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U.S. Department of Transportation

Office of the Secretary of Transportation

# A Comparison Of Air Fares And Services At St. Louis Before And After Trans World Airlines Acquired Ozark Airlines

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Office of Economics
Office of the Assistant Secretary
for Policy and International Affairs

Office of Litigation
Office of the General Counsel

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## I. EXECUTIVE SUMMARY

The application of Trans World Airlines (TWA) to acquire Ozark Airlines (Ozark) raised important competitive issues. The principal competitive issue raised was whether the combination of two air carriers that together controlled 82 percent of enplanements at Lambert-St. Louis International Airport would result in less competition at St. Louis.

The Department instituted an oral hearing to determine whether the application should be approved under the competitive and public interest standards of the Federal Aviation Act. The case was heard by an Administrative Law Judge. The City of St. Louis, the St. Louis Airport Authority, and DOT Public Counsel supported approval of the acquisition without conditions. The Department of Justice supported conditional approval of the acquisition as described in the text. The Administrative Law Judge found that the acquisition met governing statutory standards and should be approved without conditions. After a thorough review of the evidence, the Department of Transportation approved TWA's acquisition of Ozark on September 15, 1986.

At the request of Senator John C. Danforth in 1988, the General Accounting Office (GAO) analyzed air fares and services in St. Louis markets after the acquisition. The GAO concluded that TWA's average fares had increased significantly in many markets, that competition had been reduced, and that substantial entry barriers made it unlikely that another air carrier would challenge TWA's dominant position at St. Louis.

On September 22, 1988, the Senate Committee on Commerce, Science, and Transportation held a hearing on the changing structure of the airline industry. At that hearing, Senator Danforth asked Secretary of Transportation James H. Burnley IV to evaluate competitive conditions at St. Louis in light of the GAO's findings. Secretary Burnley agreed to have Departmental staff prepare such a report.

In Chapter II, we review the GAO's findings. While the GAO presented a straightforward analysis, many of the findings are incorrect or are not substantiated. Most important, the sample of fares used by the GAO contained a computer programming "filter" that ensured that certain fares were excluded from the sample. Accordingly, the GAO's estimates of how rapidly average fares rose at St. Louis following the acquisition are incorrect.

Chapter III examines fare changes at St. Louis by comparing TWA's average fares for the first half of 1985 with the airline's fares for the first half of 1988.[1] During that three-year period, TWA's average fare at St. Louis for 67 nonstop markets increased 22.7 percent or slightly more than seven percent per year. During the same three-year period, the airline component of the Consumer Price Index increased 11.1 percent and the Consumer Price Index increased by 9.6 percent. It appears that TWA's fare adjustments were influenced by traditional marketplace considerations, including the strong demand for air transportation during the period under review. Between 1985 and 1988, St. Louis origin and destination traffic increased by an average of 6.9 percent per year, or more than twice the national average of 3.3 percent for the same period.

There is no evidence that TWA's acquisition of Ozark had a significant impact on TWA's fare structure. In fact, TWA's average fare did not increase more rapidly in those markets where it became the only carrier to provide nonstop service after the acquisition. There is also no evidence to suggest that TWA has reduced the number of discounted seats available for St. Louis passengers.

On a market-by-market basis, changes in average fares varied widely. In fact, between the first half of 1985 and the first half of 1988, average fares declined in 24 of the 67 markets examined. For example, average fares declined 36 percent in the Oklahoma City-St. Louis market, 35 percent in the Tulsa-St. Louis market, and 30 percent in the St. Louis-Phoenix market. In 12 of the 23 markets in which average fares declined, Southwest Airlines competed with TWA.

TWA's fares have not increased faster than is the case at other large and medium hubs where one carrier has a significant share of capacity. Hub concentration alone does not explain why average fares change or how much they change. In fact, at five hubs where

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[1] The GAO used 1986 as the base period for measuring such changes. We believe a longer time frame for analysis provides a better understanding of developments in air fares, particularly since there were several circumstances in 1986 that had a significant and non-recurring impact on fares. TWA was discounting tickets heavily in response to the decline in traffic to Europe in 1986 attributed to terrorist attacks in some parts of Europe and a strike by TWA flight attendants that began in March of that year. Second, TWA and Ozark were engaged in a fare war in 1986. As a result, fares in 1986 declined from 1985 levels. In order to provide a more complete picture of how fares have changed, we believe that a longer period of comparison, including the 1986 data, is appropriate. As a result, we have presented data showing annual changes over the three-year period, 1985 to 1988.

the largest air carrier had more than 60 percent of capacity, the dominant carrier's average fare rose more rapidly than did TWA's at St. Louis.

Generally speaking, fare increases have been most often seen in business markets, with decreases or stable fares being found in leisure markets. It should also be noted that the frequent business traveler receives free travel through frequent flyer programs. Fares in business markets thus appear higher than they are because they are not discounted for frequent flyer benefits.

An analysis of how TWA's fare structure has changed since 1985 reveals that TWA has increased fares primarily in short-haul markets. The presence of Southwest Airlines in some markets generally results in TWA charging lower average fares. The gap between TWA's yield (revenue per revenue passenger-mile) and unit cost (total cost per available seat mile) began to widen after the first quarter of 1987.

In Chapter IV, we provide information on service at St. Louis. Before TWA acquired Ozark, both carriers operated large hub complexes at St. Louis, and it is likely that TWA will continue to have a major market presence at St. Louis in the foreseeable future. Opportunities do exist, however, for other carriers to establish competitive service from St. Louis.

Southwest Airlines has a growing market presence at St. Louis. Between 1996 and 1988, Southwest increased its weekly frequencies from 93 to 155, a 67 percent increase. Southwest also intends to increase its presence at St. Louis substantially by 1990 and will have access to gates and facilities at Lambert Field to provide 50 to 55 flights per day at that airport. Southwest will thus be in an even better position to discipline incumbent carriers should they attempt to raise fares above competitive levels.

In June 1986, TWA and Ozark, together, provided nonstop jet service to 70 domestic cities (continental U.S. only) from St. Louis. In June 1988, TWA provided nonstop jet service to 69 cities from St. Louis. Air travelers at St. Louis have not seen a significant change in the number of nonstop city pairs served by TWA since the acquisition.

For large jet carriers operating at St. Louis, between June 1986 and June 1988 weekly departures and weekly seats declined 6.9 percent and 7.0 percent, respectively. For regional carriers, weekly departures declined 5.1 percent while weekly seats increased 8.4 percent, indicating that regional carriers were using larger aircraft in June 1988.

Service changes have varied from market to market. In general, TWA is providing fewer frequencies now in those markets where both TWA and Ozark were providing nonstop service in 1986. The reduction in frequencies in these markets reflects the effort TWA management has made over the last two years to streamline its operations and to reduce the amount of redundant service it once provided in competition with Ozark. Overall, TWA's service adjustments responded to changing market conditions, and it continued to provide St. Louis passengers with ample service to meet their travel needs.

At the same time, however, TWA has increased service in most of the markets in which it or Ozark, but not both, provided service in 1986. Thus, there have been offsetting service benefits in some markets as TWA has shifted resources from markets that it concluded were receiving excess service in 1986.

The level of service provided by other jet carriers has remained relatively stable. There has been, however, a competitive response by other large jet carriers in individual markets. Most notable are the inauguration of service by Continental in the Houston and Cleveland markets, Braniff in the Kansas City market, American in the Nashville market, Delta in the Cincinnati market, and Southwest in the Oklahoma City and Phoenix markets.

These service patterns demonstrate that other carriers are willing and able to enter the St. Louis market even though TWA has a dominant position at the hub. It should also be noted that every major carrier provides multiple daily operations at St. Louis to its hubbing center(s), thus providing St. Louis passengers with alternatives to TWA's service.

Service patterns of regional carriers at St. Louis have also changed in the last two years following the TWA-Ozark acquisition and the nationwide trend towards marketing affiliations between large jet and regional carriers. The number of regional carriers providing service at St. Louis has declined from seven to five since 1986. The number of nonstop markets receiving service has increased from 23 to 26, however. In 1986, 11 regional markets received service from two or more regionals. Today, all 26 markets are served by only one carrier, some of which are not TWA code-sharing affiliates. Two carriers, Resort Air and Air Midwest, now have almost a 95 percent share of the St. Louis regional market. Both carriers are affiliated with TWA.

Regional markets tend to be small local markets, however, and a much more important service consideration for such communities is access to alternative connecting hubs. In this regard, 21 of the 26 points served by regional carriers to/from St. Louis are served by other regional carriers to alternative hubs, and nine of these 21 are served by three or more regional carriers.

Overall, there is no clear pattern of service reductions and fare increases at St. Louis that cannot be explained by general trends throughout the country. Routes are being added and dropped as air carriers seek to perfect their own hub-and-spoke systems, and better yield management is producing pricing strategies under which business travelers usually are required to pay a premium for late bookings, but also receive significant benefits under frequent flyer programs. Discretionary travelers continue to receive generous discounts in business markets and lower fares in vacation markets. The fare and service patterns at St. Louis are following the patterns throughout the country.

In Chapter V, we examine whether there are physical, operational, or legal impediments to entry at Lambert-St. Louis International Airport. New entry has taken place at St. Louis and could readily do so again. Like most large hub airports today, however, Lambert Field does not now have a large block of empty gates available for new entrants, although the new East Terminal could be expanded easily. The Airport Authority has indicated that it would build a block of permanent gates for an entrant willing to commit to a long-term lease.

Substantial new entry in the future would likely occur at the East Terminal. Although the East Terminal is some distance from the main terminal, it is a self-contained facility that offers many attractive features. Southwest Airlines originally entered Lambert Field through the East Terminal and still operates there. Southwest is satisfied with the East Terminal and has no interest in moving to the main terminal.

Conditions at Lambert Field are much as they were described by the Airport Authority in the acquisition proceeding before the ALJ, who recommended that the acquisition be approved. There still is underutilized gate and terminal space at Lambert to support new entry. The majority-in-interest clause has not impeded entry at Lambert Field and should not deter further expansion of the airport's gate capacity. Thus, even large scale entry is constrained only by construction lead time.

The Airport Authority's recent policy of including "use-or-share" clauses in long-term leases should help assure that facilities will be available for new entrants. Other airports concerned about maintaining access might consider adopting a similar policy.

Three appendices provide information on service levels for each of the markets examined.

## II. THE GAO REPORT ON FARE AND SERVICE CHANGES AT ST. LOUIS

This chapter summarizes the findings of a recent GAO report on fare and service changes at St. Louis after TWA acquired Ozark. Unfortunately, because of a distortion in the data base used by the GAO to calculate changes in TWA's average fares, the fare estimates presented in the GAO report are incorrect.

### A. Summary of the GAO Report

At the request of Senator John C. Danforth, the GAO prepared a report (Fare and Service Changes at St. Louis Since the TWA-Ozark Merger, September 21, 1988) that analyzed fare and service changes at St. Louis after TWA acquired Ozark. The GAO report focused on four issues: (1) changes in TWA's share of the air travel market at Lambert Field-St. Louis International Airport, (2) changes in the number of cities served and type of air service available to St. Louis-based travelers, (3) changes in air fares for travel to and from St. Louis, and (4) barriers to entry at St. Louis/Lambert Field.

Before the acquisition, TWA had a 56 percent market share at St. Louis and Ozark had a 26 percent market share. After the acquisition, TWA controlled approximately 82 percent of enplanements and 73 percent of the gates at Lambert Field. While most analysts believe that a competitive analysis of airline markets should focus on individual city-pair markets, the GAO argued that, "Any airline with 82 percent of enplanements at a major airport is likely to be the one offering a wide variety of flights and is likely to dominate the air travel choices for those who use that airport." (Report, p. 10)

Regarding service at St. Louis, the GAO found that between June 1986 and June 1987, TWA increased the number of cities with direct service (no change of plane) out of St. Louis from 85 to 91; but during the same period, the number of markets receiving direct service from other air carriers declined from 83 to 66. Overall, between June 1986 and June 1987, the number of cities receiving direct service from St. Louis fell from 124 to 121. Of these 121 markets, 85 received service from only one carrier (up from 60 markets in June 1986), 36 markets received service from two or more carriers (down from 64 markets in June 1986), 16 markets were served by three or more carriers (down from 30), and seven markets were served by four or more carriers (down from 15). Thus, although TWA had not reduced service at St. Louis, because air travelers had fewer competitive options in most markets after the acquisition, the GAO concluded that competition had declined because of the acquisition.

The GAO compared round-trip fares on 67 routes where TWA and/or Ozark provided nonstop service in 1986 with TWA's fares on these same routes after the acquisition. The GAO found that fares on those 67 routes were, on average, 13 to 18 percent higher during the first three quarters of 1987 than they were in the corresponding period in 1986. The GAO also compared TWA's fares in 53 nonstop markets (a subset of the 67 markets) where TWA competed with other air carriers. In these 53 markets, TWA's average fares increased 13 to 19 percent while rival air carriers raised average fares between zero and eight percent.

Since TWA's market share at Kansas City was essentially unchanged after it acquired Ozark, and because Kansas City and St. Louis are not too far from each other, the GAO compared average fare changes from Kansas City to the same 53 destinations to fare changes from St. Louis to these same destinations. The GAO found that between the first three quarters of 1986 and the first three quarters of 1987, TWA's average fares at Kansas City had increased (zero to 13 percent) but that other air carriers' fares had declined (a negative six to eight percent).

In attempting to associate changes in average fares with competitive conditions, however, the GAO obtained mixed results. Where TWA and Ozark were the only nonstop carriers in a market before the acquisition, and thus where a nonstop "monopoly" was created, average fares rose a modest three to six percent between 1986 and 1987. Where both carriers competed with other air carriers, so that a monopoly was <u>not</u> created by the elimination of Ozark, average fares rose 18 to 28 percent. Similarly, in those markets where either TWA or Ozark enjoyed a monopoly before the acquisition (that is, competition was not eliminated), average fares rose by 10 to 14 percent. Where TWA or Ozark competed with rival air carriers, average fares declined by one to three percent.

The lack of a systematic pattern in air fare increases after the acquisition raises questions about the validity of the GAO's analysis. In fact, average fare differences among the four groups of markets were dwarfed by fare differences <u>within</u> the groups. No evidence is presented that would allow one to conclude that the fare changes observed are a result of the acquisition as opposed to other economic factors or changing market conditions. As the GAO acknowledges, "[O]n those routes where the merger was expected to have the largest relative effect, there were only moderate increases in average fares." (<u>Report</u>, p. 19)

The GAO's conclusions regarding changes in average fares at St. Louis are inaccurate because of a defect in the Origin-Destination Survey data provided to the GAO. The distortion in the basic data set is discussed in Chapter III. Simply put, because of a fare "filter" numerous legitimate observations were excluded from the data set the GAO used to calculate average fare changes. For the purpose of this study, we have corrected the data base. Even when the data base is corrected, however, there is no systematic tendency for average fares to increase more in those markets where the acquisition created a nonstop monopoly.

