

**Report of  
The Secretary of Transportation**

---

---

# Rural Air Fare Study

---

---

**To  
The Committee on Commerce, Science,  
and Transportation  
of the Senate**

**And**

**The Committee on Transportation  
and Infrastructure  
of the House of Representatives**

**Pursuant to Section 1213 of the Federal Aviation Administration  
Reauthorization Act of 1996**

---

---



April 1998

# **RURAL AIR FARE STUDY**

## **Executive Summary**

This study is in response to the congressional request in Section 1213 of the Federal Aviation Administration Reauthorization Act of 1996 for information on air service and fares at small communities. It is a follow-up to the Initial Service Analysis report submitted in January 1997 and covers available fare information and analysis.

This study examines the average fares reported in the Origin-Destination Passenger Survey (O&D Survey) submitted by large certificated air carriers, the only source of fare information currently available. As requested by Congress, we have compiled fare data for all of the non-hub communities and "large" hub communities. Using fare data for the twelve-month period ending June 30, 1996, we have compared the average fares at non-hub communities with average fares at large hub communities. Also as requested, we have examined the data for the category of rural small communities and the relationship between fares and jet competition at small communities.

## **Data Considerations**

Because the O&D Survey is based on a 10% sample of tickets collected and because small certificated air carriers and commuter carriers, many of which are primary carriers at small communities, do not participate in the Survey, there is a lack of complete and representative fare data for small communities, especially for local passengers who do not connect to large carrier services. The statistical sampling limitations of the O&D are most troublesome when considering fares in individual city-pair markets, as fares in some small markets (particularly those heavily served by commuter carriers) are likely to have a greater margin of error. By aggregating the data across many city-pair markets, however, the distortions inherent in the O&D data at small communities are sufficiently ameliorated to allow conclusions to be drawn concerning fare trends across small communities. With this in mind, we advise readers against drawing conclusions based on fare data for individual small communities or city-pair markets involving a small community.

Because of the shortcomings of the current database for analyzing small community fares, we have initiated a project to obtain a complete data bank of traffic and fares for domestic air transportation, as discussed later in this report. Although we are optimistic about the prospects for the new data system, it is still too soon to know how complete a data bank can be compiled or when sufficient data will be available for analytical purposes due to the developmental requirements of the new system and the need to obtain data for a prospective 12-month period once the system is operational.

We anticipate undertaking a more comprehensive analysis of fares once we have compiled a complete and accurate data bank. We would want to examine not only the differences that might exist in fares between communities and markets but also explore in

more depth the reasons behind those differences. We will keep Congress advised of our progress on this project.

### **Small Community Fares vs. Large Hub Fares**

- **The available data show that travelers to and from small communities, as a group, pay higher fares than travelers between large hubs do when compared to all hub-to-hub fares.**
- **When fares in city pair-markets involving small communities are compared to fares in large hub markets without low-fare service<sup>1</sup>, they are comparable.**
- **When fares in city pair markets involving small communities are compared to fares in large hub markets with low-fare service, the small communities' average fares are substantially higher. City-pair markets involving small communities do not receive any significant amount of low-fare competition.**

The available data suggest that travelers to and from small communities, as a group, pay higher fares than travelers between large hubs do. Although the magnitude of the premium cannot be accurately measured, particularly if examined on an individual market basis, the fact that, in the aggregate, there is a consistent pattern of higher average yields suggests that small communities do experience higher fares. It also suggests that the premium is higher in shorter haul markets.

As with data for individual small communities, fares for travelers to and from large hubs differ substantially from market to market. We know from other studies that one major reason for large differences in fares is the presence of low-fare service. Because of the significant difference in fares between markets with and without low fare competition, we have presented a breakdown of average yields for the large hub community markets with and without low-fare competition as well as aggregate data for all large hub markets. A comparison of small community city-pair yields with yields in large hub markets without low-fare competition shows that yields in the two types of markets are comparable. In two mileage categories, small community average yields are actually lower than yields at large hubs without low-fare competition; in the other four, the large hub average yields are slightly lower.

The following table summarizes the yield data for the various categories of markets:

---

<sup>1</sup> Low-fare airlines in this analysis were identified using the same criteria applied in the Department's *Low Cost Airline Service Revolution*, released in April 1996. *The Low Cost Airline Service Revolution* employed unit costs and pricing practices as the basis for defining low-fare service. To be considered low-fare, a carrier should maintain low fares relative to prices charged by other carriers before it entered a city-pair market.

