guarantee	Reduced airport fees	Subsidy	Other financial	Other
Louisiana	Baton Rouge	417,716	small hub	X	X						
	Lake Charles	66,165	nonhub		X						
	Shreveport	361,436	small hub	X	X						
Maryland	Cumberland	4,815	nonhub	X	X				X		
	Hagerstown	25,923	nonhub	X	X				X		
Maine	Bangor	272,833	nonhub	X	X						
	Portland	668,098	small hub	X	X						
	Presque Isle	25,174	nonhub	X	X						
Michigan	Alpena	12,609	nonhub	X	X						
	Benton Harbor	2,823	nonhub	X	X						X
	Hancock	31,263	nonhub	X	X						
	Ironwood	1,999	nonhub	X	X						
	Pellston	31,571	nonhub	X	X						
Minnesota	Bemidji	28,537	nonhub		X						
Missouri	Cape Girardeau	7,349	nonhub	X	X						
	Kaiser Lake Ozark	11	nonhub	X	X						
	Springfield	352,008	nonhub	X	X						X
Montana	Bozeman	240,583	nonhub				X				
	Helena	76,675	nonhub		X			X			
	Missoula	230,065	nonhub	X	X	X					X
North Carolina	Asheville	277,189	nonhub	X	X			X		X	
	Fayetteville	149,244	nonhub	X	X						
	Hickory	16,010	nonhub	X	X	X					
	Kinston	2,702	nonhub	X	X			X		X	
	Pinehurst/ Southern Pines	17,751	nonhub	X	X						
North Dakota	Fargo	237,234	nonhub		X						
	Grand Forks	90,465	nonhub	X	X						
New Hampshire	Lebanon	15,156	nonhub	X	X						
New Jersey	Atlantic City	429,788	small hub	X	X		X	X			
New Mexico	Angel Fire	13	nonhub						X		X
	Carlsbad	7,355	nonhub	X					X		
	Hobbs	2,342	nonhub	X					X		
	Roswell	16,706	nonhub	X					X		
	Ruidoso	13	nonhub	X					X		X
	Taos	1,233	nonhub		X				X		X

**Appendix III: Air Service Improvement
Efforts at 98 Nonhub and Small Hub Airports**

State	City	2000 Enplanements	Category	Study ^a	Marketing	Financial incentives					
						Travel bank	Revenue guarantee	Reduced airport fees	Subsidy	Other financial	Other
Ohio	Youngstown/ Warren	31,475	nonhub	X							
Oregon	Eugene	374,174	small hub	X	X	X					
Pennsylvania	Allentown	494,815	small hub	X	X			X			
	Du Bois	15,439	nonhub	X							X
	Johnstown	20,820	nonhub	X	X						
	Lancaster	13,977	nonhub	X	X				X		
South Carolina	Hilton Head Island	92,465	nonhub	X	X						
South Dakota	Huron	2,941	nonhub							X	
Tennessee	Chattanooga	300,746	nonhub		X						
Texas	Amarillo	445,161	small hub	X					X		
Utah	Logan	16	nonhub	X	X						
Virginia	Newport News	227,635	nonhub	X	X		X		X		
	Staunton/ Waynesboro Harrisonburg	21,113	nonhub	X	X						X
Vermont	Burlington	446,363	small hub	X	X			X			
	Rutland	4,010	nonhub	X							
Washington	Moses Lake	10,634	nonhub	X							
	Olympia	65	nonhub	X							
	Pasco	210,681	nonhub	X							
	Pullman/ Moscow (ID)	33,221	nonhub	X							
	Yakima	86,451	nonhub	X							
Wisconsin	Appleton	260,474	nonhub	X	X						
	Rhineland	37,937	nonhub	X	X			X			
West Virginia	Charleston	276,095	nonhub	X	X						X
	Lewisburg	12,717	nonhub	X	X		X				
Wyoming	Casper	66,918	nonhub	X	X						
	Cheyenne	21,720	nonhub		X						
	Gillette	16,419	nonhub	X	X						
	Jackson	173,692	nonhub		X		X				

Source: GAO.

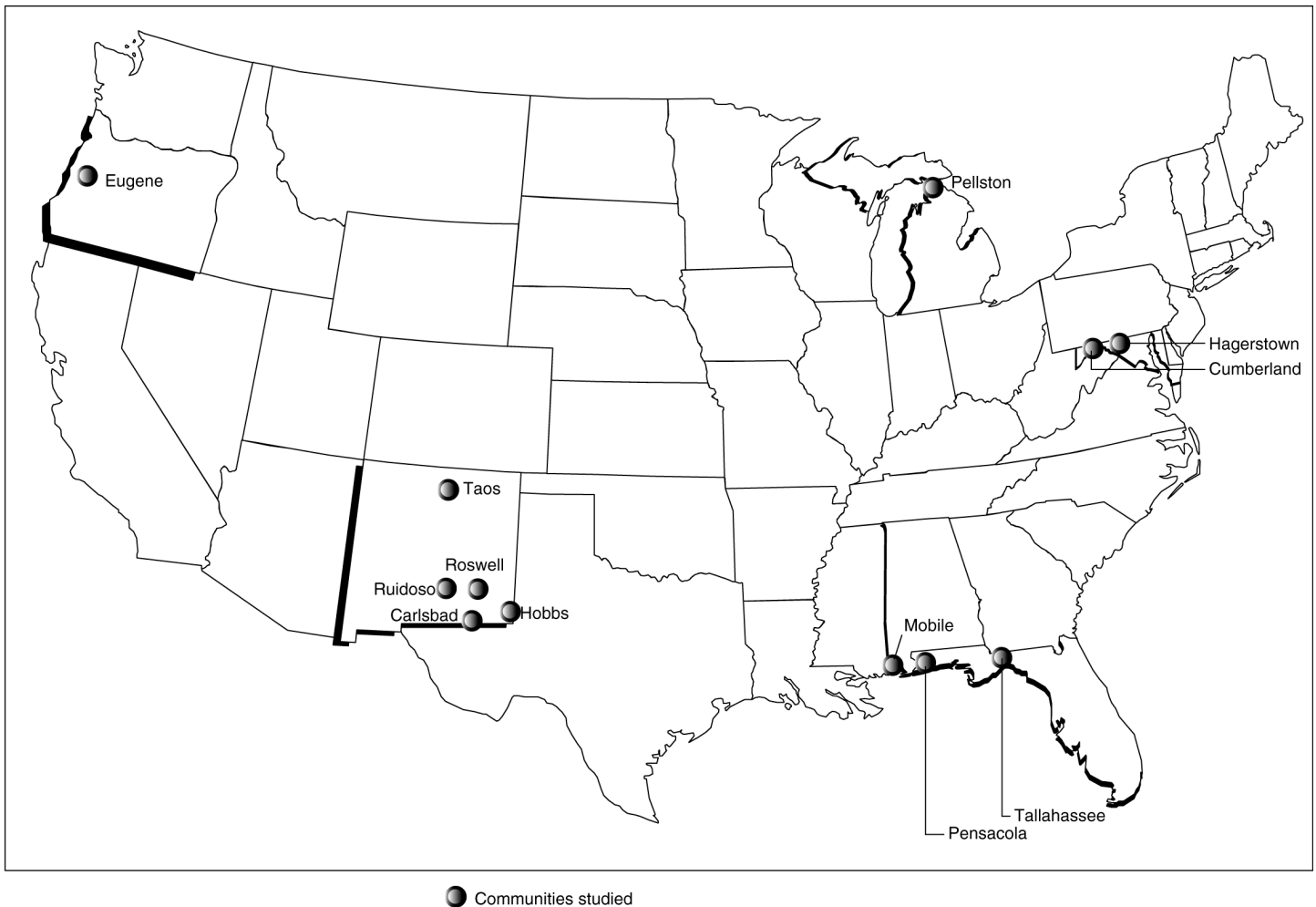
Notes: The air service development programs were in various stages at the time we spoke with officials. We did not include programs in the table above that were in the proposal stage at the time of our discussions. We included communities with ongoing programs and communities that had completed their programs. In a few cases, we included communities that had developed financial incentive programs but had to put them on hold or discontinue their efforts due to the events of September 11, air carrier problems, or for other reasons.

^aStudies included both those conducted at a statewide level and those conducted or commissioned by an individual airport.

Appendix IV: Case Studies Describing Air Service Improvement Programs in 12 Small Communities

We visited 6 states for a more in-depth review of 12 communities' air service improvement programs. As shown in figure 9, the states visited were spread across the United States. We reviewed several communities in New Mexico because they were working together on state-funded air service improvement efforts. Other communities, such as Mobile, were operating a program independently.