According to TWA officials contacted by the GAO, there were several reasons why the GAO's fare analysis was misleading. First, for several reasons, TWA was discounting fares in 1986; accordingly, higher average fares in 1987 reflected the increase in fares to more reasonable and sustainable levels. Second, TWA offered first-class service and Ozark did not; higher average yields (cents per revenue passenger-mile) in 1987 thus reflected the fact that more passengers were paying higher fares for first-class service. Third, Braniff is a low-fare airline and Eastern Air Lines was experiencing serious financial problems in 1986 and 1987; comparing fare changes at St. Louis with fare changes at Kansas City (where Braniff and Eastern had large market shares) was, in TWA's view, inappropriate. Finally, TWA argues that its average fare increases at St. Louis were comparable to fare increases at other large hubs.

The GAO also identified what it believes are the most important entry barriers at St. Louis: (1) TWA controls 73 percent of the gates at Lambert Field; (2) majority-in-interest clauses in TWA's long-term lease arrangements with the Airport Authority permit it to impede the construction of new facilities at Lambert Field (facilities that could be used by competitors); (3) the inconvenience of Lambert Field's East Terminal makes it less desirable for passengers, and thus a less attractive base of operations for new entrants; (4) TWA enjoys a competitive advantage because it dominates the St. Louis hub and because its frequent flyer plan results in "brand loyalty"; (5) TWA influences local travel agents by paying them override commissions (i.e., volume commissions); and (6) St. Louis generates only enough originating traffic to support one large airline's hub operations.

The GAO did not, however, provide a rigorous analysis of how these factors, either individually or collectively, reduce the likelihood of entry (or the threat of entry) at St. Louis.[1] Indeed, since the acquisition, Braniff has entered the St. Louis market and is now offering 27 flights per week; Southwest has also increased its service from 93 to 155 flights per week and is planning to increase it further over the next year. Moreover, several of the GAO's entry barriers provide substantial benefits to air travelers and can actually serve to promote competition.[2]

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1 The GAO's list of barriers to entry simply summarizes what other analysts have argued are important entry barriers at major hub airports. Michael E. Levine, "Airline Competition in Deregulated Markets: Theory, Firm Strategy, and Public Policy," <u>Yale Journal of Regulation</u>, 4(2), Spring 1987, 393-494.

2 The competitive implications of several of these barriers to entry are discussed in the Department's Final Order in the <u>USAir-Piedmont Acquisition Case</u>, October 30, 1987.

Finally, as the GAO acknowledges, "TWA's dominance at Lambert does not prevent other airlines from competing with TWA on individual routes. In particular, competition with TWA is likely to continue on routes between St. Louis and airports at which other airlines maintain significant operations. Many of these are among TWA's most heavily traveled routes." (Report, p. 25)

## III. AIR FARES AT ST. LOUIS

In its report, the GAO compared average round-trip air fares in 67 markets where TWA and Ozark offered nonstop service in 1986 with TWA's fares on the same routes after the acquisition. Average fares for the first three quarters of 1986 were compared with TWA's average fares for the corresponding quarters of 1987. During this period, the GAO estimated that TWA's average fare had increased 13 to 18 percent.

As stated on page 27 of the GAO report, the Origin-Destination Passenger (O&D) Survey SUMDOM data base maintained by the Department of Transportation and used by the GAO in its analysis excluded tickets with yields (revenue per passenger-mile) outside a prescribed range. Unfortunately, this range had not been adjusted in several years, during which time air fares both increased and diverged from the fare range originally prescribed in the data base. Thus, the data base used by the GAO excluded many legitimate observations and, consequently, the fare estimates the GAO derived from this data base were inaccurate. To prepare this report, we have recreated the SUMDOM file without an effective constraint on admissible yield; accordingly, our average fare estimates are different from the GAO's.

In the next section, we present our estimates of fare changes at St. Louis.[1] Because TWA and Ozark were engaged in a fare war in 1986, because TWA was discounting tickets heavily in response to the decline in traffic to Europe in 1986 because of the threat of terrorism, and because of a strike by TWA flight attendants that began in March of that year, we believe that air fares at St. Louis immediately prior to the acquisition were artificially low in 1986. Accordingly, we believe that 1985 is a more appropriate base year. In the same section, we provide information on the structure of TWA's fares, as well as its unit cost, yield, and load factors.

In the second section, we examine average fare changes at nine hub airports where one air carrier has 60 percent or more of available capacity (seats). Our goal is to compare changes in average fares at St. Louis with fare changes at other hubs where one carrier has a large market share.

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[1] In this chapter, we estimate changes in average fares for the 67 nonstop markets identified by the GAO in its report as of March 1986. We also follow the market categories used by the GAO. In Chapter IV, we examine market-specific service patterns in the 70 nonstop markets that were being served by TWA at St. Louis as of June 1986. Between 1986 and 1988 some markets changed categories, thus accounting for the difference in the number of markets in each category.

A. Average Fare Changes at St. Louis

Our analysis focuses on passengers originating or terminating at St. Louis. It is important to remember, however, that St. Louis is the origin or destination for only 37 percent of all TWA passengers that enplane at Lambert Field and that enplanements at Lambert represent only 37 percent of TWA's total domestic enplanements. The fare estimates reported below, therefore, reflect a relatively small percentage (approximately 14 percent) of TWA's total domestic passengers.

Table 3.1 presents the fare data. Each of the 67 nonstop markets examined is classified into one of the four market categories adopted by the GAO: (a) markets in which TWA and Ozark were the only carriers offering nonstop service; (b) markets in which TWA, Ozark, and other carriers offered nonstop service; (c) markets where only TWA or only Ozark provided nonstop service; and (d) markets that were served by only TWA or Ozark and other carriers.

Average fares in the first half of 1986 in each of the four market categories were below 1985 levels. Indeed, TWA's weighted average fare for these 67 markets was 8.4 percent lower in the first half of 1986 than it was in the first half of 1985.

In 1987, TWA's average fares increased. For all 67 markets, TWA's average fare increased 10 percent in 1987 over 1985 levels (20 percent over 1986 levels). During the same period, the airline component of the Consumer Price Index increased 6.0 percent, and the overall Consumer Price Index increased 3.0 percent.[2]

In 1988, average fares increased, rising 11 percent above 1987 levels for all 67 markets. During this period, the airline component of the Consumer Price Index was essentially unchanged and the overall Consumer Price Index increased approximately 4.0 percent.

Between the first half of 1985 and the first half of 1988, TWA's weighted average fares for these 67 nonstop markets increased by 22.7 percent. At the same time, the airline fare component of the Consumer Price Index increased 11.1 percent and the Consumer Price Index increased by 9.6 percent. It appears that TWA's fare

[2] The airline component of the Consumer Price Index is derived from a two-stage sample of fares. Using the O&D Survey, a random sample is taken of approximately 500 tickets from 90 cities of origin. A computerized reservation system is then used to obtain the fare currently charged for each of those tickets/services. The most comparable fare is used when an identical fare/service is no longer available. Each year, 20 percent of the tickets are replaced by a new random sample. The Consumer Price Index is reported monthly by the Department of Labor.

TABLE 3.1

WEIGHTED INDEX OF TWA AND OZARK AVERAGE FARES ON 67 MAJOR ST. LOUIS ROUTES, BY COMPETITIVE SITUATION, FIRST HALF 1985-1988*
(First Half 1985 = 1000)

| Nonstop Carriers In Market | 1985 | 1986 | Percent Change (1986 vs. 1985) | 1987 | Percent Change (1987 vs. 1986) | 1988 | Percent Change (1988 vs. 1987) | Percent Change First Half 1985-1988 | Percent Change Annualized |
|---|---|---|---|---|---|---|---|---|---|
| TWA and Ozark only (17 markets) | 1000 | 905 | ( -9) | 1084 | (+20) | 1177 | ( +9) | +17.7 | 5.6% |
| TWA, Ozark, and other carriers (12 markets) | 1000 | 972 | ( -3) | 1227 | (+26) | 1390 | (+13) | +39.0 | 11.6% |
| TWA only or Ozark only (31 markets) | 1000 | 839 | (-16) | 935 | (+11) | 1015 | ( +9) | +1.5 | 0.5% |
| TWA or Ozark, and other carriers (7 markets) | 1000 | 818 | (-18) | 836 | ( +2) | 1010 | (+21) | +1.0 | .33% |
| All 67 Routes | 1000 | 916 | (-8.4) | 1101 | (+20) | 1227 | (+11) | +22.7 | 7.1% |
| Consumer Price Index Airline Fares Component | 1000 | 1046 | ( +5) | 1106 | ( +6) | 1111 | ( +0) | +11.1 | 3.6% |
| Consumer Price Index | 1000 | 1023 | ( +2) | 1054 | ( +3) | 1096 | ( +4) | +9.6 | 3.1% |

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Source: General Accounting Office, Airline Competition: Fare and Service Changes at St. Louis Since the TWA-Ozark Merger, September 1988; Department of Transportation, SUMDOM Data Base; Bureau of Labor Statistics, Consumer Price Index, airline component; Consumer Price Index, Department of Labor.

*City-pair average revenues are weighted by the 1985 share of the carrier's round-trip O&D passengers at the hub originating or terminating at the spoke city.

adjustments were influenced by traditional marketplace considerations, including the strong demand for air transportation during the period under review. Between 1985 and 1988, St. Louis origin and destination traffic increased by an average of 6.9 percent per year, more than twice the national average of 3.3 percent for the same period.

During the three-year period, TWA's fares remained basically unchanged in two of the four market categories that we have used for our analysis. These categories include 38 of the 67 markets analyzed: 31 markets in which either TWA or Ozark was the only nonstop competitor before the acquisition, and seven markets in which TWA or Ozark and other carriers provided nonstop service. The greatest percentage increase occurred in 12 markets where TWA, Ozark, and other carriers competed on a nonstop basis, not in the 17 markets where TWA became the only nonstop competitor after the acquisition. In these circumstances, we have no basis for concluding that TWA's acquisition of Ozark had a significant impact on TWA's fare structure.

On a market-by-market basis, TWA's average fares varied widely over the three-year period. In fact, between the first half of 1985 and the first half of 1988 average fares declined in 24 of the 67 markets examined. For example, average fares declined 36 percent in the Oklahoma City-St. Louis market, 35 percent in the Tulsa-St. Louis market, and 30 percent in the St. Louis-Phoenix market. In 12 of the 24 markets in which average fares declined, Southwest Airlines competed with TWA. Figure 3.1 displays the relationship between average fare changes and changes in TWA's market share.

An air carrier can increase its average fare several ways, including (1) increasing its full fare; (2) reducing the extent of discounting, thus making discount fares closer to full fares; (3) reducing the number of discount seats available or increasing restrictions on discount fares, thereby ensuring that more passengers pay the full fare; or (4) reducing circuitous routings, which would lower revenue passenger miles flown and thereby increase yield.[3]

The percentage of passengers at St. Louis who travel on a TWA discount fare has not declined over time. For the 67 nonstop markets examined, the share of coach-class, round-trip passengers

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[3] TWA's basic route network has remained essentially unchanged since the acquisition. In fact, TWA's average domestic on-flight passenger trip length has increased only slightly (from 967 miles to 984 miles). In any case, the markets analyzed in this study receive nonstop service. Thus the question of whether TWA has reduced circuitous routings is irrelevant.

who received some form of fare discount on TWA and Ozark, combined, was 84.5 percent in the first half of 1985. In the first half of 1988, the corresponding figure was virtually unchanged at 84 percent. Thus, there is no evidence to suggest that TWA has reduced the number of discounted seats available for St. Louis passengers (the average fare did, of course, increase during this period).

Without undertaking an in-depth market-by-market analysis -- a project that would take us far beyond the scope of this study -- it is impossible to say exactly why TWA's fares changed in each market. Figure 3.2, however, presents a graphic representation of how TWA's fare structure changed between the first half of 1985 and the first half of 1988. During this period, TWA chose to increase average fares primarily in short-haul markets (under 500 miles). It is also clear that TWA's yields are lower in the markets where it competes with Southwest Airlines, a low-fare competitor. The presence of Southwest in a market apparently serves to keep TWA's fare low.

There are a number of factors that influence fare levels. Changes in unit operating cost (i.e., total operating cost per available seat mile) is one such factor. In order to evaluate operating efficiency and to establish fares that will generate maximum profits, airline managers closely monitor changes in their unit costs.

Table 3.2 presents information on TWA's unit cost, yield, and load factor. This information is for TWA's domestic system, not just its St. Louis operations. Figure 3.3 presents the same information graphically. Whether TWA earns an operating profit and how large that profit is depends not only on the difference between yield and unit costs, but also on the carrier's break even load factor and the number of passengers carried. The gap between TWA's yield and its unit cost began to diverge after the first quarter of 1987.

B. Comparison With Other Hubs

In this section, we present information on changes in average round-trip fares at nine large and medium hub airports where one carrier controls 60 percent or more of capacity (seats). Table 3.3 presents this information. In Table 3.3, we are comparing how TWA's average round-trip fare changed in all markets terminating or originating at St. Louis (not just the 67 nonstop markets) with changes in average round-trip fares at other large and medium hubs where one carrier has 60 percent or more of capacity. Therefore, the average fare change estimates presented in Table 3.3 for TWA do not correspond exactly to those presented in Table 3.1.

From the information presented in Table 3.3, it is clear that there are significant differences in average fare changes among hubs where one carrier has a large share of capacity. Hub

TABLE 3.2

PASSENGER YIELD, UNIT OPERATING EXPENSE, AND LOAD FACTOR
TRANS WORLD (ALL DOMESTIC OPERATIONS)
QUARTERS ENDED MARCH 1985 THROUGH JUNE 1988

| Quarter Ended | Yield (Passenger Revenue per RPM) (in cents) | Total Operating Cost Per ASM (in cents) | Passenger Load Factor |
|---|---|---|---|
| 03-31-85 | 10.94 | 8.82 | 61.8 |
| 06-30-85 | 10.88 | 8.81 | 73.0 |
| 09-30-85 | 10.87 | 8.37 | 67.0 |
| 12-31-85 | 12.15 | 8.72 | 54.7 |
| 03-31-86 | 10.20 | 8.47 | 56.3 |
| 06-30-86 | 9.78 | 6.93 | 58.7 |
| 09-30-86 | 9.23 | 6.51 | 65.3 |
| 12-31-86 | 11.17 | 7.31 | 56.8 |
| 03-31-87 | 10.36 | 7.86 | 61.6 |
| 06-30-87 | 10.69 | 7.56 | 63.9 |
| 09-30-87 | 11.08 | 7.76 | 63.7 |
| 12-31-87 | 11.99 | 7.74 | 58.5 |
| 03-31-88 | 11.67 | 7.56 | 56.1 |
| 06-30-88 | 11.42 | 7.41 | 62.8 |

Source: Department of Transportation, Aviation Data Base, Form 41.