**Yield (dollars/mile) by Mileage Category**

Market Category	1-250	251-500	501-750	751-1000	1001-1500	1501-2000	2000+	Total
Small Communities Average Yield	.7073	.4044	.3028	.2267	.1761	.1532	.1271	.2161
All Large Hubs Average Yield	.3832	.2453	.1970	.1725	.1386	.1246	.1109	.1546
Large hubs - w/low fare comp.	.2969	.1927	.1542	.1411	.1185	.1180	.0798	.1436
w/o low fare comp.	.6107	.3877	.4436	.2091	.2772	.1347	.1145	.2055

**Rural Communities**

- **The data show that the average yields for city-pair markets involving rural small communities are higher in every mileage category than those for city-pair markets involving non-rural small communities. The percentage differences, by mileage category, range from four percent to twenty-one percent.**

We have examined fare data for the category of rural small communities, as directed in the legislation. The data show that the average yields in city pairs involving rural small communities are higher than the average yields in city-pairs involving non-rural small communities in every mileage category, ranging from four percent to twenty-one percent. The travel options that exist for urban passengers, whether they consist of substitute airports or entirely different modes of transportation, are often not available in rural small communities. This lack of substitutes translates into an inelastic demand for air travel, which in turn allows the airlines, like any profit-maximizing firm, to charge higher prices.

Additionally, smaller passenger bases at rural communities may result in load factors that are low relative to load factors at small urban and hub communities. Airlines are only able to match the supply of seats offered with passenger demand to a limited degree because the number of seats on an airplane is relatively fixed. The use of smaller aircraft is one way to moderate the possibility of low load factors. However, the unit cost of operating aircraft increases as the size of the plane decreases. Therefore the use of smaller aircraft to maximize load factors in rural communities may justify somewhat higher fares.

**Jet Competition at Small Communities**

- **Average fares for small communities receiving jet aircraft service do not differ significantly from average fares for small communities served exclusively by turboprop aircraft.**

- **The data show that communities large enough for jets are also large enough to support competitive service.**

Of the 73 small communities served with jet aircraft (for our purposes large aircraft having more than 60 seats) all but three -- Aspen, CO; Macon, GA; and Greenbriar, WV - - have competitive jet service. Since so few communities are served with large aircraft by only one carrier, it is difficult to draw any meaningful conclusions based on a comparison of fares between communities with competitive jet service and communities with a single jet service provider. Rather, the data show that communities large enough for jets are also large enough to support competitive service.

A comparison of average yields for the city pairs of small communities served with large aircraft vs. communities served exclusively with medium/small equipment (under 60 seats) does not indicate any material difference in yields. Furthermore, the wide variance in average fares/yields for city pairs of large hub communities, which all receive competitive service with jet aircraft, is further proof that the size and type of aircraft is not an overriding determinant of fares. While aircraft costs, both acquisition and operating, may be a major decisional criterion affecting whether the community will be linked to a network and the equipment size used, it may not be so important in setting fares.

### **Related Findings and Analytical Considerations**

A notable feature of the available fare data is the wide variance in average fares and yields between communities as well as between city-pair markets at the same community. Fares and fare structures appear to be based on individual city-pair market circumstances, not generic or universal community factors. This appears to be the case for both small communities and hub communities. To demonstrate, for the hub communities, the average yields in markets in the 501-750 mile category ranged from 10.34 cents per mile to 40.83 cents per mile, a significantly wide range. We know from other studies that the presence of low fare competition is a major factor explaining some of this variation. Even when we limited our comparison to markets without low fare competition, however, there is still a significantly wide range of average fares. For the 336 small communities with markets in the same 501-750 mileage category, the range was 12.73 cents per mile to 68.71 cents per mile. Here, however, low fare competition is not a major factor, since there is extremely limited low fare competition at the small communities.

Wide variances in average yields and fares occur in every mileage category for both hub and non-hub communities. This suggests that high average fares are not just a function of the size of the community or market. Nor are high average fares just related to the level/type of service being provided since, again, high fares occur in communities/markets served exclusively with jets and by major carriers as well as in communities served with small equipment and by commuter carriers.

Another interesting characteristic of the fare data is how widespread lower average fares are in leisure markets for all communities – small or hub – and how comparable leisure market fares are for both small communities and hub communities. A sample of city-pair markets for Orlando shows that fares in the small community-Orlando markets appear similar, for the same distance categories, to the fares for hub community-Orlando markets. We did not do a complete analysis of leisure market data. But this phenomenon with respect to leisure markets was observed repeatedly for both small and large hub markets to Florida, Las Vegas and Hawaii. In discretionary markets, the elasticity of demand as influenced by the willingness of travelers to substitute other products (other air destinations or vacations by car) may be the primary determinants of fares rather than distance, the level or type of air transportation, or even the availability of competitive services.

The above observations demonstrate that there are many characteristic differences between markets that may account for variations in fare and passenger levels. These characteristics are not always reflected in comparisons of average fares/yields. A more detailed analysis and comparison could take into account, for example, differences in the type of travel (e.g. discretionary vs. nondiscretionary), the types of tickets purchased (restricted/nonrefundable vs. changeable/refundable), the size of the market (density), the cost of providing service, and the level and type of competition, among other things.