Figure 9: Twelve Communities We Studied in More Detail



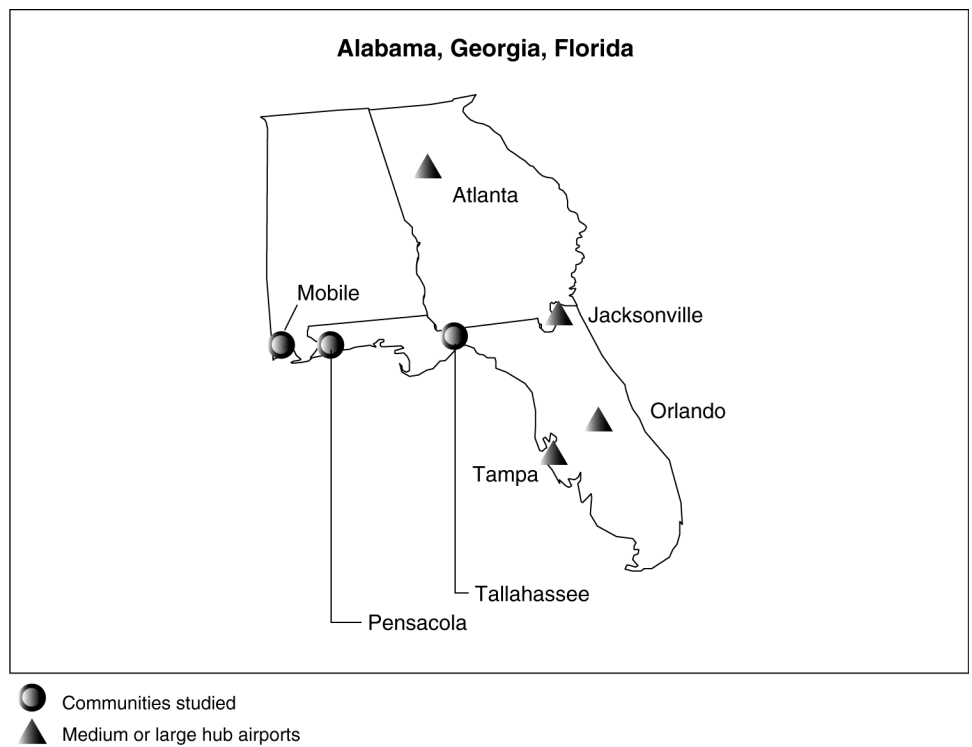
Source: GAO.

Mobile, Alabama's New Business Model

Mobile, Alabama has faced challenges in retaining service, despite its growing economic base. In 2001, six carriers provided nonstop service from Mobile to 10 destinations. In October 2001, United Express, which

was sharing ground staffing (e.g., ticketing and baggage operations) and equipment with US Airways Express, discontinued service to Mobile. When it did so, US Airways Express had no personnel or equipment to assist with ground service.

Figure 10: Communities Studied in Florida and Alabama and Other Nearby Competing Airports



Source: GAO.

Officials with the Mobile Airport Authority suggested that it could manage US Airways' ground services, streamlining those operations and saving the carrier some money. Airport officials said they recognized that doing so could be a solution to a problem inherent to small community airports—relatively high market entry costs associated with establishing a ground station and operations at an airport with limited passenger demand.

According to Mobile Airport Authority officials, this “new business model” costs about \$26,000 per month. The model, which began after September 11, 2001, has three components that are aimed at reducing an airline’s start-up costs:

- The airport provides staff for all airline ground operations. Those staff are fully trained in airlines' systems and operations, including checking in passengers and baggage, selling and issuing tickets, and marshalling aircraft into and out of the assigned parking positions. As of November 2002, the airport had nine staff allocated to the program.
- The airport provides all ground handling equipment (e.g., baggage carts and tugs) for aircraft. The airport is currently using ground equipment on loan from a previous tenant and planning to purchase equipment at a cost of nearly \$145,000.
- The airport charges a fee of \$315 (as of October 2001) for services provided for each scheduled turn (i.e., arrival and departure).

Mobile was able to retain service from US Airways Express. To date, US Airways is the only airline involved in the model; no other incumbent airlines have expressed interest in participating. Mobile officials believe this is because airlines would need to lay off their own ground staff in order for the program to be feasible. According to airport officials, the model will be most attractive to new carriers who do not currently have ground personnel on staff or to carriers thinking of leaving Mobile due to staff costs. Recently, DOT awarded Mobile \$456,137 from the Small Community Air Service Development Pilot Program to fund the purchase of ground equipment and pay for program operation expenses for 1 year. Officials are hopeful their staffing program will help attract other carriers to Mobile.

Pensacola, Florida's Travel Bank Program

While travelers at Pensacola, Florida have enjoyed air service from several carriers, they have had to contend with high airfares and leakage to neighboring airports. Pensacola, located in the panhandle of Florida, is about 1 hour's drive from small hubs located at Fort Walton Beach, Florida and Mobile, Alabama. Pensacola Regional Airport officials have undertaken a variety of strategies to address these problems. In 1998, Pensacola airport officials approached incumbent carrier Delta Air Lines requesting that they lower fares to match those available at Fort Walton Beach. The meetings with Delta were unsuccessful. Pensacola officials had also been in ongoing discussions with Southwest Airlines and recognized that any service possibilities from Southwest were not likely in the immediate future.

In August 2001, AirTran Airways approached Pensacola and requested a pro forma study of operational costs to determine the costs to operate from the Pensacola Regional Airport. The airline was requesting information because they were engaged in negotiations with airport

officials related to the planned terminal expansion at Fort Walton Beach. According to an AirTran official, they decided to move because of problems concerning the planned terminal expansion at Fort Walton Beach, including the timing of construction, location of AirTran operations during construction, amount of construction that AirTran was expected to pay for, and overall increased costs to AirTran. The airport manager in Pensacola said he had heard about other airports using travel banks and acted quickly to develop a travel bank. AirTran began service in Pensacola in November 2001 with three daily nonstop flights to Atlanta.

The following are elements of Pensacola's program:

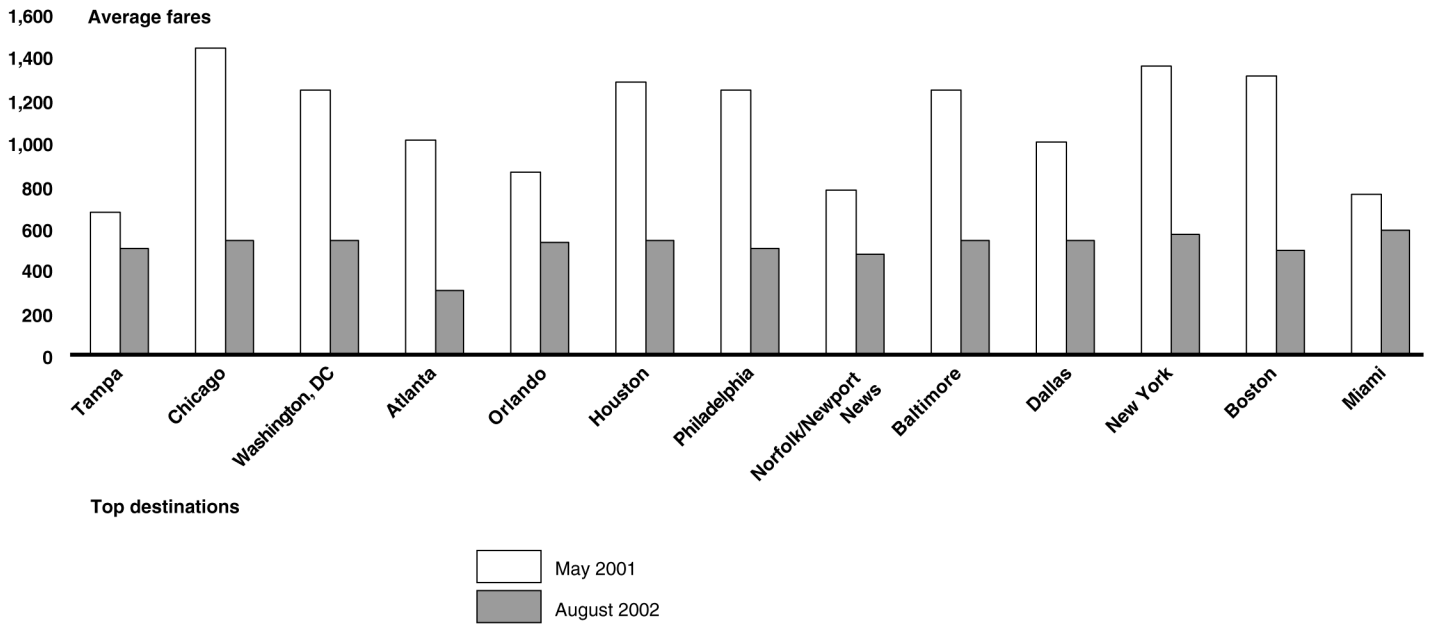
- Travel Bank: Pensacola's travel bank was the product of a large community effort involving support from numerous community stakeholders. The Chamber of Commerce, Pensacola city officials, and airport officials conducted outreach for the travel bank over a 3-week period, and persuaded 327 businesses and individuals to contribute a total of \$2.1 million for a 2-year period. The businesses contractually agreed to dedicate a portion of their travel budget to fly on AirTran. The local bank involved issued each participating business a credit card account, which is used to draw funds toward the purchase of AirTran airline tickets. Using their credit card accounts, businesses can purchase tickets from travel agents, the Internet, and other distribution channels. If the businesses do not spend the funds they have allocated to the account within the 2-year period, the remaining funds are transferred to AirTran Airways, and they receive vouchers with AirTran, which they have 1 year to redeem. While Pensacola passengers can fly to any of AirTran's destinations (via Atlanta), AirTran determines the flight schedule. If AirTran reduces their flights from three per day, files for bankruptcy, or sells more than 50 percent of their stock, then businesses participating in the travel bank can be released from the agreement.