TABLE 3.3

COMPARISON AMONG ROUND-TRIP FARE CHANGES BY
CARRIERS DOMINATING LARGE AND MEDIUM HUBS
(INCLUDING ACQUIRED CARRIERS)

| Hub | Carrier | August 1988 Share of Seat Capacity (Percent) | Weighted Average Fare Index* (1985 = 1000) FIRST HALF 1985 | 1986 | 1987 | 1988 | Percent Change (1985-1988) (%) | Percent Change Annualized |
|---|---|---|---|---|---|---|---|---|
| Atlanta | Delta | 62 | 1000 | 918 | 887 | 1046 | (+ 5) | 1.5 |
| Charlotte | Piedmont | 89 | 1000 | 1022 | 1138 | 1342 | (+34) | 10.3 |
| Cincinnati | Delta | 81 | 1000 | 930 | 1296 | 1254 | (+25) | 7.8 |
| Detroit | Northwest | 62 | 1000 | 1016 | 1021 | 1270 | (+27) | 8.3 |
| Minneapolis | Northwest | 77 | 1000 | 1030 | 1013 | 1211 | (+21) | 6.6 |
| Pittsburgh | USAir | 80 | 1000 | 978 | 888 | 941 | ( -6) | -2.0 |
| Raleigh | American | 67 | 1000 | 1174 | 1137 | 1349 | (+35) | 10.5 |
| St. Louis** | TWA | 83 | 1000 | 911 | 1175 | 1218 | (+22) | 6.8 |
| Salt Lake City | Delta | 77 | 1000 | 908 | 993 | 1257 | (+26) | 7.9 |

Source: Department of Transportation, SUMDOM Data Base. (The SUMDOM is a summary data base developed from the Origin-Destination Survey.)

*City-pair average revenues are weighted by the 1985 share of the carrier's round-trip O&D passengers at the hub originating or terminating at the spoke city.

**The figures for St. Louis do not correspond to those presented in Table 4.1. These calculations employ round-trip tickets for all markets originating or terminating at St. Louis rather than just the 67 nonstop markets analyzed by the GAO.

concentration alone does not explain why fares change or how much they change. In Pittsburgh, for example, average fares actually declined (6.0 percent) between the first half of 1985 and the first half of 1988. In another market, Atlanta, fares increased only 5.0 percent over the three year period. And at five hubs -- Charlotte, Cincinnati, Detroit, Raleigh, and Salt Lake City -- the dominant air carrier's average fare increased more than TWA's did at St. Louis. In short, TWA's average round-trip fare has not increased more rapidly than is the case at most other hubs where one air carrier has a large share of capacity.

To summarize, between the first half of 1985 and the first half of 1988, TWA's average fare at St. Louis for 67 nonstop markets increased 22.7 percent, or an average rate of 7.1 percent per year. During the same three-year period, the airline component of the Consumer Price Index increased 11.1 percent and the Consumer Price Index increased by 9.6 percent. There is no evidence to suggest that TWA's acquisition of Ozark had a significant impact on TWA's fare structure. In fact, TWA's average fare did not increase more rapidly in those markets where it became the only carrier to provide nonstop service after the acquisition. There is also no evidence to suggest that TWA has reduced the number of discounted seats available to passengers at St. Louis.

An analysis of how TWA's fare structure has changed since 1985 reveals that TWA has increased fares primarily in short-haul markets. Also, the presence of Southwest Airlines in a city-pair market seems to result in TWA charging lower average fares. TWA's unit cost and yield declined in 1986 over 1985 levels. The gap between yield and unit cost began to widen after the first quarter of 1987.

TWA's fares have not increased faster than is the case at other large and medium hubs where one carrier has a large share of capacity. In fact, the dominant carrier's average fare rose more rapidly at five hubs than did TWA's average fare at St. Louis.

Figure 3.1
Changes in TW+OZ Fare and Mkt. Share
67 STL Mkts, First Half 1985 to 1988

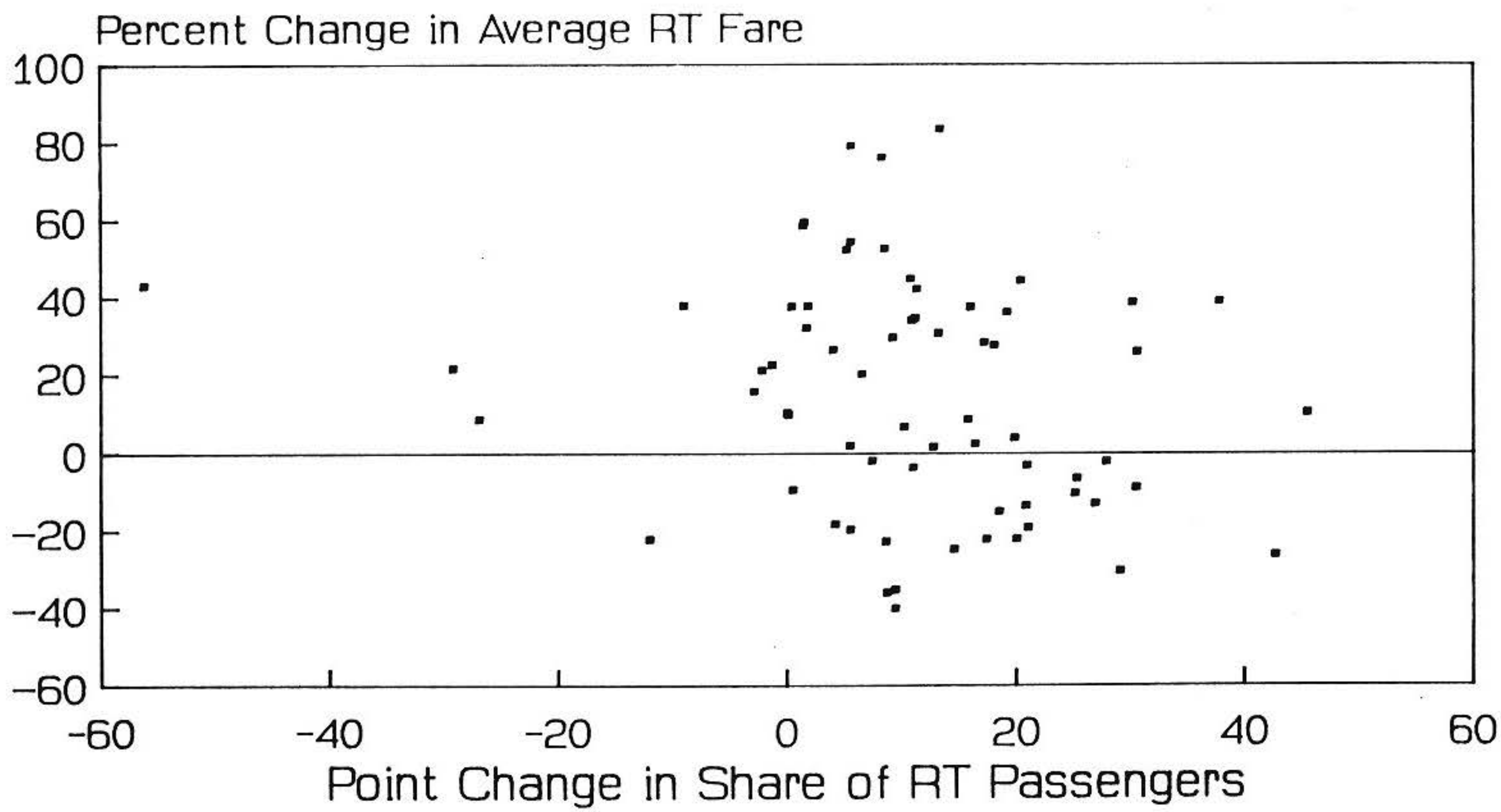
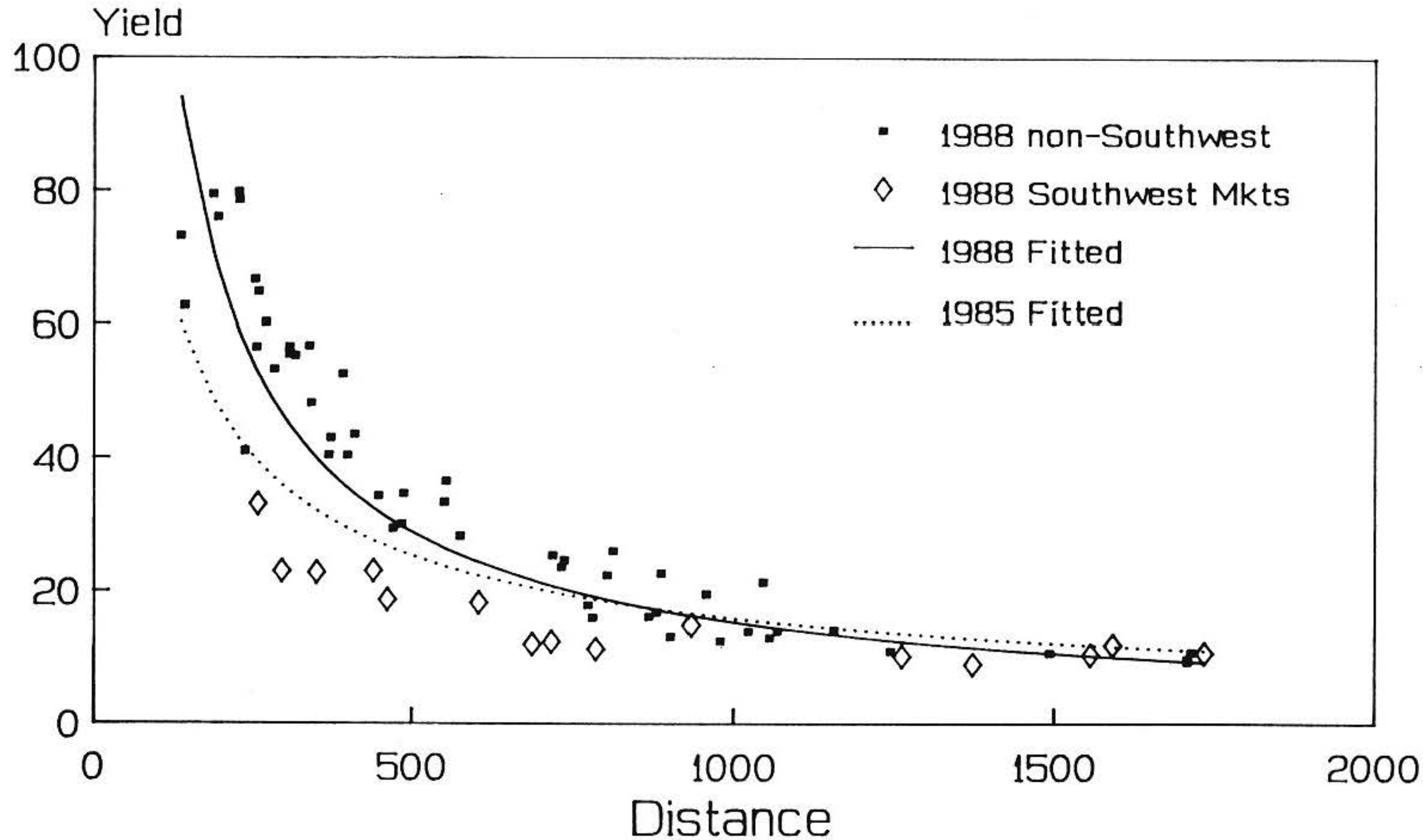


Figure 3.2

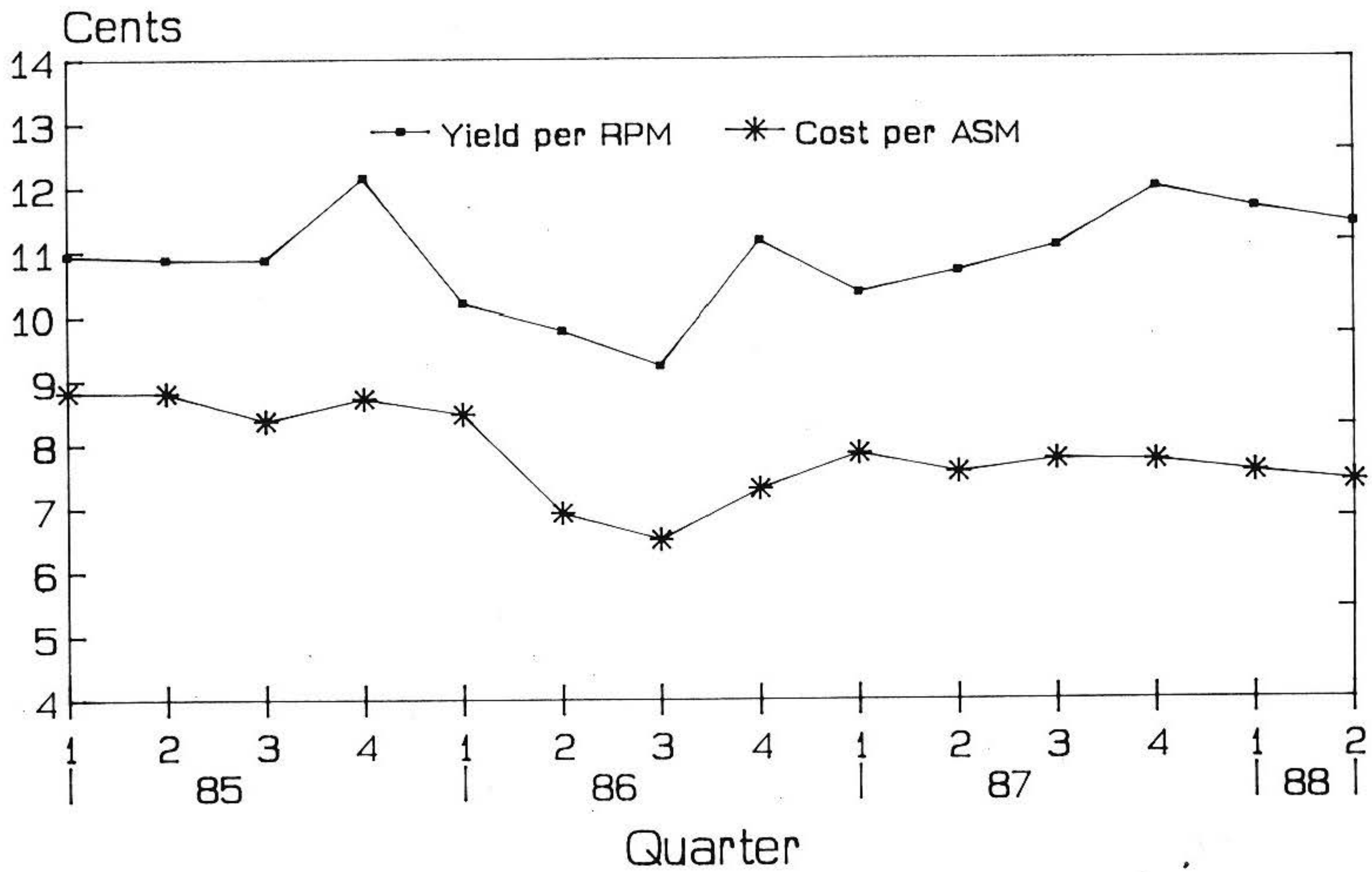
# TWA/Ozark Yield by Market Distance

## First Half 1988 vs. 1985




Cents per revenue-passenger-mile vs. mi.

Figure 3.3
TWA Passenger Yields and Unit Costs
(All Domestic Operations)



## IV. SERVICE CHANGES AT ST. LOUIS

The GAO report analyzed service changes at St. Louis between June 1986 and June 1987. In this chapter, we take advantage of the more current service data that is now available and present an analysis of service levels at St. Louis between June 1986 and June 1988. This analysis includes operations by regional carriers as well as jet operations.[1] This analysis shows where service changes have occurred and the magnitude of those changes.

Before TWA acquired Ozark, both carriers had large hub complexes at St. Louis. Today, only TWA does. Before discussing the actual service changes at St. Louis, we have provided a discussion of the service development of hub-and spoke systems, since this has had a major effect on service changes at St. Louis.

### A. Hub-and-Spoke Networks

Two important structural changes in the airline industry in the last decade are the mergers and acquisitions that occurred in the 1985-1988 period and the development and strengthening of hub-and-spoke route networks. Both of these developments have led to a more efficient airline industry.

Under regulation, most air carriers had linear route networks. Except in the most heavily traveled markets, air carriers generally provided infrequent, direct frequencies. Today, most large carriers have adopted hub-and-spoke operations. In a hub-and-spoke network, feeder flights (the spokes) converge on a major transit center (the hub) where local and connecting passengers are combined on aircraft and flown to their ultimate destinations. To be a viable competitive strategy, a hub-and-spoke network must offer an airline cost and service advantages that exceed the delay costs (for passengers and the airline) of rerouting traffic through the hub. Because most air carriers have adopted the hub-and-spoke configuration, there is ample reason to believe that the cost savings and the value of the service benefits that result

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[1] In Chapter III, we estimated changes in average fares for the 67 nonstop markets identified by the GAO in its report as of March 1986. We also followed the market categories used by the GAO. In this chapter, we examine market-specific service patterns in the 70 nonstop markets that were being served by TWA at St. Louis as of June 1986. Between 1986 and 1988 some markets changed categories, thus accounting for the differences in the number of markets in each category.

from hubbing are substantial. There is also ample empirical evidence that this is the case.[2]

The principal economic justification for hub-and-spoke networks is that they allow airlines to capture substantial economies of scope.[3] Since the large volume of connecting traffic at the hub makes it economical to use larger aircraft with higher average passenger loads on the spokes, hub-and-spoke operations allow carriers to achieve lower unit costs. Also, and perhaps more important, such networks increase the frequency of service for most travelers, since with greater numbers of connecting passengers the airline finds it feasible to offer more flights. There are, however, some disadvantages to hub-and-spoke operations. For example, trips may be less convenient where a former nonstop flight now requires a stop and, possibly, a change in planes.

Before TWA's acquisition of Ozark, both carriers operated large hub complexes at St. Louis. Today, TWA and TWA Express have 83 percent of enplanements at St. Louis. Based on our conversations with TWA officials and other airline managers, it is very unlikely that there is enough local and connecting traffic at St. Louis to support two large hub complexes. Thus, for the foreseeable future, it is likely that TWA will continue to have the largest market share at St. Louis.

B. <u>Service Provided by Large Jet Air Carriers</u>

Prior to the consolidation, 43 percent of Ozark's departures and 35 percent of TWA's domestic departures were at St. Louis. Ozark was operating an average of 135 flights per day at St. Louis and TWA an average of 228. Currently, TWA operates an average of 333 flights per day out of St. Louis or roughly 40 percent of all its domestic departures.

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2 The most detailed analysis of the benefits of hub-and-spoke networks is contained in Steven A. Morrison and Clifford M. Winston, <u>The Economic Effects of Airline Deregulation,</u> Brookings Institution, Washington, D.C., 1986.

3 Economies of scope arise when it is cheaper for one firm to produce two (or more) goods or services than it is for two or more firms to produce each good or service separately. A discussion of the nature of multiproduct firms, such as airlines, and the role of transaction costs and economies of scope in the emergence of such firms is provided in David Teece, "Towards an Economic Theory of the Multiproduct Firm," <u>Journal of Economic Behavior and Organization</u>, 3 (1982), 39-63.

In June 1986, TWA and Ozark, together, provided nonstop jet service to 70 domestic cities (continental U.S. only) from St. Louis. In June 1988, TWA provided nonstop jet service to 69 cities from St. Louis. During this period, TWA dropped jet service to Waterloo, Iowa, and Rochester, Minnesota, but added service to Lexington, Kentucky. Thus, there has been minimal change in the number or list of nonstop city pairs served by TWA since the acquisition. (Appendix I provides a list of these markets, the carriers serving them, and the weekly number of frequencies provided by each carrier for June 1986 and June 1988.)

Table 4.1 presents information for large jet carriers on weekly domestic scheduled departures and weekly seats offered at St. Louis for June 1986 and June 1988. (The data presented in Table 4.1 reflect only nonstop operations.) For these carriers, weekly departures fell from 3,120 to 2,905, a decline of 6.9 percent; weekly seats declined 7.0 percent. (See also Table 4.3, which shows weekly departures for regional carriers down by 5.1 percent, but weekly seats up by 8.4 percent.)

TABLE 4.1

SUMMARY OF SERVICE CHANGES AT ST. LOUIS
FOR LARGE JET CARRIERS (DOMESTIC)
JUNE 1986 VS. JUNE 1988

| | Weekly Departures | | Weekly Seats | |
|---|---|---|---|---|
| DOMESTIC JET | 6/86 | 6/88 | 6/86 | 6/88 |
| TWA/OZARK | 2,541 | 2,331 | 347,160 | 316,886 |
| OTHER JET | 579 | 574 | 68,690 | 69,852 |
| TOTAL JET | 3,120 | 2,905 | 415,850 | 386,738 |

Source: Official Airline Guide, June 1986 and June 1988.

Table 4.2 presents information on weekly nonstop flights by large jet carriers in nonstop markets for June 1986 and June 1988. In 1986, 16 jet carriers operated at St. Louis, while in 1988 there were 11 jet carriers. One carrier, Braniff, has inaugurated service since 1986, while two others (Pan American and Jet America) have suspended their limited operations (one and two

TABLE 4.2

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
Weekly Departures By Carrier
Single-Plane Domestic Scheduled Jet Service (Nonstop Markets)
June 1986 and June 1988

| Carrier | Pre-Acquisition (June 1986) Weekly Departures | Post-Acquisition (June 1988) Weekly Departures |
|---|---|---|
| American | 56 | 63 |
| Braniff | 0 | 27 |
| Continental | 0 | 28 |
| Frontier | 27 | 0 |
| People Express | 28 | 0 |
| Eastern | 55 | 42 |
| Delta | 52 | 68 |
| Western | 21 | 0 |
| Northwest | 20 | 76 |
| Republic | 89 | 0 |
| Ozark | 946 | 0 |
| TWA | 1,595 | 2,331 |
| USAir | 33 | 33 |
| Piedmont | 14 | 21 |
| Pan American | 7 | 0 |
| Southwest | 93 | 155 |
| Jet America | 14 | 0 |
| United | 70 | 61 |
| Total | 3,120 | 2,905 |

Source: Official Airline Guide, June 1986 and June 1988.

daily departures, respectively). All of the other carriers that were serving St. Louis in 1986 but not in 1988 were acquired by other major carriers. In every case, the acquiring (or replacement) carrier that continued to serve St. Louis after the acquisition offered fewer weekly flights out of St. Louis than was the case before the acquisition. More important, however, every major air carrier -- American, United, Texas Air (Continental/ Eastern), Delta, Northwest and USAir/Piedmont -- currently serves St. Louis, offering multiple daily frequencies.

As for the overall levels of large jet service being provided, in 1986 TWA operated 1,595 nonstop departures at St. Louis, and Ozark operated 946 for a combined total of 2,541 departures per week. In 1988, TWA was providing 2,331 total departures, a decrease of 8.3 percent. At the same time, total operations by other jet carriers remained relatively constant. In 1986, other jet carriers operated 579 departures per week at St. Louis; in 1988, they operated 574. There were changes in the level of operations of individual carriers, however. In both periods, Southwest Airlines was the next largest carrier (behind TWA and Ozark in 1986 and TWA in 1988) in terms of departures. But it increased its service substantially, from 93 weekly departures in 1986 to 155 per week in 1988.

The changes in service levels vary by market. A review of the data presented in Appendix I shows that of the 68 nonstop markets served in both 1986 and 1988, in 1988 TWA provided more nonstop flights in 25 markets than it and/or Ozark provided in 1986; fewer flights in 33 markets; and the same number of flights in ten markets. In addition, TWA terminated nonstop jet service in two markets and added service in one market. In order to provide a more detailed analysis of service changes, we have looked at four different market categories. These are: (a) markets in which both TWA and Ozark were providing nonstop service in 1986 and no other jet carrier was providing nonstop service; (b) markets in which both TWA and Ozark were providing nonstop service in 1986 along with another jet carrier(s); (c) markets in which either TWA or Ozark (but not both) was providing nonstop service in 1986 and no other jet carrier was providing service; and (d) markets in which either TWA or Ozark (but not both) was providing nonstop service in 1986 and another jet carrier was providing service. An examination of these market categories enables us to understand the impact of the acquisition and subsequent market conditions on service levels.

<u>TWA/Ozark Overlap Markets That Were Not Served by Another Carrier in 1986 -- 18 markets</u>

There are 18 overlap markets (those in which TWA and Ozark both provided nonstop service) that were not also served by another jet carrier in 1986. TWA and Ozark were providing a total of 873 nonstop flights per week in these markets in 1986, an average of nearly seven flights per day in each market. In June 1988, TWA was providing 648 weekly nonstop flights in these markets (an average of five per day), which amounts to a near 26 percent decrease in nonstop service on a weekly basis. TWA's departures are down in 16 of these markets and unchanged in two markets.

In one overlap market that was served only by TWA and Ozark in 1986, St. Louis-Oklahoma City, Southwest has inaugurated nonstop service, thus making it a competitive market in 1988. It also should be noted that in two other TWA/Ozark only overlap markets-- Cleveland and Nashville -- competitive nonstop service was inaugurated in late 1988.

TWA/Ozark Overlap Markets With Service From Another Jet Carrier -- 11 Markets

Eleven markets received service from TWA, Ozark and at least one other jet carrier in 1986. Ten of these markets continued to receive competitive nonstop service in 1988. The remaining market -- New York -- was served by People Express, which was subsequently acquired by Texas Air and ceased providing service. As for the level of service in these markets, with the exception of the Miami, Chicago and New York markets, TWA is currently providing fewer frequencies than TWA and Ozark provided in 1986. In 1986, TWA and Ozark provided 806 of the 1,264 weekly nonstops in these 11 markets, or 64 percent of the total. In 1988, TWA provided 687 of the 1,127 weekly nonstop flights, or 61 percent of the total. The bulk of this decline was in the Kansas City market (a reduction of 56 weekly nonstop flights or 49 percent), where Braniff began service, and in the Dallas market (a reduction of 27 weekly nonstop flights or 31 percent). TWA service to Chicago and New York has increased and is unchanged to Miami. In the Chicago market, the increase is the result of TWA's inauguration of service to Midway Airport in competition with Southwest. In total, TWA is providing 119 fewer flights per week in these markets than TWA and Ozark were providing in 1986, or a 15 percent decline in operations.

In total, other jet carriers reduced their frequencies in these eleven markets by only 18 flights per week, or four percent. Their service has increased in three markets, remained the same in two markets, and declined in six markets. The three markets experiencing increases in service are Chicago (where Southwest expanded its operations at Midway), Houston (where Continental inaugurated service and Southwest expanded service), and Kansas City (where Braniff inaugurated service). It should also be noted that the suspension of St. Louis service by Pan American and Jet America, and the acquisition of Frontier, People Express and Republic by other airlines negatively impacted five of these 11 markets.

To indicate the importance of these markets, eight of these markets are in top ten local Origin-Destination markets for St. Louis, and together these eight markets account for roughly 37 percent of all local traffic at St. Louis.

Markets in Which TWA or Ozark Provided Nonstop Service in 1986 and No Other Jet Carrier Was Providing Service -- 36 Markets

There were 36 markets in 1986 in which TWA or Ozark, but not both, provided nonstop service and no other jet carrier was providing nonstop service. Twenty-one of these were TWA markets and 15 were Ozark markets. For the 21 TWA markets, comparing the levels of service provided by TWA in 1986 and 1988, we find that TWA increased service in 12 markets, decreased service in five and maintained the same level of service in four. For the 15 markets previously served by Ozark, TWA's service levels in 1988 were higher than Ozark's 1986 service levels in seven markets, were the same in two markets and were lower in six, including two markets-- Waterloo, Iowa, and Rochester, Minnesota -- in which TWA suspended service. Also, by 1988 TWA inaugurated nonstop service in one market -- Lexington -- that was not served by either TWA or Ozark in 1986.

TWA and Ozark provided a total of 760 nonstop flights per week in these markets in 1986. In 1988, TWA provided 850 nonstop flights in these markets, an increase of almost 12 percent.

Two of these 36 markets have seen inauguration of service by another carrier -- Phoenix, where Southwest has inaugurated nonstop service, and Cincinnati, where Delta has inaugurated service. Thus, other carriers have been willing and able to enter TWA's markets on a nonstop basis that were only served by TWA or Ozark before the acquisition.

Markets Served by TWA or Ozark in 1986 and Also by Another Jet Carrier -- Five Markets

There are five markets in this category: Little Rock, Memphis, Pittsburgh, Salt Lake City and Charlotte. Overall nonstop service in these markets increased by three percent. This figure reflects a 29 percent increase by TWA and a 19 percent decrease by other carriers. TWA has increased its nonstop service in four of these markets since 1986. In the fifth, Salt Lake City, the carrier has maintained its level of service.

The other carriers serving these markets nonstop in 1986 were: Southwest and United at Little Rock, Delta and Republic at Memphis, USAir at Pittsburgh, Western at Salt Lake City and Piedmont at Charlotte. United discontinued its St. Louis-Little Rock service; Delta discontinued its St. Louis-Memphis service; Northwest (Republic) decreased its frequencies in the Memphis market; and Piedmont increased its frequencies in the Charlotte market.