- Reduced Airport Fees: Pensacola agreed to cover the difference in operational costs between Fort Walton Beach and Pensacola, which amounts to approximately \$375,000 per year. A consortium of local government and business entities³³ agreed to cover this additional cost—for the first 2 years of AirTran’s operations.
- Moving Costs: The airport agreed to pay the \$39,000 cost of moving AirTran operations from Fort Walton Beach to Pensacola.
- Marketing: Pensacola’s airport includes a staff that conducts marketing and works closely with AirTran to promote Pensacola’s air service. The airport budgets \$50,000 per year for AirTran (for the duration of the travel bank—2 years).

Pensacola’s financial incentive program has been a success in the short-term. Pensacola has seen a dramatic drop in airfares since AirTran began air service in August 2001. (See fig. 11.) According to Pensacola Airport officials, as of August 2002, the walk-up fares for Pensacola to Atlanta were \$300, about 70 percent lower than in 2001. Furthermore, two regional airlines (affiliated with Delta) began serving more destinations since AirTran began service. According to Pensacola’s airport manager, this is likely due to AirTran’s presence. AirTran’s load factors in July 2002 were at 67 percent, approaching the program goal of 70 percent. As of November 2002, Pensacola had four AirTran flights daily using a mix of regional and mainline jets. The airport manager said that the service is attractive to travelers, and he believes that given the increasing passenger demand at the airport, service will become self-sustaining by the end of the program.

³³Foundations for the Future (Pensacola Area Chamber of Commerce), the city of Pensacola, Escambia County, Santa Rosa County, the city of Milton, and the city of Gulf Breeze.

Figure 11: Walk-up Fares at Pensacola Regional Airport (August 2002 versus May 2001)



Source: GAO analysis of Pensacola Regional Airport Fares.

Tallahassee, Florida's Revenue Guarantee Program

Tallahassee, the state capital of Florida, had nonstop service to 11 destinations from 8 carriers (as of August 2001), but has been faced with relatively high airfares. As a result, large numbers of its potential passengers chose to fly out of other area airports, including those as far away as Orlando, Jacksonville, Tampa, and Atlanta. According to airport officials, high fares were a major barrier to Tallahassee's economic development because they discouraged businesses from locating there.

To attract and keep businesses, airport officials began an effort to improve existing air service and attract new service. Officials said they were not successful in either persuading Delta or US Airways to lower fares or in attracting Southwest Airlines. The state issued a request for bids to carriers who could provide guaranteed airfares to employees of the state government—the primary employer for Tallahassee. AirTran, a low-fare carrier was the only respondent to the request for proposals (RFP). The city had a history of working with the state to secure a low-fare carrier. The state indicated that it would only award the contract to AirTran if it would provide service to Tallahassee. AirTran agreed to provide service if some kind of assistance was provided in turn. Working with officials from

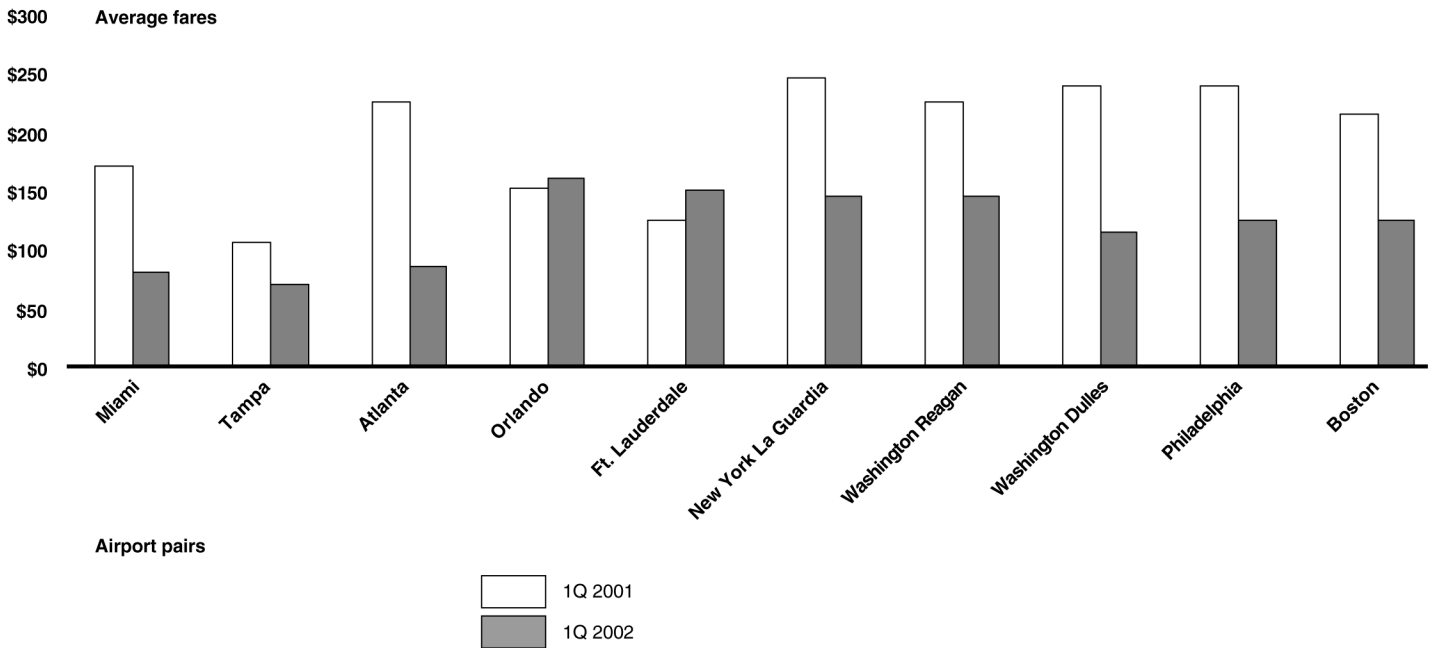
the city and the governor's office, Tallahassee reached an agreement with AirTran to begin service to Atlanta, Tampa, and Miami as of November 15, 2002. The city agreed to provide a revenue guarantee of \$1.5 million (raised through the sale of city-owned real estate) to help AirTran mitigate start-up risks. Under this program, the city guaranteed for a 1-year period that AirTran would earn gross passenger revenues of \$4,154 per block hour.³⁴ If the revenue fell short of this goal, the city would make up the difference, up to a total of \$1.5 million.³⁵ In addition, the city agreed to pay AirTran up to \$250,000 for marketing and \$350,000 of operational incentives creating a package totaling \$2.1 million. To ensure ridership of the new service, employees of the state and the city of Tallahassee were required to use AirTran when possible.

Tallahassee's airfares have declined since November 2001. Fares in 8 of Tallahassee's top 10 markets decreased by 36 percent or more. For example, fares from Tallahassee to Atlanta declined by 60 percent. (See fig. 12.) Passenger traffic has also increased since AirTran began service. On a year-over-year basis, passenger volumes have improved by 27 percent for the year through November 2002.

³⁴A block hour is a common measure of aircraft usage. Block hours are measured from the time the aircraft backs away from the gate until the aircraft pulls into the gate at the destination.

³⁵The anticipated scheduled block time covered by the agreement was 65 minutes per flight segment or 19.5 block hours per day for all flights.

Figure 12: Average Ticket Prices in Tallahassee's Top-10 Markets (1st Quarter 2002 versus 1st Quarter 2001)



Source: Analysis of Issues Associated with Renewal of a Revenue Guarantee for AirTran Airways prepared for the City of Tallahassee by Back Aviation Solutions, BACK OD1A Database.

AirTran's service from Tallahassee has not yet been profitable. In an effort to reclaim passengers after September 11, AirTran and its competitors lowered fares dramatically. Even with increasing load factors, the airline was unable to generate enough revenue to meet the preset revenue goal. Consequently, AirTran exhausted the \$1.5 million revenue guarantee within the program's first 3 months. According to airport representatives, AirTran service was predicted to be self-sufficient by the third quarter of 2002, but the events of September 11 and the resulting decline in passenger traffic has pushed the target for self-sufficiency to the third quarter of 2003. As of September 2002, Tallahassee learned that AirTran might suspend service in November 2002 unless it had received a renewal of the full \$1.5 million revenue guarantee. The renewed agreement would include a monthly cap of \$125,000.

According to a Tallahassee airport official, Air Tran and the Tallahassee city commissioner were able to come to an agreement to renew the \$1.5 million revenue guarantee. Funding for the revenue guarantee is coming from the proceeds of additional land sold by the city of Tallahassee. The revenue guarantee was renewed for a 1-year period beginning November

15, 2002. The new contract with AirTran provides that regional jets may be used in place of the larger B-717 jets, which would allow AirTran to better match frequency and capacity. While the block hour guarantee for the B-717 jets will remain the same (\$4,154), the regional jet block hour guarantee will be two-thirds of the amount. AirTran officials are hopeful this new agreement with Tallahassee will allow the Tallahassee market to become self-sufficient and profitable.