C. Service by Regional Carriers

As Table 4.3 below shows, overall weekly departures for regional carriers at St. Louis declined 5.1 percent while weekly seats increased 8.4 percent, indicating that regional carriers were using larger aircraft in 1988.

In June 1986, seven regional carriers provided nonstop service from St. Louis. The three principal regional carriers serving St. Louis were Air Midwest, Resort Air, and Britt Air. In 1986, Air Midwest shared Ozark's two-letter designator code (OZ*) for its St. Louis operations, and Resort Air shared TWA's designator code (TW*). Today, both Air Midwest and Resort Air share TWA's designator code. In 1988, five regional carriers serve St. Louis, two TWA affiliates, two independents and one affiliate of Delta.

TABLE 4.3

SUMMARY OF SERVICE CHANGES AT ST. LOUIS
FOR REGIONAL CARRIERS
JUNE 1986 VS. JUNE 1988

| | Weekly Departures | | Weekly Seats | |
|---|---|---|---|---|
| | 6/86 | 6/88 | 6/86 | 6/88 |
| TW*/OZ* | 602 | 850 | 11,066 | 16,907 |
| OTHER REGIONALS | 334 | 38 | 5,121 | 642 |
| | 936 | 888 | 16,187 | 17,549 |

Source: Official Airline Guide, June 1986 and June 1988.

Table 4.4 identifies these carriers and presents information on the number of weekly nonstop departures. The primary change in overall regional carriers' service is due to the suspension of St. Louis service by Britt, which was affiliated with People Express and subsequently with Texas Air. Appendix II provides information on service provided by regional carriers at St. Louis for 1986 and 1988.

Sharing a large carrier's designator code is a common practice among regional air carriers. Code sharing is often combined with a marketing alliance between a regional and a large jet operator. Regional carriers often serve markets that generate too few passengers to justify the use of jet equipment. But these markets do generate substantial numbers of long-haul passengers, who are important to large jet operators. For regional carriers, such alliances may involve the coordination of flight schedules at hub airports, lower joint fares, participation in a large carrier's frequent-flyer program, more convenient interlining arrangements, greater advertising, and preferential flight display in airline-owned computer reservation systems.

Since 1986, the number of regional carriers that provide nonstop service at St. Louis has declined from seven to five. Four regionals -- Britt, Air Kentucky, Trans Mo and Green Hills have ceased operating at St. Louis, although two regionals -- Prime Air and Exec Express -- have entered the market.

In June 1986, 23 nonstop markets were served from St. Louis by regional carriers; in June 1988, 26 markets were served by regionals. Over this period, three cities lost all service (Lake

TABLE 4.4

REGIONAL SERVICE AT ST. LOUIS
JUNE 1986

| | Affiliation | Weekly Departures | Market Share (%) |
|---|---|---|---|
| Air Midwest | Ozark | 375 | 40.1 |
| Britt | Independent | 271 | 29.0 |
| Resort Air | TWA | 227 | 24.2 |
| Trans Mo | Independent | 22 | 2.3 |
| Comair | Delta | 17 | 1.8 |
| Air Kentucky | USAir | 12 | 1.3 |
| Green Hills | Independent | 12 | 1.3 |
| | | 936 | 100.0 |

Source: Official Airline Guide, June 1986.

REGIONAL SERVICE AT ST. LOUIS
JUNE 1988

| | Affiliation | Weekly Departures | Market Share (%) |
|---|---|---|---|
| Air Midwest | TWA | 490 | 55.2 |
| Resort Air | TWA | 360 | 40.5 |
| Prime Air | Independent | 13 | 1.5 |
| Comair | Delta | 13 | 1.5 |
| Exec Express | Independent | 12 | 1.3 |
| | | 888 | 100.0 |

Source: Official Airline Guide, June 1988.

of the Ozarks, Kirksville, and Jefferson City) while six cities gained nonstop commuter service (Waterloo, Harrison, Carbondale, Rochester (MN), South Bend and Knoxville). In 1986, eleven regional markets received service from two or more regional carriers. Seven of these markets were receiving competitive service between the TWA and Ozark code-sharing regional carriers in 1986, while four were receiving competitive service between either the TWA regional or the Ozark regional and an independent regional or a regional affiliated with another major carrier. Today, all 26 markets are served by only one carrier.

An important fact for travelers who reside in these markets is whether they have air service to an alternate hub airport (i.e., not St. Louis). If this is the case, passengers who are not traveling to St. Louis have more service options available to them. As shown in Table 4.5, twenty-one of the 26 cities served by a single regional carrier have access to an alternate hub airport. Nine cities have direct, nonstop service to three other hubs, eight cities have service to two alternate hubs, and four cities have service to one alternate hub.

Appendix III provides a list of the alternate hubs for these markets.

TABLE 4.5
ALTERNATE HUB SERVICE
IN 26 REGIONAL MARKETS
JUNE 1988

| | Number of Markets |
|---|---|
| Choice of three or more alternate hubs | 9 |
| Choice of two alternate hubs | 8 |
| Choice of one alternate hub | 4 |
| Choice of no alternate hubs | 5 |
| | 26 |

Source: Official Airline Guide, June 1988.

# V. BARRIERS TO ENTRY AT LAMBERT FIELD

In this chapter, we examine whether there are physical, operational, or legal impediments to entry at Lambert-St. Louis International Airport. If such barriers are present, new entry and the threat of entry will not compel incumbent air carriers to set fares and service levels at competitive levels. In the first section, we present information on the number of gates controlled by each air carrier at Lambert Field and total domestic scheduled airline activity. We also discuss the near-term and long-term prospects for capacity expansion at Lambert Field.

Air carriers serving Lambert must enter into either long-term lease or use agreements or short-term operating agreements. The long-term lease agreement is used when a carrier is willing to commit to lease gates directly from the airport for an extended period of time. Carriers unwilling or unable to do so rely on short-term operating agreements. In turn, these carriers rely on subleasing and ground-handling arrangements with other carriers or the facilities in the East Terminal to gain access to gates. In the next section, we describe the standard long-term lease. In the third section, we describe short-term operating agreements. In the last section, we describe the operation of the East Terminal.

## A. Operations at Lambert Field

The St. Louis metropolitan region is a major manufacturing, industrial, commercial, and transportation center. In terms of enplanements, Lambert Field is the nation's tenth busiest airport. The airport is configured in four concourses that radiate from the main terminal area.

Lambert Field has 77 gates, eight of which do not have jetways. TWA and the two Trans World Express regionals control 56 gates (73 percent of capacity). The 11 large jet operators and the five regional carriers that serve St. Louis enplaned 4,833,212 passengers during the first six months of 1988. Together, TWA and Trans World Express had an 83 percent market share; they also accounted for 84 percent of all domestic scheduled aircraft departures at Lambert. Table 5.1 presents information on gate utilization and airport activity at Lambert Field.

TABLE 5.1

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
GATE UTILIZATION BY CARRIER
1-1-88 TO 6-30-88

| Airline | Gate Positions | Concourse | Enplaned Passengers Domestic 1/1/88-6/30/88 (Includes Interline and Intraline Passengers) | Nonstop Weekly Departures June 1988 |
|---|---|---|---|---|
| American/ | 7,7A | A | 117,632 | 63 |
| Prime Air[1] | | | 904 | 13 |
| Continental | 8 | A | 51,948 | 28 |
| Delta/ | 1,4,5 | A | 85,922 | 68 |
| Comair[3] | | | 2,783 | 13 |
| Eastern/ | 10,11[4],14,15 | A | 60,995 | 42 |
| Braniff[2] | | | 32,360 | 27 |
| Northwest | 2,3 | A | 104,640 | 76 |
| Piedmont | 6 | A | 35,110 | 21 |
| Southwest | 79,80 | East Terminal | 147,922 | 155 |
| TWA | 16,17,19,20,21,22 23,24A,24B(Spare) | B | 3,847,999 | 2,331 |
| | 25,26,27,28,29,30, 31,32,33,34,35,36, 37(Shuttle)[5],38,39, 40,41,42,43,44,45, 46,47,48,49,50,51,52 | C | | |
| | 60,61,62,64,65,66, 67,69,70,71,72, 73(Spare),74,75,76 | D | | |
| Texas World Express: | | | | |
| Resort Air | 18A,18B | B | 80,930 | 360 |
| | 77,78 | D | | |
| Air Midwest | 63 | D | 102,924 | 490 |
| United | 12,14A | A | 118,576 | 61 |
| USAir | 9 | A | 42,239 | 33 |

| Airline | Gate Positions | Concourse | Enplaned Passengers Domestic 1/1/88-6/30/88 (Includes Interline and Intraline Passengers) | Nonstop Weekly Departures June 1988 |
|---|---|---|---|---|
| ATS Gates | 81,82[6],83[6] | East Terminal | | |
| Executive Express II[7] | | | 328 | 12 |
| jointly used by various charter airlines. Gates #82 and #83 are served by Mobile Lounge | | | | |
| | | | --------- | ----- |
| Totals | 77 Gate positions available (eight gates without jetways) | | 4,833,212 | 3,793 |

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Source: Lambert Airport Monthly Passenger Report, Official Airline Guide, June 1988, and discussions with the Airport Authority and airline management.

1. American has a ground-handling agreement with Prime Air that primarily uses Gate #7. This arrangement does not interfere with the use of the jetway on Gate #7.

2. Continental and Braniff share Eastern's Gate #10. United, Continental, Braniff, and Eastern park aircraft overnight at Eastern's four gates.

3. Delta has a ground-handling agreement with Comair that uses Gate #5. Comair's agreement does not interfere with use of the jetway on Gate #5.

4. Gate #11 does not have a jetway. Eastern uses the Gate #15 jetway to service both Gates #15 and #11.

5. Mobile Lounge shuttle between Concourse "C" and Concourse "D."

6. Gates #82 and #83 service jet aircraft by Mobile Lounge.

7. Initiated service in March 1988. ATS has a ground-handling arrangement with Executive Express II, escorting passengers to their aircraft through either Gate #82 or #83.

Note: Gates #18A, #18B, #63, #77, and #78, which are used to service TWE regionals, do not have jetways.

As a party to the TWA-Ozark acquisition proceeding conducted before an Administrative Law Judge in 1986, the St. Louis Airport Authority stated that adequate facilities were available at Lambert Field to support new entry or the expansion of existing service. The Airport Authority stated that it could build six temporary gates within six months and eight permanent gates within two years; it had control of two gates that were reserved for new entrants; and, finally, many of the gates at Lambert Field were not fully utilized and thus could, potentially, be subleased to other air carriers.

Based on our recent discussions with the Airport Authority, we believe that this view is still accurate. The airport's last bond issue was for $52 million. Although most of this money was used for ramp improvements, some of the remaining funds could be made available to expand gate capacity or to build other facilities, if necessary. According to airport personnel, the airport could build several temporary gates and perhaps three permanent gates with existing bond proceeds. (The Airport Authority estimates that each permanent gate would cost $ 2,000,000 to construct, and that each temporary gate would cost between $60,000 and $70,000.)

The Airport Authority was also confident that if an air carrier wanted to begin serving St. Louis and was willing to sign the necessary long-term lease agreements, it would be easy for the airport to gain approval from the City and from the public to issue bonds to pay for this additional gate capacity. In addition, TWA indicated to us its continued willingness to sublease some of its gates. It may be difficult, however, to conclude such an arrangement at this time given TWA's insistence that most of its gates are already heavily utilized, especially during peak periods. Other subleasing arrangements may also be possible.

Finally, as stated above, temporary or permanent gates could be constructed at Lambert Field (East Terminal) relatively easily. There is also no problem with operational capacity at the airport; total airport operations are approximately 48 percent of average daily operating capacity.

Thus, based on our discussions with the Airport Authority and three air carriers now serving St. Louis, we believe that although access to a number of contiguous gates at Lambert Field would probably be difficult to obtain immediately, there is enough underutilized capacity so that one or more air carriers could begin serving St. Louis and a limited number of markets within 60 days. Additionally, temporary gate capacity could be constructed within six months. Also, as discussed in Section D, large scale entry is feasible in the longer term since the Airport Authority would build a block of gates for an entrant willing to commit to a long-term lease.

B. Long-Term Lease Arrangements

Nine jet operators at Lambert Field have long-term leases with the Airport Authority.[1] All such leases run until 2005. Each carrier with a long-term agreement leases at least one gate directly from the airport.

Long-term leases require carriers to pay for three distinct facilities. First, carriers pay fees for runways, taxiways and ramps. Fees are charged according to the landed weight of flights actually operated at the airport. Second, carriers pay for so-called exclusive use terminal space, such as gates and passenger hold rooms (also known as departure lounges). Fees are charged on a square foot basis and are determined on the basis of a formula that is designed to recover for the airport depreciation, operating and maintenance expenses, and interest expense attributable to the space leased by each carrier. Finally, carriers pay for common-use space, which is not assigned to any particular carrier. Total charges for this space are computed in the same manner as are charges for exclusive use space and allocated among carriers based on their share of enplanements at the airport.

In the past, carriers have had the sole right to use (or not use for that matter) their exclusive use space. Lambert Field's most recent long-term lease (with United), however, included a use-or-share provision. If United does not make reasonable use of its space, the airport authority can compel it to share with a carrier desiring access. However, United would not agree to a specific definition of a required minimum use level. The Airport Authority will attempt to include a comparable provision in any future long-term lease and will try to get it incorporated into significant modifications of existing leases.

An important feature of the long-term leases is the majority-in-interest clause. The majority-in-interest clause requires that the airport submit for approval of the air carriers that constitute a majority-in-interest certain capital expenditures. If the majority-in-interest does not approve the expenditure, the Airport Authority is not precluded from making it, but it is precluded from raising fees to the carriers to pay for the project. However, the standard lease permits the Airport Authority to implement small fee increases for new capital projects each year without gaining prior approval from the signatory airlines.

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[1] American, Continental, Delta, Eastern, Northwest, Piedmont, TWA, United and USAir.

The lease defines the majority-in-interest as at least 50 percent of the airlines with long-term agreements who have at least 50 percent of the aggregate aircraft revenue weight landed at the airport. Because TWA lands more than 50 percent of the aggregate aircraft revenue weight at Lambert Field, its approval is necessary for a majority-in-interest. TWA's approval, however, is not sufficient to approve an expenditure, because at least 50 percent of all airlines serving the airport with long-term agreements must also approve a proposed expenditure.[2]

The majority-in-interest clause in the standard long-term agreements does not appear to be a major impediment to expansions of airport terminal capacity. As noted, the clause does not prohibit the Airport Authority from making unapproved capital expenditures; it only prevents the airport from raising incumbents' fees to pay for them. Each of the last major terminal expansions was financed in a way that avoided the need for majority-in-interest approval.