Michigan's Air Service Program

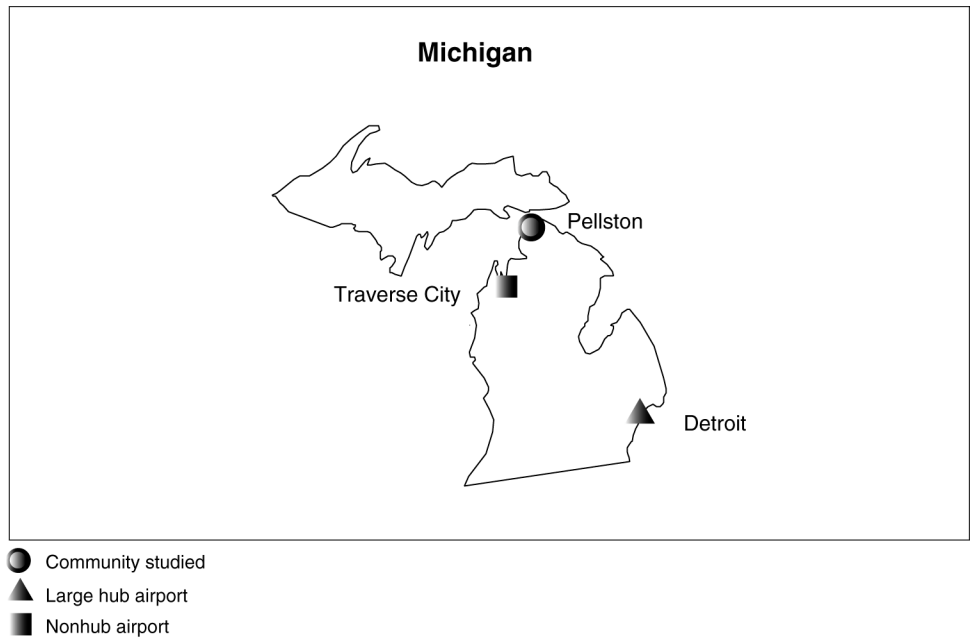
After a 1986 state survey of businesses indicated that air service was ranked third most important in terms of cultivating business, the then-governor of Michigan established a state program to assist the state's smaller airports.³⁶ Since 1988, the Michigan Air Service Program has provided grants to the state's airports (generally those with annual enplanements under 150,000) to aid in three distinct categories—marketing local airport service, air carrier recruitment and retention, and capital improvements and equipment.³⁷ These grants are funded by the state's aviation fuel tax, and airports are required to provide a local match to the state funding. Between fiscal years 1998 and 2002, Michigan awarded over \$1.3 million to small airports for marketing and carrier recruitment projects and spent another \$265,000 for projects that benefit airports statewide.³⁸ In the last 5 fiscal years, the airports at Alpena, Houghton County, Marquette, Pellston, and Sault Ste. Marie were among the 16 airports that have received state grant funds. We reviewed the efforts of Pellston, Michigan in more detail.

³⁶Michigan airports include the large hub at Detroit, a small hub at Grand Rapids, and several nonhub airports. There are no airports classified as medium hubs in Michigan. Three Michigan communities—Iron Mountain, Ironwood, and Manistee—are served by EAS-subsidized carriers that offer flights to Chicago or Milwaukee.

³⁷We did not analyze awards made in the capital improvements and equipment category.

³⁸As an example of a statewide project, in fiscal year 1998 the state hired a consultant to assist community leaders and local travelers in understanding the dynamics of the industry.

Figure 13: Pellston, Michigan and Other Nearby Competing Airports



Source: GAO.

The Pellston Regional Airport of Emmet County is located near a major resort and tourist area in part because of its proximity to Mackinac Island. Northwest Airlines³⁹ offers the only air service from Pellston—three flights daily to Detroit using 34-seat turboprops.⁴⁰ A roundtrip business fare between Pellston and Detroit exceeded \$400.⁴¹ However, Pellston is only 85 miles north of Traverse City, which has over three times as many daily departures provided by three carriers, including service to Chicago and Detroit.⁴² As a result, about 50 percent of Pellston’s passengers leak, primarily to Traverse City.

³⁹Northwest Airlinck partner Mesaba Airlines operates these flights.

⁴⁰Northwest Airlinck partner Pinnacle Airlines also operated two daily departures with 50-seat regional jets out of Pellston from June to September 2002 and, according to a Michigan Aeronautics official, plans future regional jet operations on a seasonal basis.

⁴¹The business fare indicated is based on a 1-day advance purchase fare from the Orbitz Web site, www.orbitz.com as of November 7, 2002.

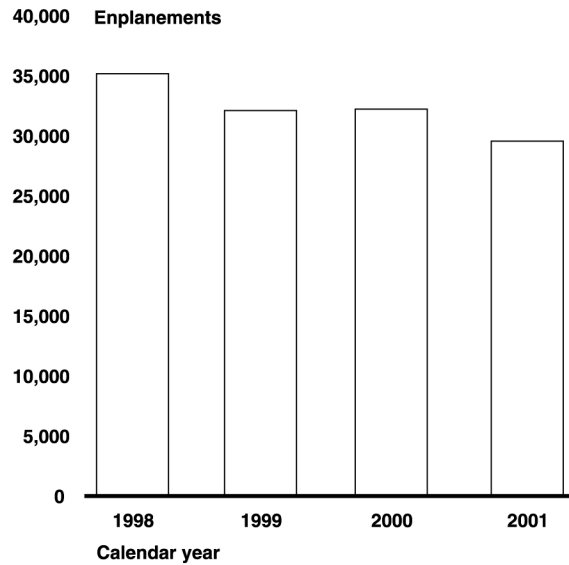
⁴²Traverse City is served by American Eagle, Northwest Airlinck (Mesaba and Pinnacle), and United Express (Air Wisconsin) as of December 2002.

Pellston has received over \$100,000 in state grant funds since fiscal year 1998 and has used the vast majority of the funds to market the airport. A lesser amount has been used to recruit and retain air carriers. According to a state aviation official, the community of Pellston has contributed over \$12,000 to these projects; the Petoskey Regional Chamber of Commerce's Air Service Task Force has been instrumental in raising the local share of the airport's marketing funds. Pellston has used its state marketing grants to develop promotional materials such as newspaper, radio, and TV ads highlighting the state's "Fly From Nearby" theme and a newsletter that updates the community on airport projects. The airport has used carrier recruitment and retention grants to examine possible one-stop service to Chicago.⁴³ The Pellston airport manager believes that these marketing efforts are benefiting their enplanement levels.

Pellston's enplanements declined 16 percent between 1998 and 2001. For the first 8 months of 2002, passenger traffic had increased, compared with the same period in 2001, an indication that the airport was successfully handling the fallout from the industry's financial woes and the September 11 attacks. Figure 14 illustrates the changes in Pellston's enplanements between 1998 and 2001.

⁴³The state allocated additional recruitment and retention funds of \$16,000 in fiscal year 2002 for Pellston's application to the U.S. DOT for a Small Community Air Service Development Pilot Program grant of \$60,000. Pellston was awarded a grant and planned to use the funds to facilitate the introduction of seasonal regional jet service. However, according to DOT and Michigan aviation officials, Pellston declined the grant after Northwest Airlines reconsidered its willingness to participate in the initiative.

Figure 14: Enplanements at Pellston, Michigan (1998-2001)



Source: GAO analysis of Michigan Department of Transportation data.

Michigan had an experience in which its efforts to obtain and maintain commercial passenger service were not successful—at Benton Harbor. Michigan officials reported two significant lessons learned in their efforts at Benton Harbor to develop sustainable air service: (1) the community needs to provide long-term support for air service and (2) factors contributed by other modes of transportation should be considered when undertaking service initiatives. Officials recognized these lessons after the state agreed to a risk-sharing arrangement with Northwest to provide service to Benton Harbor. The airline initiated service to Benton Harbor in June 1995. However, a major highway to South Bend, Indiana was completed about the time the service was initiated, easing southwest Michigan residents' access to the multiple-carrier service at the South Bend Airport. According to the state officials, this factor, together with the initial reliability problems with Northwest service; Benton Harbor's proximity to three other airports with lower service or better fares; and other issues resulted in the eventual termination of the service in 2000. However, this was 2 years beyond the agreed-upon service period. Enplanements at Benton Harbor peaked in 1996, the first full year of service, at 7,501 and declined each year thereafter, to 5,586 in 1999. In 2000, only 2,821 passengers had enplaned when the service was suspended in August. Benton Harbor is still without commercial air service, and the airport manager there believes it is probably more feasible to develop into a general aviation airport serving private jets and other aircraft.

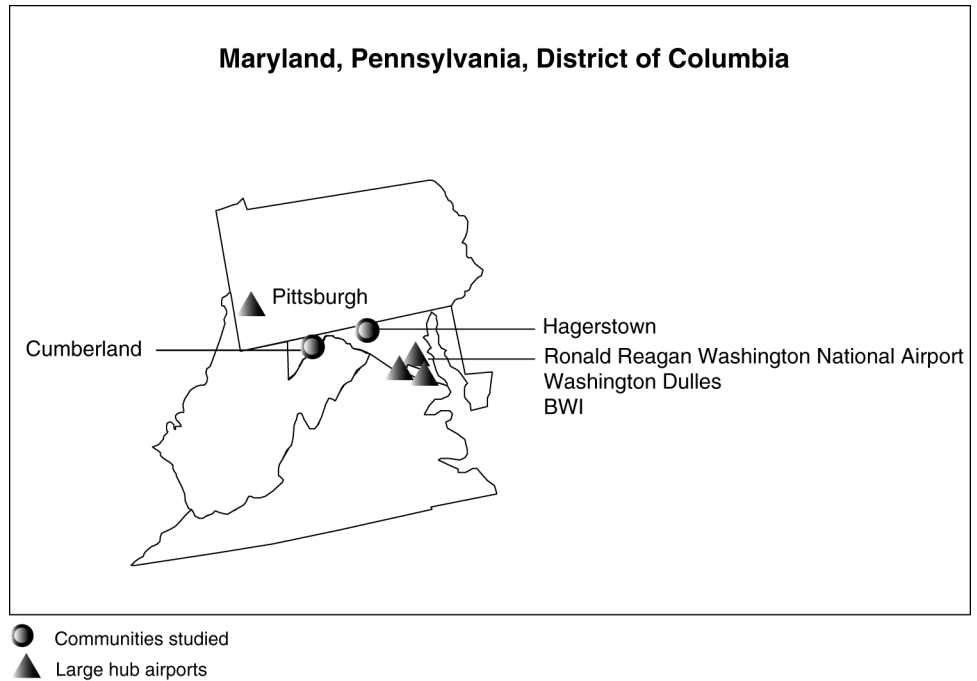
Michigan and local airport officials we contacted expressed overall satisfaction with the state's program. State officials indicated that they elicit feedback in annual meetings with airport officials, maintain regular telephone and in-person contact with airport officials, and survey airport customers every 2 years. In our discussions with managers of airports that had received state grants since 1998, they expressed support of and satisfaction with the assistance the state has provided over the years.

Maryland's Regional Air Service Development Program

In 1998, US Airways discontinued service between Hagerstown, Maryland and the Baltimore/Washington International Airport (BWI). The cessation of this service left Hagerstown (a community of 37,000, located approximately 75 miles northwest of Baltimore on I-70) with scheduled service to Pittsburgh, Pennsylvania.⁴⁴ As of September 2001, Cumberland (a community of 22,000, 65 miles further west of Hagerstown on I-68) lost all scheduled service with the cessation of service to Pittsburgh.

⁴⁴Ronald Reagan Washington National Airport and Washington Dulles International Airport are also nearby.

Figure 15: Cumberland and Hagerstown, Maryland and Other Nearby Competing Airports



Source: GAO.

Maryland state economic and transportation officials evaluated several possible ways to increase air service to small communities, including a state-owned and -operated airline, but decided on a program of state-subsidized air service. In July 2000, the state appropriated \$4.25 million for the Maryland Aviation Administration to finance “scheduled air service that effectively links to the national and international air transportation system underserved regions of the State that are capable of supporting scheduled air service” for the 2-year subsidy program.⁴⁵

Several communities initially expressed interest in participating in the program. The state contracted with a consultant to study the potential of

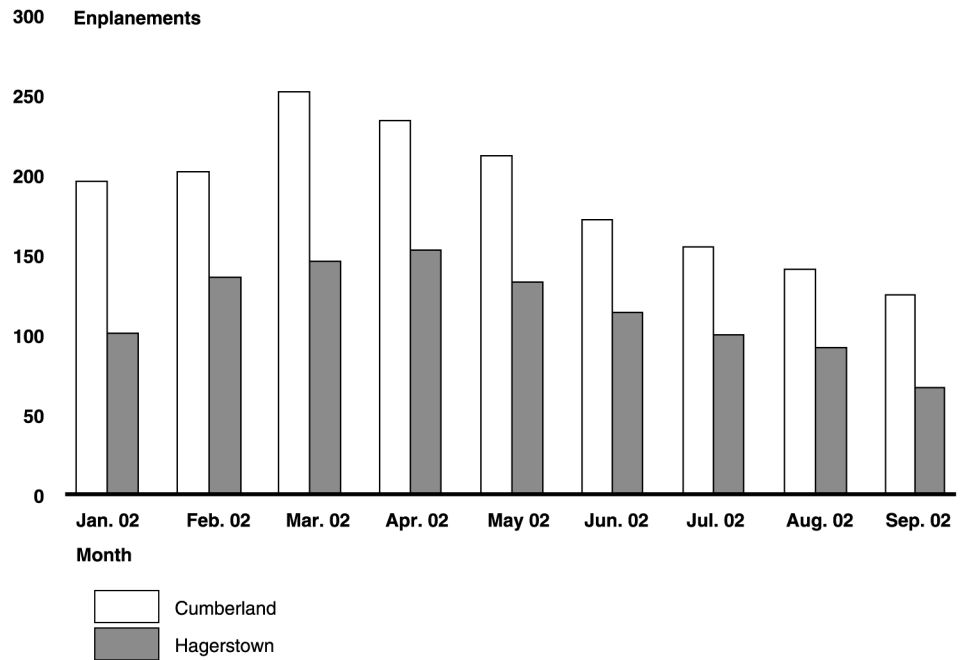
⁴⁵The law authorized \$5 million for a 3-year program but subsequent legislation reduced the amount to \$4.25 million. Due to difficulty getting the carrier certificated as a Part 121 carrier, the service start date was delayed from June 2001 to December 2001. The subsidy program ends June 30, 2003.

each of those communities. Ultimately, the other communities chose not to participate, and the state selected Hagerstown and Cumberland. The consultant's report recommended that the program use an eight-seat aircraft because of the relatively "thin" Cumberland and Hagerstown markets (i.e., relatively few people would likely fly in those markets). The communities involved chose to use a carrier with 19-seat aircraft because they believed that service on a larger aircraft was more acceptable to the traveling public. One of the issues state officials discussed with the airport and community leaders was possible local efforts to generate additional revenue to help with the costs of starting new service, such as a travel bank. The legislation did not require communities to contribute local matching funds, and a state official said the communities declined to participate in a travel bank.

Boston-Maine Airways, doing business as Pan Am Clipper Connection, began operations in Maryland with a 19-seat J-31 Jetstream turboprop aircraft in December 2001. Flights originated in Cumberland and stopped in Hagerstown on their way to BWI. The carrier agreed to provide three flights daily on weekdays and two daily flights on weekends in return for biweekly payments of \$170,268. The state's agreement with Boston-Maine included some provisions for reductions in payments commensurate with reductions in service (e.g., cancelled flights).

Passenger enplanements peaked in March 2002 with a total of 398 (an average of about 13 passengers per day, or 5 per flight) flying from Cumberland and Hagerstown. Since that time, they have declined each month and in September 2002 totaled 192, or less than 7 passengers per day (an average of just over 2 passengers per flight) departing from Cumberland and Hagerstown. Figure 16 shows the change in enplanements during the first 9 months of service.

Figure 16: Boston-Maine Airways Enplanements at Cumberland and Hagerstown (January through September 2002)



Source: GAO analysis of Boston-Maine Airways data.

It appears unlikely that this air service will become self-sustaining if current trends continue. The consultant estimated that this service would require an annual subsidy of \$2 million, even with a 70-percent load factor—or 13 passengers per flight—and a \$90 one-way fare. However, in September 2002, enplanements averaged about 2 passengers per flight, and November 2002 fares were \$70 one way (Cumberland to BWI). Based on enplanements to date and their declining trend, it appears unlikely that this service will become self-sufficient unless enplanements and fares increase significantly. A state official agreed with this assessment.

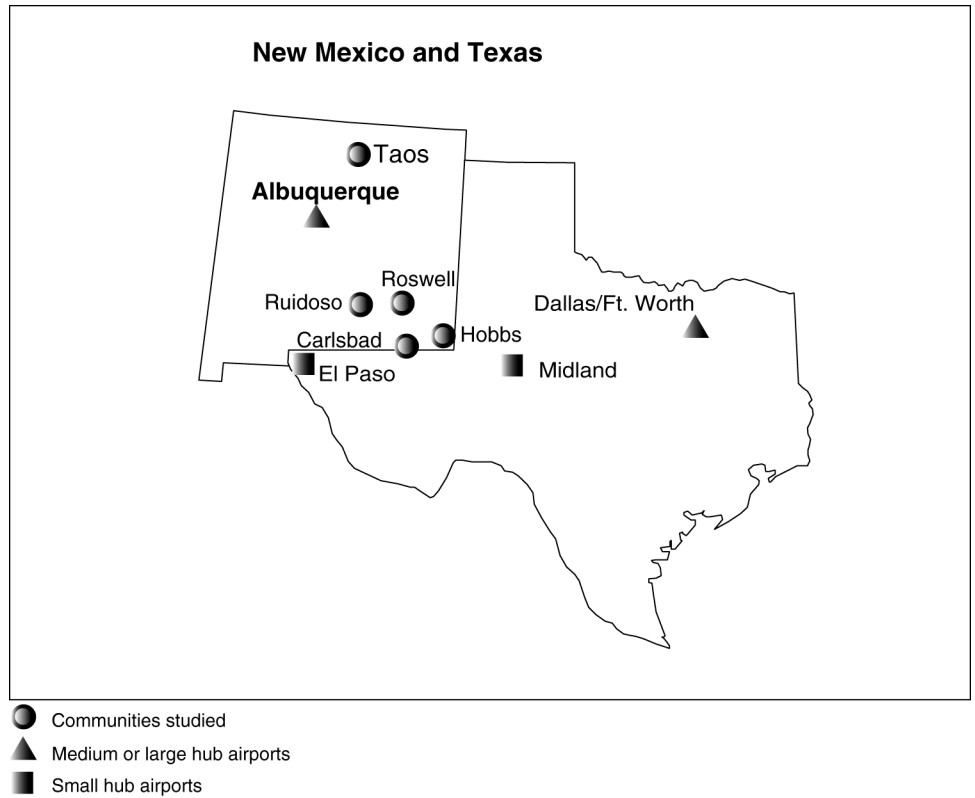
A number of factors appeared to have played a role in the low enplanements. First, while Maryland generally had state and local stakeholders committed to the goal of improving air service, there were no indications that either community regarded air service to BWI as a priority. For example, the communities did not pledge to use the service or contribute any funding for the service. Also, the sites selected did not appear capable of supporting air service with a 19-seat aircraft. The consultant report projected that Hagerstown would generate only about

seven passengers per day. Finally, the Cumberland Airport manager stated that weather conditions coupled with equipment problems at the Cumberland Airport resulted in many flights being cancelled or delayed. He said that it did not take many delays or cancellations before passengers chose not to fly to BWI, but to instead drive or use the existing shuttle van service. He also indicated that he preferred to drive to BWI.