For example, when TWA desired to expand its capacity, it agreed to lease exclusively and pay for new gates and hold rooms along the "C" concourse expansion. The Airport Authority collects additional fees from concessionaires. It did not attempt to raise the fees of incumbent carriers using other concourses to pay for the expansion. Therefore, the Airport Authority did not need and it did not seek approval under majority-in-interest provisions to pay for the C Concourse expansion. The situation was the same when the Airport Authority constructed the D Concourse gates for Ozark. Ozark paid for all gates and hold rooms. The Airport Authority relied on concessionaire fees and other revenue sources to pay for the remainder of the construction without raising fees to other carriers. The Airport Authority expects that future gate construction would be financed similarly; therefore, approval of the majority-in-interest to pay for the construction would be unnecessary.

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2 In the past, the majority-in-interest clause has evidently not proved to be an impediment to undertaking new capital projects, since the Airport Authority reported no difficulties in getting majority-in-interest approval historically. There is an unresolved matter pending at the moment. The parties to the majority-in-interest clauses, including TWA, have been unwilling to approve an increase in landing fees to fund an expansion of Lambert Field's noise abatement program. The airlines had previously agreed to a $12 million program, and the Airport Authority has already spent that money. Both the Airport Authority and TWA expect the dispute over additional funding to be resolved through additional negotiations.

The Airport Authority also built the East Terminal without seeking approval of the majority-in-interest. Funds from the airport's capital surplus account were available to finance construction and the East Terminal is operated as a separate profit center. Since the Airport Authority did not raise the fees to incumbents using the main terminal, it did not need approval of the majority-in-interest.

C. Short-Term Operating Agreements

A carrier unwilling to make a long-term commitment to serve St. Louis may enter by executing a short-term operating agreement with the airport. These agreements are generally for a one-year term, and they can be renewed each year. Braniff and Southwest currently have operating agreements with the airport.

The standard operating agreement requires the carrier to pay the standard landing fee charged by the airport and a prorated share of common use terminal space rental fees. The standard form agreement also provides for the lease of space from the airport on a preferential use basis. The agreement requires the carrier to share its gate, ticket-counter and baggage facilities with a new entrant if the carrier can accommodate the entrant and if the incumbent and the new entrant can negotiate a contract. The Airport Authority reserves the right to direct an incumbent to accommodate a new entrant with preferential use space, if the Airport Director determines that the incumbent can reasonably do so. The Airport Authority also reserves the right to recall preferential use space if the incumbent does not make reasonable use of it.

Because air carriers that rely on operating agreements lease almost no space directly from the airport, the Airport Authority and the carriers we talked with stated that the preferential use provisions have virtually no practical effect. No gate or ticket-counter space is leased directly by the airport under a short-term operating agreement. Rather, carriers rely on subleasing or handling agreements with incumbents or they use the East Terminal. If an incumbent has excess gate capacity at the time a new entrant chooses to operate its flights, a new entrant might succeed in negotiating a subleasing or handling arrangement. If a new entrant approaches the Airport about available capacity, the Airport Authority may suggest the names of carriers that it believes have excess capacity. Except for the use-or-share provisions in the United long-term lease, the Airport Authority cannot compel subleasing. The Airport Authority does review subleases and handling agreements. One purpose of the review is to assure that the incumbent is not charging exorbitant fees. The Airport Authority has never disapproved a sublease or handling agreement based on its review.

Braniff Airlines entered St. Louis with a sublease/handling agreement with Eastern, and its experience seems to be typical. Braniff approached all carriers serving Lambert Field. Some incumbent carriers offered to lease space to Braniff, and some were unable to do so due to gate or facility limitations. Eastern's offer was the best in terms of price and availability of gates at the times Braniff needed them. Under the agreement, Braniff subleases one gate from Eastern. Eastern provides aircraft ground and ramp handling and Braniff supplies its own passenger handling personnel. Braniff was able to start service within about 60 days after approaching the Airport Authority. Braniff officials stated that this start-up period is comparable to its experience at other airports. It also considers the fees charged by Eastern to be "reasonable."

D. <u>The East Terminal</u>

A new entrant desiring a short-term operating agreement could also enter Lambert Field through the East Terminal facility. The Airport Authority built this facility to accommodate international traffic, charter operations, and new entrants. The terminal is operated by Airport Terminal Services ("ATS") under contract with the Airport Authority. ATS was a subsidiary of Ozark and is now a TWA subsidiary.

A new entrant using the East Terminal must contract with ATS to provide all aircraft ground handling and passenger services. ATS's contract with the airport requires ATS to accept all carriers and to charge reasonable and nondiscriminatory fees. The Airport and TWA agree that TWA does not control the day-to-day operations of ATS. Some carriers consider ATS's fees to be on the high end of the "competitive" scale, but no party we contacted suggested that the fees were set so high as to discourage entry.

The East Terminal is some distance from the main terminal, but it is a self-contained facility. It has its own ticket counters, departure lounges, gates and baggage claim facilities. Parking and ground-side access is more convenient for the East Terminal than for the main terminal. The Airport Authority provides shuttle service between the two terminals. Also, when the St. Louis Light Rail System is completed, the East Terminal will become an even more attractive location.

Southwest originally entered Lambert Field through the East Terminal and still operates there. It is satisfied with the location and has no interest in moving to the main terminal. It initially had a handling arrangement with ATS. As its operations expanded, Southwest decided that ATS's handling fees were uneconomic and that it could provide these services more cheaply to itself.

In exchange for withdrawing its opposition to the TWA-Ozark acquisition, Southwest got the right to handle its operations itself. It also has a first preference for use of one East Terminal gate and a second preference for a second gate. As part of its agreement, it is also paying lease fees for all five East Terminal gates and the adjacent departure lounges. Southwest also has an option to execute a long-term lease for up to five new gates. Southwest considers the current arrangement satisfactory and sufficient to allow for planned future growth.

Southwest Airlines has a growing market presence at St. Louis. Between 1996 and 1988, Southwest increased its weekly frequencies from 93 to 155, a 67 percent increase. Southwest also intends to increase its presence at St. Louis substantially by 1990 and will have access to gates and facilities at Lambert Field to provide 50 to 55 flights per day at that airport. Southwest will thus be in an even better position to discipline incumbent carriers should they attempt to raise fares above competitive levels.

To summarize, TWA currently controls 73 percent of the gates at Lambert Field. Nevertheless, conditions at Lambert Field are much as they were described by the Airport Authority in the 1986 acquisition proceeding; that is, there still appears to be underutilized gate and terminal space at Lambert to support new entry. Construction of temporary gates could be accomplished within six months and permanent gates within two years. New entry has taken place and could readily occur at any time. Lambert Field does not have a large block of empty gates immediately available for new entrants. Large-scale entry would almost certainly occur at the East Terminal. Although the East Terminal is some distance from the main terminal, it is a self-contained facility with many attractive features. The Airport Authority would build a block of gates for an entrant willing to commit to a long-term lease. Thus, even large-scale entry appears attainable, subject only to construction lead time.

The Airport Authority's recent policy of including use-or-share clauses in long term leases should also help assure that facilities will be available for new entrants. Other airports concerned about maintaining access should consider adopting a similar policy. Finally, at Lambert Field, the majority-in-interest clause has not impeded entry and should not deter further expansion of the airport's gate capacity in the future.

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
Weekly Frequencies, Single-Plane Scheduled Jet Service (Nonstop Markets)
Domestic (Continental U.S. Only)
June 1986 and June 1988

| | | Pre-Acquisition (June 1986) | | | | | Post-Acquisition (June 1988) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | Weekly Frequencies | | | |
| Hub Class | Markets/Distance | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) | | | | | | | | | | | |
| L | Atlanta, GA (ATL) (484) | American | - | | | 0 | American | - | 7 | | 7 |
| | | Delta | 34 | | | 34 | Delta | 35 | | | 35 |
| | | Eastern | 34 | | | 34 | Eastern | 28 | | | 28 |
| | | Ozark | 27 | | | 27 | Ozark | - | | | 0 |
| | | TWA | 14 | | | 14 | TWA | 34 | | | 34 |
| | | Total | 109 | 0 | 0 | 109 | Total | 97 | 7 | 0 | 104 |
| M | Baltimore, MD (BWI) (737) | Ozark | 14 | 6 | | 20 | Ozark | - | | | 0 |
| | | TWA | 21 | | | 21 | TWA | 35 | 7 | | 42 |
| | | Piedmont | - | - | 6 | 6 | Piedmont | - | 7 | | 7 |
| | | Total | 35 | 6 | 6 | 47 | Total | 35 | 14 | 0 | 49 |
| L | Chicago, IL (ORD) (258) | American | 21 | | | 21 | American | 21 | | | 21 |
| | | Ozark | 74 | | | 74 | Ozark | - | | | 0 |
| | | TWA | 54 | 7 | | 61 | TWA | 106 | | | 106 |
| | | United | 35 | | | 35 | United | 40 | | | 40 |
| | | Total | 184 | 7 | 0 | 191 | Total | 167 | 0 | 0 | 167 |
| - | Chicago, IL (MDW) (251) | Southwest | 40 | | | 40 | Southwest | 66 | | | 66 |
| | | TWA | - | | | 0 | TWA | 33 | | | 33 |
| | | Total | 40 | | | 40 | Total | 99 | 0 | 0 | 99 |
| | CHI Community | CHI Total | 224 | 7 | 0 | 231 | CHI Total | 266 | 0 | 0 | 266 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| M | Cleveland, OH (CLE) | Ozark | 20 | | | 20 | Ozark | - | | | 0 |
| | (487) | TWA | 34 | | | 34 | TWA | 34 | | | 34 |
| | | American | - | 7 | | 7 | American | - | | | 0 |
| | | United | - | | | 0 | United | - | 7 | | 7 |
| | | Total | 54 | 7 | 0 | 61 | Total | 34 | 7 | 0 | 41 |
| L | Dallas/Fort Worth, TX (DFW) | American | 35 | | | 35 | American | 42 | | | 42 |
| | (550) | Braniff | - | | | 0 | Braniff | - | 7 | | 7 |
| | | Jet America | 14 | | | 14 | Jet America | - | | | 0 |
| | | Ozark | 52 | | | 52 | Ozark | - | | | 0 |
| | | TWA | 35 | | | 35 | TWA | 60 | | | 60 |
| | | Total | 136 | 0 | 0 | 136 | Total | 102 | 7 | 0 | 109 |
| L | Denver, CO (DEN) | Frontier | 27 | | | 27 | Frontier | - | | | 0 |
| | (781) | Continental | - | | | 0 | Continental | 14 | | | 14 |
| | | United | 28 | | | 28 | United | 21 | | | 21 |
| | | Ozark | 14 | | | 14 | Ozark | - | | | 0 |
| | | TWA | 42 | | | 42 | TWA | 42 | | | 42 |
| | | Total | 111 | 0 | 0 | 111 | Total | 77 | 0 | 0 | 77 |
| S | Des Moines, IA (DSM) | Ozark | 28 | | | 28 | Ozark | - | | | 0 |
| | (259) | TWA | 21 | | | 21 | TWA | 35 | | | 35 |
| | | Total | 49 | 0 | 0 | 49 | Total | 35 | 0 | 0 | 35 |
| L | Detroit, MI (DTW) | Pan American | 7 | | | 7 | Pan American | - | | | 0 |
| | (440) | Republic | 27 | | | 27 | Republic | - | | | 0 |
| | | Northwest | - | | | 0 | Northwest | 21 | | | 21 |
| | | Ozark | 19 | | | 19 | Ozark | - | | | 0 |
| | | TWA | 28 | - | 7 | 35 | TWA | 35 | | | 35 |
| | | Southwest | - | | | 0 | Southwest | 13 | 45 | | 58 |
| | | Total | 81 | 0 | 7 | 88 | Total | 69 | 45 | 0 | 114 |

| | | Pre-Acquisition (June 1986) | | | | | Post-Acquisition (June 1988) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | Weekly Frequencies | | | |
| Hub Class | Markets/Distance | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| L | Houston, TX (IAH) | TWA | 34 | | | 34 | TWA | 28 | | | 28 |
| | (667) | Continental | - | | | 0 | Continental | 14 | | | 14 |
| | | Total | 34 | 0 | 0 | 34 | Total | 42 | 0 | 0 | 42 |
| - | Houston, TX (HOU) | Ozark | 28 | | | 28 | Ozark | - | | | 0 |
| | (687) | TWA | - | | | 0 | TWA | 28 | | | 28 |
| | | Eastern | - | | | 0 | Eastern | - | 6 | | 6 |
| | | Southwest | 20 | 6 | | 26 | Southwest | 32 | | | 32 |
| | | Total | 48 | 6 | 0 | 54 | Total | 60 | 6 | 0 | 60 |
| | HOU Community | HOU Total | 82 | 6 | 0 | 88 | HOU Total | 102 | 6 | 0 | 102 |
| M | Indianapolis, IN (IND) | Ozark | 20 | | | 20 | Ozark | - | | | 0 |
| | (229) | TWA | 35 | 7 | | 42 | TWA | 42 | | | 42 |
| | | Total | 55 | 7 | 0 | 62 | Total | 42 | 0 | 0 | 42 |
| L | Kansas City, MO (MCI) | USAir | 12 | | | 12 | USAir | 12 | | | 12 |
| | (238) | Eastern | 7 | | | 7 | Eastern | 7 | | | 7 |
| | | Ozark | 45 | | | 45 | Ozark | - | | | 0 |
| | | TWA | 69 | 17 | | 86 | TWA | 58 | | | 58 |
| | | Braniff | - | | | 0 | Braniff | 27 | | | 27 |
| | | Total | 133 | 17 | 0 | 150 | Total | 104 | 0 | 0 | 104 |
| L | Las Vegas, NV (LAS) | Ozark | 6 | | | 6 | Ozark | - | | | 0 |
| | (1372) | TWA | 21 | | | 21 | TWA | 21 | | | 21 |
| | | Braniff | - | | | 0 | Braniff | - | 6 | | 6 |
| | | Southwest | - | | | 0 | Southwest | - | - | 6 | 6 |
| | | Total | 27 | 0 | 0 | 27 | Total | 21 | 6 | 6 | 33 |
| S | Louisville, KY (SDF) | Ozark | 20 | | | 20 | Ozark | - | | | 0 |
| | (254) | TWA | 35 | | | 35 | TWA | 34 | | | 34 |
| | | Total | 55 | 0 | 0 | 55 | Total | 34 | 0 | 0 | 34 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| L | Miami, FL (MIA) (1068) | Eastern | 7 | | | 7 | Eastern | 7 | | | 7 |
| | | Ozark | 9 | 7 | | 16 | Ozark | - | | | 0 |
| | | TWA | 23 | | | 23 | TWA | 39 | | | 39 |
| | | Total | 39 | 7 | 0 | 46 | Total | 46 | 0 | 0 | 46 |
| - | Fort Lauderdale, FL (FLL) (1056) | Ozark | 14 | | | 14 | Ozark | - | | | 0 |
| | | TWA | - | 7 | | 7 | TWA | 7 | 14 | | 21 |
| | | Total | 14 | 7 | 0 | 21 | Total | 7 | 14 | 0 | 21 |
| | MIA Community | MIA Total | 53 | 14 | 0 | 67 | MIA Total | 53 | 14 | 0 | 67 |
| M | Milwaukee, WI (MKE) (317) | Ozark | 28 | 13 | | 41 | Ozark | - | | | 0 |
| | | TWA | 21 | | | 21 | TWA | 39 | | | 39 |
| | | Total | 49 | 13 | 0 | 62 | Total | 39 | 0 | 0 | 39 |
| L | Minneapolis/St. Paul, MN (MSP) (448) | Eastern | 7 | | | 7 | Eastern | - | | | 0 |
| | | Northwest | 20 | | | 20 | Northwest | 27 | | | 27 |
| | | Republic | 28 | | | 28 | Republic | - | | | 0 |
| | | Ozark | 27 | 7 | | 34 | Ozark | - | | | 0 |
| | | TWA | 20 | | | 20 | TWA | 42 | | | 42 |
| | | Total | 102 | 7 | 0 | 109 | Total | 69 | 0 | 0 | 69 |
| M | Nashville, TN (BNA) (271) | Ozark | 19 | | | 19 | Ozark | - | | | 0 |
| | | TWA | 28 | | | 28 | TWA | 28 | | | 28 |
| | | Total | 47 | 0 | 0 | 47 | Total | 28 | 0 | 0 | 28 |
| M | New Orleans, LA (MSY) (604) | Ozark | 20 | | | 20 | Ozark | - | | | 0 |
| | | TWA | 20 | | | 20 | TWA | 28 | | | 28 |
| | | Delta | - | 12 | | 12 | Delta | - | | | 0 |
| | | People Express | - | 7 | | 7 | People Express | - | | | 0 |
| | | Total | 40 | 19 | 0 | 59 | Total | 28 | 0 | 0 | 28 |

OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) (Cont.)