New Mexico's Air Service Assistance Program

New Mexico's small communities experienced limited scheduled air service and relatively high fares. State officials said that residents of the small communities that have commercial airports generally do not fly from their local facilities. Rather, they tend to fly either from the state's largest airport, Albuquerque (which in November 2002 offered nonstop service to 36 different destinations from 12 carriers, including 2 low-fare carriers), or from airports in Texas, such as Midland (which offered nonstop service to 8 different destinations from 4 carriers). State aviation and local airport officials said that while air service is important to New Mexico's small communities because of their remoteness and lack of other transportation options, residents have become used to driving long distances. Combined with the presence of low-fare carriers within 250 miles of most residents, it is difficult for small airports to attract adequate demand for air service.

Figure 17: Five Communities Studied in New Mexico and Other Nearby Competing Airports



Source: GAO.

In 1998, the New Mexico Municipal League and the New Mexico Airport Managers Association spearheaded an effort to develop a state air service assistance program to provide funding for new air service to small communities. State officials said that the program was intended to provide “seed money” for new service. The legislature authorized the New Mexico Air Service Assistance Program and appropriated a total of \$900,000 for fiscal years 1999 through 2002. Under the program, an eligible recipient (a consortium of municipalities or other public entities) that provides airline service from one or more nonhub airports to a small hub or larger airport can receive a grant of up to \$200,000 per year. A 50-percent local match is

required.⁴⁶ Subsequent legislation reauthorized the program through 2007 and modified the funding to provide the program with a percentage of state gross receipts. State officials estimated that this will provide approximately \$600,000 for fiscal year 2003, but amounts may vary. To date, state grants have been used to subsidize new service to several communities.

Taos and Ruidoso

In Taos, a town of 6,200 approximately 130 miles drive northeast from Albuquerque, local community and Rio Grande Air officials, with the assistance of state aviation officials, acted as catalysts to improve air service. The mayor said that air service is necessary for economic development. Rio Grande Air, a small carrier using nine-seat Cessna single engine aircraft,⁴⁷ began operations between Taos, Los Alamos, and Albuquerque in August 1999—the first scheduled air service to Taos in 13 years, according to state officials. The previous carrier had abandoned service after not having attracted sufficient passenger demand to offset the costs of operating its 19-seat aircraft. State and Rio Grande Air officials said that they hoped that by using smaller aircraft, costs would be lower, fares would be lower, and the air service would eventually be economically viable.

In January 2000, the state awarded a \$100,000 grant, which was matched by the Town of Taos, the Village of Taos Ski Valley, and the County of Los Alamos. A second state grant, for \$79,000, was awarded in May 2000. Service to Durango, Colorado was added. However, Rio Grande Air officials decided to discontinue service to Los Alamos, effective February 2001 because the service had little ridership.

Rio Grande Air began providing service between Ruidoso and Albuquerque in July 2001. Ruidoso—a city of roughly 7,700 located approximately 185 miles southeast of Albuquerque—had no scheduled air service at the time. In October 2001, the state awarded a grant of \$190,000 to help fund service between Taos, Ruidoso, and Albuquerque. Taos provided \$25,000 in matching funds; the Village of Taos Ski Valley \$25,000; and Ruidoso \$150,000.

⁴⁶The regulations state that a 50-percent local match is required, but a state official explained that they require a 100-percent local match. In other words, the state pays 50 percent, and the local matching funds make up the other 50 percent.

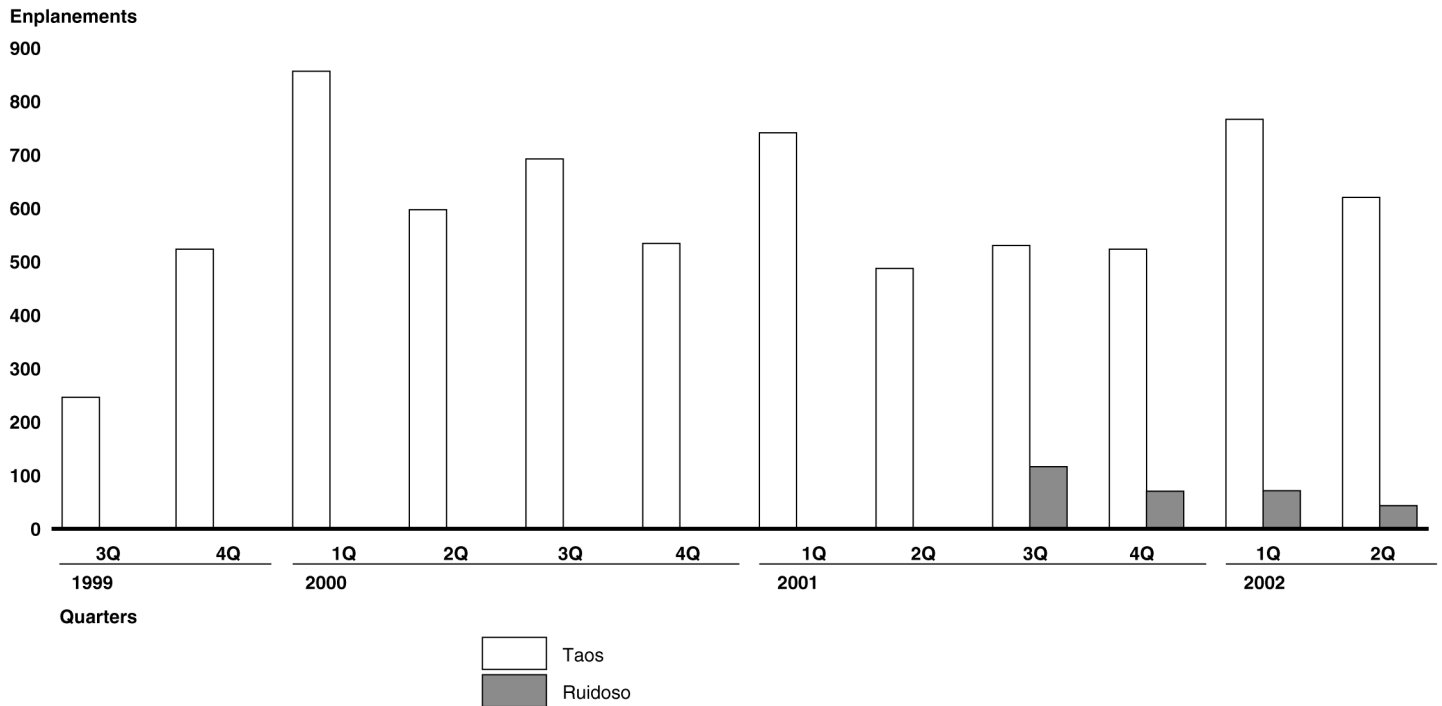
⁴⁷See figure 4.

In February 2002, Taos and Ruidoso jointly applied for a grant from the DOT Small Community Air Service Development Pilot Program. The principal objective of the grant was to help fund Rio Grande's service from both communities to Albuquerque. The communities also envisioned an extensive marketing campaign to boost enplanements. The application sought \$500,000 from DOT, which would be matched with \$200,000 from the state and \$200,000 from the participating communities. However, the airport manager at Ruidoso said that city officials later decided that service to El Paso, Texas, would better meet the community's needs. When a Rio Grande Air official said that the funds were inadequate to provide service to El Paso, Ruidoso elected to withdraw from the consortium. Rio Grande discontinued service to Ruidoso in May 2002. In September 2002, DOT finalized a grant of \$500,000 to Taos. Taos replaced Ruidoso's portion of the matching funds with funding supplied by another nearby community, according to a DOT official.

Despite considerable financial assistance since 2000 and the promise of future assistance, officials with the state of New Mexico and Rio Grande Air said that the long-term outlook for sustainable air service is uncertain. Carrier officials said that they had to overcome some initial difficulties. One major problem was that Rio Grande Air service did not have visibility in the reservation system used by many individuals and travel agents. A traveler needed to be aware of the service and contact Rio Grande directly in order to make reservations. In addition, the carrier confronted other marketing barriers for Taos passengers traveling to or from a location "beyond" Albuquerque (i.e., a city for which a Taos passenger would need to connect at Albuquerque). The carrier lacked a codeshare arrangement with any other airline to allow for "seamless" travel between a passenger's origin and destination. For example, travelers flying from Taos to Chicago would have to pick up their bags in Albuquerque and recheck them with the airline with which they were flying to Chicago. An airline official said that Rio Grande Air has since secured a codesharing agreement with Great Plains Airlines (which has an interline agreement with American Airlines). This also provides Rio Grande with visibility in the reservation system. Even with these improvements, enplanements have not been increasing overall, as shown in figure 18.⁴⁸

⁴⁸Taos' enplanements peaked in the first quarter of each year, which corresponds with the ski season.

Figure 18: Rio Grande Air Enplanements in Taos and Ruidoso



Source: GAO analysis of Rio Grande Air data.

Carlsbad, Hobbs, and Roswell

The second consortium consisted of Carlsbad, Hobbs (Lea County), and Roswell, all located in the southeastern part of the state. In 2000, Mesa Air provided all three communities with service to Albuquerque using 19-seat turboprop aircraft. In addition, Mesa provided Roswell with service to Dallas. Community officials said that they desired service to one or more additional hub airports within a 500-mile radius of the communities, such as Phoenix or Dallas. The three formed a consortium to work with New Mexico state aviation officials to obtain a state grant to fund additional service to their communities. Consortium officials said they sent an RFP to 11 airlines but only 1—Big Sky Airlines—responded.

Big Sky began service from the three communities to Denver and Dallas with 19-seat Metro turboprop aircraft beginning in October 2000, using \$200,000 of state funds and \$300,000 in local matching funds. By January 2001, the carrier had exhausted all \$500,000 in state and local funds. Roswell and Carlsbad officials said that when the carrier requested additional funding, they declined to provide any. Local officials said the

service had been unreliable with up to one-third of the flights cancelled due to weather or mechanical problems. Big Sky discontinued service to these communities in March 2001. Hobbs (Lea County) agreed to provide \$35,000 per month in additional funding to the carrier, according to the airport supervisor. However, in January 2002, the carrier discontinued service to Hobbs when Lea County officials also declined to provide any further financial assistance. The airport official said that the carrier had difficulty establishing sufficient passenger demand, in large part because weather and mechanical problems forced the cancellation of many flights.

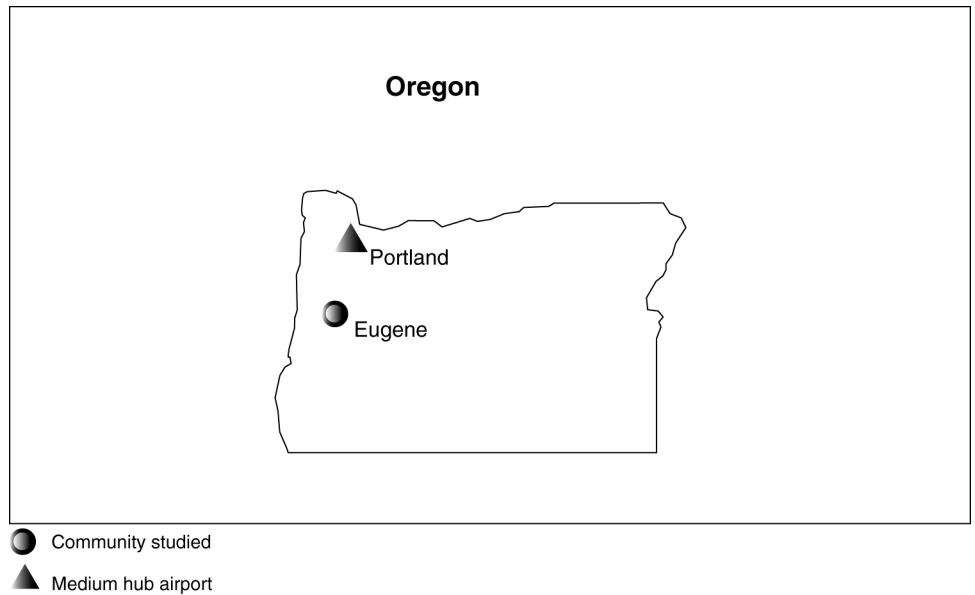
While the state program had both state and local stakeholders committed to the goal of improving air service, there were key steps and underlying elements missing from the program, which ultimately resulted in the relative lack of success. For example, there were few steps taken to educate potential passengers about the new service. Officials said that they believed marketing would have helped develop demand for the service. Also, key local stakeholders in the consortium did not all agree on their goal for air service (e.g., destinations to be served). However, the most important element was the relatively small size of the communities and their lack of potential demand for air service. For example, an August 2000 consultant study found that of these three communities, only Roswell had adequate potential demand to support unsubsidized air service. Carlsbad and Hobbs would require some form of subsidies or financial incentives.

A state aviation official said that there are very few carriers willing to supply air service to the small communities in New Mexico. He cited the fact that only one carrier responded to the Roswell consortium and said that they have continued to renew the grants to Rio Grande Air because no other carriers have come forward to serve those communities.

Eugene, Oregon's Travel Banks

Eugene Airport/Mahlon Sweet Field is a small hub airport located 120 miles south of Portland in Eugene, Oregon. The airport has an estimated catchment area population of over 700,000. Before implementation of the travel banks, Eugene had service from three airlines (United, United Express, and Horizon) to four destinations (Portland, Seattle, Denver, and San Francisco). Community and airport officials believed that additional carriers and destinations would increase competition for the dominant carrier (United), lower fares, and help stem passenger leakage to Portland International Airport.

Figure 19: Eugene, Oregon and Other Nearby Competing Airports



Source: GAO.

The airport manager and president of the local Chamber of Commerce developed the idea of obtaining financial pledges from local businesses to set up a “travel bank” to secure service to Phoenix from America West Airlines. The Chamber of Commerce and airline negotiated the amount of funds needed in the travel bank as well as the exact service to be provided (e.g., number of daily flights and the type of aircraft). Interested businesses in the community were then asked to commit future travel dollars to the carrier and sign an agreement⁴⁹ that guaranteed business flyers would use the new service. The agreement also included various protections for participants’ investments. The funds were held by the airline, which issued corporate accounts to participating businesses. The participating companies had 24 months to use the funds, after which any remaining funds reverted to the airline and were available as ticket vouchers for another 12 months. After that point, any funds remaining in the bank would go to the airline. Eugene’s airport also committed \$300,000 over 2 years for marketing to promote the new service.

⁴⁹These agreements were business-to-business contracts with the Chamber of Commerce as the focal point for agreements with the airline, a consulting firm, participating businesses, and later on, the bank that issued the credit card.

With the success of the first travel bank, Eugene officials looked into the possibility of a second travel bank for Los Angeles service. After negotiating an agreement with Horizon Air, the Chamber of Commerce again successfully sought pledges from area businesses. This bank became operational 1 year after the first travel bank, and participating businesses had used 81 percent of the funds within the first 18 months. Table 4 provides more detail about the America West and Horizon Air travel banks.

Table 4: Summary of Features of Eugene, Oregon’s Travel Banks

Airline	Implementation dates	Service provided as of 10/18/02	Travel bank pledges	Marketing commitment
America West	September 1999 – September 2001	3 flights daily to Phoenix using CRJ200 (50-seat jets)	65 businesses contributed \$461,000	Airport pledged \$300,000 in marketing funds over 2 years
Horizon Air	September 2000 – September 2002	2 flights daily to Los Angeles using CRJ700 (70-seat jets)	57 businesses contributed \$452,000	Airport pledged \$300,000 in marketing funds over 2 years

Source: GAO analysis of data from Eugene airport officials.

One Eugene Airport official said that travel banks offer a number of advantages over other types of financial incentives. The travel banks’ advantages include:

- providing airlines a guarantee of sustained support over the initial periods, when risks are typically higher and
- helping the new carrier overcome frequent flyer programs of incumbent airlines, existing travel habits, incentives provided to travel agents who book on the incumbent carriers, and corporate purchase agreements.

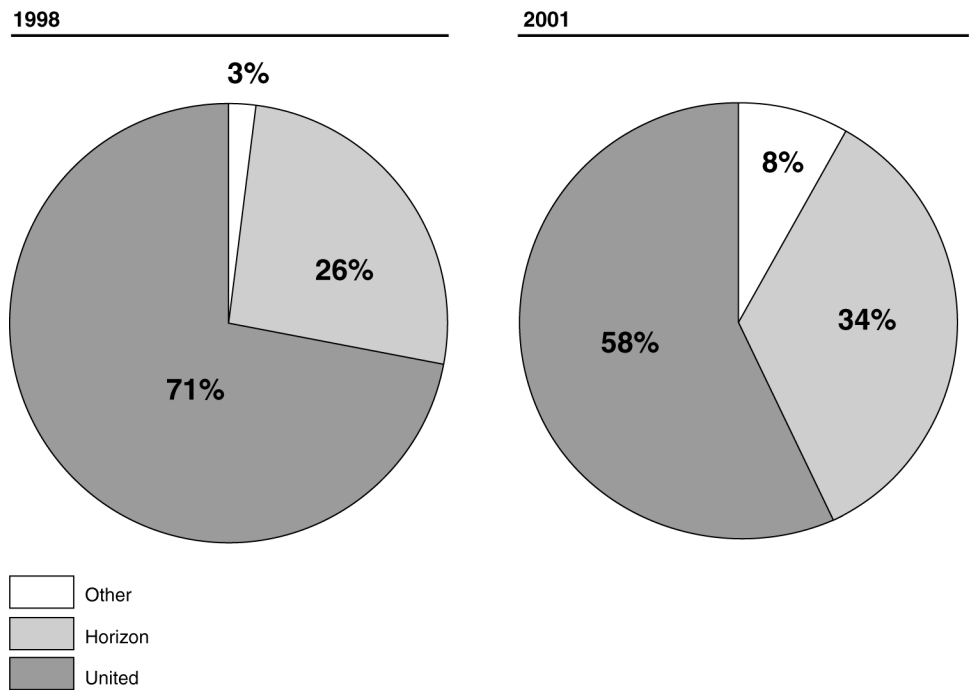
As of October 2002, the two travel banks had added five flights and 290 seats daily to the Eugene market. They also brought more jet service to Eugene. The airport manager believes the travel banks were successful in adding competition to the market, alleviating high fares, and stemming some of the passenger leakage to Portland.