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L | New York, NY (LGA) (888) | Ozark | 20 | | | 20 | Ozark | - | | | 0 |
| | | TWA | 52 | 14 | | 66 | TWA | 51 | 7 | | 58 |
| | | United | - | 7 | | 7 | United | - | | | 0 |
| | | USAir | - | | | 0 | USAir | - | 7 | | 7 |
| | | Total | 72 | 21 | 0 | 93 | Total | 51 | 14 | 0 | 65 |
| L | New York, NY (JFK) (892) | TWA | 23 | 35 | 28 | 86 | TWA | 47 | 28 | | 75 |
| L | New York, NY (EWR) (872) | People Express | 28 | | | 28 | People Express | - | | | 0 |
| | | TWA | 35 | | | 35 | TWA | 42 | | | 42 |
| | | United | - | | | 0 | United | - | 6 | | 6 |
| | | Total | 63 | 0 | 0 | 63 | Total | 42 | 6 | 0 | 48 |
| | NYC Community | NYC Total | 158 | 56 | 28 | 242 | NYC Total | 140 | 48 | 0 | 188 |
| M | Oklahoma City, OK (OKC) (462) | Ozark | 18 | 1 | | 19 | Ozark | - | | | 0 |
| | | TWA | 27 | 7 | | 34 | TWA | 35 | | | 35 |
| | | Southwest | - | 13 | | 13 | Southwest | 13 | | | 13 |
| | | Total | 45 | 21 | 0 | 66 | Total | 48 | 0 | 0 | 48 |
| M | Omaha, NE (OMA) (342) | Ozark | 28 | | | 28 | Ozark | - | | | 0 |
| | | TWA | 28 | | | 28 | TWA | 35 | | | 35 |
| | | Total | 56 | 0 | 0 | 56 | Total | 35 | 0 | 0 | 35 |
| L | Orlando, FL (MCO) (881) | Ozark | 28 | | | 28 | Ozark | - | | | 0 |
| | | TWA | 7 | | | 7 | TWA | 35 | | | 35 |
| | | Total | 35 | 0 | 0 | 35 | Total | 35 | 0 | 0 | 35 |
| N | Peoria, IL (PIA) (137) | Ozark | 27 | | | 27 | Ozark | - | | | 0 |
| | | TWA | 14 | | | 14 | TWA | 28 | 7 | | 35 |
| | | Total | 41 | 0 | 0 | 41 | Total | 28 | 7 | 0 | 35 |

| | | Pre-Acquisition (June 1986) | | | | | Post-Acquisition (June 1988) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | Weekly Frequencies | | | |
| Hub Class | Markets/Distance | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| OZARK/TWA OVERLAP MARKETS (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| L | Philadelphia, PA (PHL) | Ozark | 13 | 7 | | 20 | Ozark | - | | | 0 |
| | (813) | TWA | 28 | | | 28 | TWA | 34 | | | 34 |
| | | Republic | - | 7 | | 7 | Republic | - | | | 0 |
| | | Total | 41 | 14 | 0 | 55 | Total | 34 | 0 | 0 | 34 |
| M | San Antonio, TX (SAT) | Ozark | 27 | | | 27 | Ozark | - | | | 0 |
| | (786) | TWA | 30 | | | 30 | TWA | 35 | | | 35 |
| | | Southwest | - | | | 0 | Southwest | - | 6 | | 6 |
| | | Total | 57 | 0 | 0 | 57 | Total | 35 | 6 | 0 | 41 |
| L | San Diego, CA (SAN) | Ozark | 8 | | | 8 | Ozark | - | | | 0 |
| | (1557) | TWA | 32 | | | 32 | TWA | 35 | | | 35 |
| | | Frontier | - | - | 6 | 6 | Frontier | - | | | 0 |
| | | Southwest | - | - | 7 | 7 | Southwest | - | 6 | | 6 |
| | | Total | 40 | 0 | 13 | 53 | Total | 35 | 6 | 0 | 41 |
| L | Tampa, FL (TPA) | Ozark | 28 | | | 28 | Ozark | - | | | 0 |
| | (869) | TWA | 14 | | | 14 | TWA | 28 | | | 28 |
| | | Total | 42 | 0 | 0 | 42 | Total | 28 | 0 | 0 | 28 |
| M | Tulsa, OK (TUL) | Ozark | 13 | 6 | | 19 | Ozark | - | | | 0 |
| | (351) | TWA | 35 | | | 35 | TWA | 35 | | | 35 |
| | | Southwest | 27 | | | 27 | Southwest | 13 | | | 13 |
| | | Total | 75 | 6 | 0 | 81 | Total | 48 | 0 | 0 | 48 |
| L | Washington, DC (DCA) | Ozark | 26 | | | 26 | Ozark | - | | | 0 |
| | (719) | TWA | 61 | 20 | | 81 | TWA | 67 | | | 67 |
| | | Piedmont | - | | | 0 | Piedmont | - | 7 | | 7 |
| | | Total | 87 | 20 | 0 | 107 | Total | 67 | 7 | 0 | 74 |
| L | Washington, DC (IAD) | TWA | 18 | | | 18 | TWA | 20 | | | 20 |
| | (696) | | | | | | | | | | |
| | WAS Community | WAS Total | 105 | 20 | 0 | 125 | WAS Total | 87 | 7 | 0 | 94 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TWA ONLY (PRE-ACQUISITION) | | | | | | | | | | | |
| M | Albuquerque, NM (ABQ) | TWA | 35 | | | 35 | TWA | 49 | | | 49 |
| | (934) | United | - | 7 | | 7 | United | - | | | 0 |
| | | Total | 35 | 7 | 0 | 42 | Total | 49 | 0 | 0 | 49 |
| M | Austin, TX (AUS) | TWA | 7 | 7 | | 14 | TWA | 14 | | | 14 |
| | (717) | Southwest | - | | | 0 | Southwest | - | 5 | | 5 |
| | | Total | 7 | 7 | 0 | 14 | Total | 14 | 5 | 0 | 19 |
| L | Boston, MA (BOS) (1046) | TWA | 28 | 1 | 7 | 36 | TWA | 34 | 2 | | 36 |
| M | Cincinnati, OH (CVG) | TWA | 28 | 7 | | 35 | TWA | 28 | | | 28 |
| | (308) | Delta | - | | | 0 | Delta | 12 | | | 12 |
| | | Total | 28 | 7 | 0 | 35 | Total | 40 | 0 | 0 | 40 |
| S | Colorado Springs, CO (COS) (774) | TWA | 21 | | | 21 | TWA | 21 | 7 | | 28 |
| M | Columbus, OH (CMH) | TWA | 35 | 12 | | 47 | TWA | 42 | 6 | | 48 |
| | (410) | American | - | | | 0 | American | - | 7 | | 7 |
| | | Total | 35 | 12 | 0 | 47 | Total | 42 | 13 | 0 | 55 |
| M | Dayton, OH (DAY) (339) | TWA | 35 | 7 | | 42 | TWA | 41 | | | 41 |
| S | Harrisburg, PA (MDT) | TWA | 7 | 14 | | 21 | TWA | 14 | 7 | | 21 |
| | (773) | United | - | 7 | | 7 | United | - | | | 0 |
| | | Total | 7 | 21 | 0 | 28 | Total | 14 | 7 | 0 | 21 |
| M | Hartford, CT (BDL) | TWA | 21 | | | 21 | TWA | 21 | | | 21 |
| | (957) | People Express | - | 7 | | 7 | People Express | - | | | 0 |
| | | Republic | - | 7 | | 7 | Republic | - | | | 0 |
| | | United | - | 7 | | 7 | United | - | | | 0 |
| | | Total | 21 | 21 | 0 | 42 | Total | 21 | 0 | 0 | 21 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TWA ONLY (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| L | Los Angeles, CA (LAX) (1592) | TWA | 64 | 14 | | 78 | TWA | 77 | | | 77 |
| | | American | - | | | 0 | American | - | 7 | | 7 |
| | | Braniff | - | | | 0 | Braniff | - | 7 | | 7 |
| | | Delta | - | | | 0 | Delta | - | - | 7 | 7 |
| | | Western | - | 7 | | 7 | Western | - | | | 0 |
| | | Frontier | - | 13 | | 13 | Frontier | - | | | 0 |
| | | Southwest | - | - | 6 | 6 | Southwest | - | - | 13 | 13 |
| | | Total | 64 | 34 | 6 | 104 | Total | 77 | 14 | 20 | 111 |
| - | Burbank, CA (BUR) (1584) | TWA | 14 | | | 14 | TWA | 14 | | | 14 |
| - | Orange County, CA (SNA) (1570) | TWA | - | | | 0 | TWA | 14 | | | 14 |
| | | American | - | | | 0 | American | - | 14 | | 14 |
| | | Frontier | - | 7 | | 7 | Frontier | - | | | 0 |
| | | Western | - | 6 | | 6 | Western | - | | | 0 |
| | | Total | - | 13 | | 13 | Total | 14 | 14 | 0 | 28 |
| | LAX Community | LAX Total | 78 | 47 | 6 | 131 | LAX Total | 105 | 28 | 20 | 153 |
| M | Norfolk, VA (ORF) (784) | TWA | 6 | 19 | | 25 | TWA | 14 | 7 | | 21 |
| M | Ontario, CA (ONT) (1547) | TWA | 28 | | | 28 | TWA | 21 | | | 21 |
| | | American | - | | | 0 | American | - | 6 | | 6 |
| | | Delta | - | | | 0 | Delta | - | 7 | | 7 |
| | | Southwest | - | - | 7 | 7 | Southwest | - | - | 6 | 6 |
| | | Total | 28 | 0 | 7 | 35 | Total | 21 | 13 | 6 | 40 |
| L | Phoenix, AZ (PHX) (1262) | TWA | 32 | | | 32 | TWA | 35 | | | 35 |
| | | Southwest | - | 13 | 13 | 26 | Southwest | 11 | 26 | | 37 |
| | | Total | 32 | 13 | 13 | 58 | Total | 46 | 26 | 0 | 72 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TWA ONLY (PRE-ACQUISITION) (Cont.) | | | | | | | | | | | |
| M | Portland, OR (PDX) (1708) | TWA | 14 | 7 | | 21 | TWA | 7 | 7 | | 14 |
| | | American | - | 14 | | 14 | American | - | | | 0 |
| | | Western | - | 7 | | 7 | Western | - | | | 0 |
| | | Total | 14 | 28 | 0 | 42 | Total | 7 | 7 | 0 | 14 |
| L | San Francisco, CA (SFO) (1735) | TWA | 45 | | | 45 | TWA | 56 | 7 | | 63 |
| | | Braniff | - | | | 0 | Braniff | - | - | 6 | 6 |
| | | Southwest | - | - | 6 | 6 | Southwest | - | - | 6 | 6 |
| | | United | - | - | 7 | 7 | United | - | | | 0 |
| | | Total | 45 | 0 | 13 | 58 | Total | 56 | 7 | 12 | 75 |
| M | San Jose, CA (SJC) (1715) | TWA | 14 | | | 14 | TWA | 14 | | | 14 |
| L | Seattle, WA (SEA) (1709) | TWA | 28 | | | 28 | TWA | 21 | | | 21 |
| | | American | - | - | 7 | 7 | American | - | | | 0 |
| | | Total | 28 | 0 | 7 | 35 | Total | 21 | 0 | 0 | 21 |
| M | Syracuse, NY (SYR) (804) | TWA | 14 | | | 14 | TWA | 20 | | | 20 |
| S | Toledo, OH (TOL) (399) | TWA | 21 | | | 21 | TWA | 14 | | | 14 |
| M | Tucson, AZ (TUS) (1244) | TWA | 21 | | | 21 | TWA | 14 | 7 | | 21 |
| S | Wichita, KS (ICT) (392) | TWA | 28 | | | 28 | TWA | 35 | | | 35 |
| | | Braniff | - | | | 0 | Braniff | - | 7 | | 7 |
| | | Total | 28 | 0 | 0 | 28 | Total | 35 | 7 | 0 | 42 |
| ------- | | | | | | | | | | | |
| S | Lexington, KY (LEX) (317) | TWA | - | | | 0 | TWA | 14 | 14 | | 28 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TWA & OTHERS (PRE-ACQUISITION) | | | | | | | | | | | |
| S | Little Rock, AR (LIT) | TWA | 27 | | | 27 | TWA | 34 | | | 34 |
| | (296) | United | 7 | | | 7 | United | - | | | 0 |
| | | Southwest | 6 | | | 6 | Southwest | 7 | | | 7 |
| | | Total | 40 | 0 | 0 | 40 | Total | 41 | 0 | 0 | 41 |
| L | Memphis, TN (MEM) | TWA | 14 | | | 14 | TWA | 21 | | | 21 |
| | (256) | Delta | 18 | | | 18 | Delta | - | | | 0 |
| | | Northwest | - | | | 0 | Northwest | 28 | | | 28 |
| | | Republic | 34 | | | 34 | Republic | - | | | 0 |
| | | Total | 66 | 0 | 0 | 66 | Total | 49 | 0 | 0 | 49 |
| L | Pittsburgh, PA (PIT) | TWA | 28 | | | 28 | TWA | 35 | | | 35 |
| | (553) | Delta | - | | | 0 | Delta | - | 5 | | 5 |
| | | USAir | 21 | | | 21 | USAir | 21 | | | 21 |
| | | Total | 49 | 0 | 0 | 49 | Total | 56 | 5 | 0 | 61 |
| L | Salt Lake City, UT (SLC) | TWA | 21 | | | 21 | TWA | 21 | | | 21 |
| | (1156) | American | - | 7 | | 7 | American | - | | | 0 |
| | | Republic | - | 7 | | 7 | Republic | - | | | 0 |
| | | United | - | | | 0 | United | - | 14 | | 14 |
| | | Delta | - | | | 0 | Delta | 21 | | | 21 |
| | | Western | 21 | | | 21 | Western | - | | | 0 |
| | | Total | 42 | 14 | 0 | 56 | Total | 42 | 14 | 0 | 56 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OZARK ONLY (PRE-ACQUISITION) | | | | | | | | | | | |
| S | Cedar Rapids, IA (CID) | Ozark | 15 | 19 | | 34 | Ozark | - | | | 0 |
| | (228) | TWA | - | | | 0 | TWA | 28 | 13 | | 41 |
| | | Total | 15 | 19 | 0 | 34 | Total | 28 | 13 | 0 | 41 |
| N | Champaign, IL (CMI) | Ozark | 20 | 7 | | 27 | Ozark | - | | | 0 |
| | (143) | TWA | - | | | 0 | TWA | 14 | 14 | | 28 |
| | | Total | 20 | 7 | 0 | 27 | Total | 14 | 14 | 0 | 28 |
| M | Ft. Myers, FL (RSW) | Ozark | 7 | 14 | | 21 | Ozark | - | | | 0 |
| | (979) | TWA | - | | | 0 | TWA | 7 | 21 | | 28 |
| | | United | - | | | 0 | United | - | 6 | | 6 |
| | | Total | 7 | 14 | 0 | 21 | Total | 7 | 27 | 0 | 34 |
| M | Jacksonville, FL (JAX) | Ozark | 7 | 13 | | 20 | Ozark | - | | | 0 |
| | (753) | TWA | - | | | 0 | TWA | 14 | | | 14 |
| | | Eastern | - | 7 | | 7 | Eastern | - | 7 | | 7 |
| | | Total | 7 | 20 | 0 | 27 | Total | 14 | 7 | 0 | 21 |
| S | Lincoln, NE (LNK) | Ozark | 14 | 14 | | 28 | Ozark | - | | | 0 |
| | (370) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Total | 14 | 14 | 0 | 28 | Total | 21 | 0 | 0 | 21 |
| S | Madison, WI (MSN) | Ozark | 20 | 21 | | 41 | Ozark | - | | | 0 |
| | (308) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Total | 20 | 21 | 0 | 41 | Total | 21 | 0 | 0 | 21 |
| S | Moline, IL (MLI) | Ozark | 41 | | | 41 | Ozark | - | | | 0 |
| | (187) | TWA | - | | | 0 | TWA | 41 | | | 41 |
| | | Total | 41 | 0 | 0 | 41 | Total | 41 | 0 | 0 | 41 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | Weekly Frequencies | | | |
| **OZARK ONLY (PRE-ACQUISITION) (Cont.)** | | | | | | | | | | | |
| S | Moline, IL (MLI) | Ozark | 41 | | | 41 | Ozark | - | | | 0 |
| | (187) | TWA | - | | | 0 | TWA | 41 | | | 41 |
| | | Total | 41 | 0 | 0 | 41 | Total | 41 | 0 | 0 | 41 |
| S | Madison, WI (MSN) | Ozark | 20 | 21 | | 41 | Ozark | - | | | 0 |
| | (308) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Total | 20 | 21 | 0 | 41 | Total | 21 | 0 | 0 | 21 |
| M | West Palm Beach, FL (PBI) | Ozark | 2 | 5 | | 7 | Ozark | - | | | 0 |
| | (1023) | TWA | - | 14 | | 14 | TWA | 7 | 7 | | 14 |
| | | Total | 2 | 19 | 0 | 21 | Total | 7 | 7 | 0 | 14 |
| M | Raleigh/Durham, NC (RDU) | Ozark | 1 | 19 | | 20 | Ozark | - | | | 0 |
| | (667) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Total | 1 | 19 | 0 | 20 | Total | 21 | 0 | 0 | 21 |
| N | Rochester, MN (RST) | Ozark | 5 | | | 5 | Ozark | - | | | 0 |
| | (373) | | | | | | | | | | |
| M | Ft. Myers, FL (RSW) | Ozark | 7 | 14 | | 21 | Ozark | - | | | 0 |
| | (979) | TWA | - | | | 0 | TWA | 7 | 21 | | 28 |
| | | United | - | | | 0 | United | - | 6 | | 6 |
| | | Total | 7 | 14 | 0 | 21 | Total | 7 | 27 | 0 | 34 |
| N | Springfield, MO (SGF) | Ozark | 32 | | | 32 | Ozark | - | | | 0 |
| | (195) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Total | 32 | 0 | 0 | 32 | Total | 21 | 0 | 0 | 21 |
| S | Sarasota/Bradenton, FL (SRQ) | Ozark | 9 | 5 | | 14 | Ozark | - | | | 0 |
| | (903) | TWA | - | | | 0 | TWA | 7 | 7 | | 14 |
| | | Total | 9 | 5 | 0 | 14 | Total | 7 | 7 | 0 | 14 |