Our analysis of Eugene enplanement data shows that the travel banks played a role in the shift in market share between the dominant carrier—United—and the other carriers at Eugene from 1998 to 2001. Over that period, United’s market share decreased from 71 percent of the market to 58 percent. (See fig. 20.) Additionally, since both America West and Horizon have maintained their Phoenix and Los Angeles service after the end of each travel bank, we concluded that the travel banks have

Appendix IV: Case Studies Describing Air Service Improvement Programs in 12 Small Communities

generated long-term success in Eugene. The Eugene airport manager said the community is exploring the possibility of additional travel banks with other carriers.

Figure 20: Shift in Market Share of Passenger Traffic at Eugene, Oregon (1998-2001)



Source: GAO analysis of data from BACK Aviation Solutions.

Note: For 1998, n = 366,006 enplanements, and for 2001, n = 325,998 enplanements.

Appendix V: Small Community Air Service Development Pilot Program Grants and Local Matching Funds (Fiscal Year 2002)

City	State	Total federal funds requested	Total federal funds granted	Total matching funds
King Cove, Sand Point, Akutan, Cold Bay, False Pass, Nelson Lagoon	AK	\$240,000	\$240,000	\$25,000
Mobile	AL	456,137	456,137	20,000
Fort Smith	AR	108,520	108,520	20,000
Lake Havasu City	AZ	403,478	403,478	275,000
Chico	CA	44,000	44,000	30,000
Santa Maria	CA	217,530	217,530	24,170
Lamar	CO	250,000	250,000	55,000
Telluride	CO	300,000	300,000	210,000
Daytona Beach	FL	743,333	743,333	165,000
Augusta/Aiken	GA/SC	759,004	759,004	1,421,266
Mason City	IA	600,000	600,000	405,000
Hailey	ID	600,000	600,000	344,243
Marion	IL	212,694	212,694	5,000
Fort Wayne	IN	1,178,000	398,000	112,000
Manhattan	KS	500,000	388,350	43,150
Somerset	KY	95,000	95,000	18,000
Paducah	KY	Up to 754,000	304,000	107,000
Lake Charles	LA	500,000	500,000	300,000
Presque Isle	ME	500,000	500,000	100,000
Brainerd, St. Cloud	MN	1,000,000	1,000,000	3,460,000
Cape Girardeau	MO	500,000	500,000	125,000
Meridian	MS	500,000	500,000	140,000
Asheville	NC	500,000	500,000	578,000
Bismarck	ND	1,557,500	1,557,500	512,500
Scottsbluff	NE	950,000	950,000	750,000
Taos	NM	500,000	500,000	400,000
Binghamton	NY	500,000	500,000	100,000
Akron/Canton	OH	950,000	950,000	800,000
Baker City	OR	300,000	300,000	661,000
Reading	PA	470,000	470,000	30,000
Rapid City	SD	1,500,000	1,400,000	1,400,000
Johnson/Kingsport/Bristol	TN/VA	615,000	615,000	230,000
Abilene	TX	85,010	85,010	126,250
Beaumont/Port Arthur	TX	510,000	500,000	1,062,000
Moab	UT	280,000	250,000	0
Lynchburg	VA	500,000	500,000	100,000
Bellingham	WA	301,500	301,500	33,500
Rhineland	WI	500,000	500,000	100,000
Charleston	WV	500,000	500,000	100,000
Casper	WY	500,000	500,000	700,000
Total		\$21,480,706	\$19,999,056	\$15,088,079

**Appendix V: Small Community Air Service
Development Pilot Program Grants and Local
Matching Funds (Fiscal Year 2002)**

Source: DOT.

Note: Total matching funds may not include the value of in-kind services, improvements, and equipment

Appendix VI: Air Service Improvement Efforts Planned at Nonhub and Small Hub Airports Using DOT Grants

State	City	Studies	Marketing	Financial Incentives					
				Travel banks	Revenue guarantee	Reduced airport fees	Subsidy	Financial other	Other
Alaska	King Cove, Sand Point, Cold Bay, Nelson Lagoon, False Pass, Akutan	X							
Alabama	Mobile							X	
Arkansas	Fort Smith		X						
Arizona	Lake Havasu City		X				X		
California	Chico	X							
	Santa Maria		X	X					
Colorado	Lamar	X	X					X	X
	Telluride		X						X
Florida	Daytona Beach		X		X				
Georgia	Augusta		X	X		X		X	
Iowa	Mason City		X	X	X				
Idaho	Hailey		X					X	X
Illinois	Marion		X						
Indiana	Fort Wayne	X	X				X		
Kansas	Manhattan		X	X	X				
Kentucky	Paducah	X	X					X	
	Somerset	X							
Louisiana	Lake Charles		X	X	X				
Maine	Presque Isle		X				X		
Minnesota	Brainerd/St. Cloud		X	X				X	
Missouri	Cape Girardeau		X	X			X		
Mississippi	Meridian	X	X				X		
North Carolina	Asheville		X			X		X	
North Dakota	Bismarck	X	X	X				X	
Nebraska	Scottsbluff	X							X
New Mexico	Taos		X		X				X
New York	Binghamton		X		X				
Ohio	Akron		X		X				
Oregon	Baker City								X
Pennsylvania	Reading		X						X
South Dakota	Rapid City	X	X	X					
Tennessee	Bristol/Johnson/Kingsport		X		X	X			X
Texas	Abilene		X						
	Beaumont/Port Arthur	X	X	X					
Utah	Moab		X						X
Virginia	Lynchburg		X					X	
Washington	Bellingham	X	X						

**Appendix VI: Air Service Improvement Efforts
Planned at Nonhub and Small Hub Airports
Using DOT Grants**

State	City	Studies	Marketing	Financial Incentives					
				Travel banks	Revenue guarantee	Reduced airport fees	Subsidy	Financial other	Other
Wisconsin	Rhineland		X		X				
West Virginia	Charleston		X		X				
Wyoming	Casper		X	X					X

Source: GAO analysis of DOT Small Community Air Service Development Pilot Program applications.

Appendix VII: GAO Contacts and Staff Acknowledgments

GAO Contacts

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Related GAO Products

Commercial Aviation: Financial Condition and Industry Responses Affect Competition. [GAO-03-171T](#). Washington, D.C.: October 2, 2002.

Options to Enhance the Long-term Viability of the Essential Air Service Program. [GAO-02-997R](#). Washington, D.C.: August 30, 2002.

Commercial Aviation: Air Service Trends at Small Communities Since October 2000. [GAO-02-432](#). Washington, D.C.: March 29, 2002.

Proposed Alliance Between American Airlines and British Airways Raises Competition Concerns and Public Interest Issues. [GAO-02-293R](#). Washington, D.C.: December 21, 2001.

“State of the U.S. Commercial Airlines Industry and Possible Issues for Congressional Consideration”, Speech by Comptroller General of the United States David Walker. The International Aviation Club of Washington: November 28, 2001.

Financial Management: Assessment of the Airline Industry’s Estimated Losses Arising From the Events of September 11. [GAO-02-133R](#). Washington, D.C.: October 5, 2001.

Commercial Aviation: A Framework for Considering Federal Financial Assistance. [GAO-01-1163T](#). Washington, D.C.: September 20, 2001.

Aviation Competition: Restricting Airline Ticketing Rules Unlikely to Help Consumers. [GAO-01-832](#). Washington, D.C.: July 31, 2001.

Aviation Competition: Challenges in Enhancing Competition in Dominated Markets. [GAO-01-518T](#). Washington, D.C.: March 13, 2001.

Aviation Competition: Regional Jet Service Yet to Reach Many Small Communities. [GAO-01-344](#). Washington, D.C.: February 14, 2001.

Airline Competition: Issues Raised by Consolidation Proposals. [GAO-01-402T](#). Washington, D.C.: February 7, 2001.

Aviation Competition: Issues Related to the Proposed United Airlines-US Airways Merger. [GAO-01-212](#). Washington, D.C.: December 15, 2000.

Essential Air Service: Changes in Subsidy Levels, Air Carrier Costs, and Passenger Traffic. [RCED-00-34](#). Washington, D.C.: April 14, 2000.

Related GAO Products

Aviation Competition: Effects on Consumers From Domestic Airline Alliances Vary. [RCED-99-37](#). Washington, D.C.: January 15, 1999.

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