| Hub Class | Markets/Distance | Pre-Acquisition (June 1986) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OZARK & OTHERS (PRE-ACQUISITION) | | | | | | | | | | | |
| L | Charlotte, NC (CLT) | Ozark | 12 | 7 | | 19 | Ozark | - | | | 0 |
| | (575) | TWA | - | | | 0 | TWA | 21 | | | 21 |
| | | Piedmont | 14 | | | 14 | Piedmont | 21 | | | 21 |
| | | Total | 26 | 7 | 0 | 33 | Total | 42 | 0 | 0 | 42 |
| GRAND TOTALS | Air Carriers | American | 56 | 28 | 7 | 91 | American | 63 | 41 | 0 | 104 |
| | | Braniff | 0 | 0 | 0 | 0 | Braniff | 27 | 27 | 6 | 60 |
| | | Continental | 0 | 0 | 0 | 0 | Continental | 28 | 0 | 0 | 28 |
| | | Frontier | 27 | 20 | 6 | 53 | Frontier | 0 | 0 | 0 | 0 |
| | | People Express | 28 | 14 | 0 | 42 | People Express | 0 | 0 | 0 | 0 |
| | | Eastern | 55 | 7 | 0 | 62 | Eastern | 42 | 13 | 0 | 55 |
| | | Delta | 52 | 12 | 0 | 64 | Delta | 68 | 12 | 7 | 87 |
| | | Western | 21 | 20 | 0 | 41 | Western | 0 | 0 | 0 | 0 |
| | | Northwest | 20 | 0 | 0 | 20 | Northwest | 76 | 0 | 0 | 76 |
| | | Republic | 89 | 21 | 0 | 110 | Republic | 0 | 0 | 0 | 0 |
| | | Ozark | 946 | 193 | 6 | 1145 | Ozark | 0 | 0 | 0 | 0 |
| | | TWA | 1595 | 216 | 42 | 1853 | TWA | 2331 | 203 | 0 | 2534 |
| | | USAir | 33 | 0 | 0 | 33 | USAir | 33 | 7 | 0 | 40 |
| | | Piedmont | 14 | 0 | 6 | 20 | Piedmont | 21 | 14 | 0 | 35 |
| | | Pan American | 7 | 0 | 0 | 7 | Pan American | 0 | 0 | 0 | 0 |
| | | Southwest | 93 | 32 | 39 | 164 | Southwest | 155 | 88 | 31 | 274 |
| | | Jet America | 14 | 0 | 0 | 14 | Jet America | 0 | 0 | 0 | 0 |
| | | United | 70 | 28 | 7 | 105 | United | 61 | 33 | 0 | 94 |
| | Airport | Total | 3120 | 591 | 113 | 3824 | | 2905 | 438 | 44 | 3387 |

LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT
Weekly Frequencies, Single-Plane Scheduled Regional Service (Nonstop Markets)
June 1986 and June 1988

| | Pre-Acquisition (June 1986) | | | | | | Post-Acquisition (June 1988) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | | Weekly Frequencies | | | |
| Markets/Distance | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| AIR MIDWEST (OZ*)/RESORT AIR (TW*) OVERLAP MARKETS (PRE-ACQUISITION): | | | | | | | | | | | | |
| Bloomington, IL (BMI) | OZ* | Air Midwest | 32 | 1 | | 33 | TW* | Air Midwest | 53 | | | 53 |
| (142) | RU | Britt | | 13 | | 13 | | | | | | |
| | TW* | Resort Air | 19 | 13 | | 32 | | | | | | |
| | | Total | 51 | 27 | | 78 | | | | | | |
| Columbia, MO (COU) | OZ* | Air Midwest | 52 | | | 52 | TW* | Resort Air | 84 | | | 84 |
| (100) | RU | Britt | 17 | | | 17 | | | | | | |
| | TW* | Resort Air | 37 | | | 37 | | | | | | |
| | | Total | 106 | | | 106 | | | | | | |
| Decatur, IL (DEC) | OZ* | Air Midwest | 33 | 7 | | 40 | TW* | Air Midwest | 53 | | | 53 |
| (110) | RU | Britt | 27 | | | 27 | | | | | | |
| | TW* | Resort Air | 24 | 7 | | 31 | | | | | | |
| | | Total | 84 | 14 | | 98 | | | | | | |
| Joplin, MO (JLN) | OZ* | Air Midwest | 32 | 1 | | 33 | TW* | Resort Air | 40 | 6 | | 46 |
| (251) | TW* | Resort Air | 12 | 6 | | 18 | | | | | | |
| | | Total | 44 | 7 | | 51 | | | | | | |
| Moline, IL (MLI) | OZ* | Air Midwest | 7 | | | 7 | TW* | Resort Air | 13 | | | 13 |
| (187) | TW* | Resort Air | 30 | | | 30 | | | | | | |
| | | Total | 37 | | | 37 | | | | | | |

| | | | Pre-Acquisition (June 1986) | | | | | | Post-Acquisition (June 1988) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | | Weekly Frequencies | | | |
| Markets/Distance | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| Springfield, MO (SGF) | OZ* | Air Midwest | 13 | 6 | 6 | 25 | TW* | Resort Air | 69 | | | 69 |
| (195) | TW* | Resort Air | 31 | | | 31 | | | | | | |
| | | Total | 44 | 6 | 6 | 56 | | | | | | |
| Springfield, IL (SPI) | OZ* | Air Midwest | 55 | | | 55 | TW* | Resort Air | 89 | | | 89 |
| ( 84) | RU | Britt | 31 | | | 31 | | | | | | |
| | TW* | Resort Air | 37 | | | 37 | | | | | | |
| | | Total | 123 | | | 123 | | | | | | |
| OTHER COMPETITIVE MARKETS (PRE-ACQUISITION): | | | | | | | | | | | | |
| Lake of the Ozarks (AIZ) | TW* | Resort Air | 6 | 24 | | 30 | | | | | | |
| (127) | XU | Trans Mo | | 22 | | 22 | | | | | | |
| | | Total | 6 | 46 | | 52 | | | | | | |
| Evansville, IN (EVV) | OZ* | Air Midwest | 40 | | | 40 | TW* | Air Midwest | 66 | 7 | | 73 |
| (161) | RU | Britt | 32 | 7 | | 39 | | | | | | |
| | | Total | 72 | 7 | | 79 | | | | | | |
| Marion, IL (MWA) | OZ* | Air Midwest | 40 | | | 40 | TW* | Air Midwest | 40 | | | 40 |
| (100) | RU | Britt | 39 | | | 39 | | | | | | |
| | | Total | 79 | | | 79 | | | | | | |
| Paducah, KY (PAH) | OZ* | Air Midwest | 32 | 8 | | 40 | TW* | Air Midwest | 33 | | | 33 |
| (145) | AL* | Air Kentucky | | 6 | | 6 | | | | | | |
| | RU | Britt | 17 | 14 | | 31 | | | | | | |
| | | Total | 49 | 28 | | 77 | | | | | | |

| | Pre-Acquisition (June 1986) | | | | | | Post-Acquisition (June 1988) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | | Weekly Frequencies | | | |
| Markets/Distance | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| NON-COMPETITIVE MARKETS (PRE-ACQUISITION): | | | | | | | | | | | | |
| Burlington, IA (BRL) (146) | RU | Britt | 25 | 8 | | 33 | TW* | Resort Air | 26 | | | 26 |
| Cape Girardeau, MO (CGI) (114) | RU | Britt | 26 | | | 26 | TW* | Air Midwest | 20 | 6 | | 26 |
| Champaign, IL (CMI) (143) | RU | Britt | 24 | | | 24 | TW* | Air Midwest | 34 | | | 34 |
| Cincinnati, OH (CVG) (308) | DL* | Comair | 17 | | | 17 | DL* | Comair | 13 | | | 13 |
| Fort Smith, AR (FSM) (323) | OZ* | Air Midwest | 7 | 12 | | 19 | TW* | Air Midwest | 25 | 1 | | 26 |
| Fayetteville, AR (FYV) (282) | OZ* | Air Midwest | 12 | 14 | 1 | 27 | TW* | Air Midwest | 26 | | | 26 |
| Kirksville, MO (IRK) (149) | NG | Green Hills | 12 | | | 12 | | | | | | |
| Jefferson City, MO (JEF) ( 97) | XU | Trans Mo | 22 | | | 22 | | | | | | |

| Markets/Distance | Pre-Acquisition (June 1986) OAG Code | Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total | Post-Acquisition (June 1988) OAG Code | Carrier | Weekly Frequencies Non-Stop | One-Stop | Two or More Stops | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mount Vernon, IL (MVN) ( 87) | AL* | Air Kentucky | 12 | | | 12 | DE | Prime Air | 12 | | | 12 |
| Peoria, IL (PIA) (137) | TW* | Resort Air | 31 | 6 | | 37 | TW* | Resort Air | 39 | | | 39 |
| Fort Leonard Wood, MO (TBN) (119) | OZ* | Air Midwest | 20 | | | 20 | TW* | Air Midwest | 13 | | | 13 |
| Quincy, IL (UIN) ( 94) | RU | Britt | 33 | | | 33 | TW* | Air Midwest | 33 | | | 33 |
| **NEW REGIONAL MARKETS IN JUNE 1988:** | | | | | | | | | | | | |
| Harrison, AR (HRO) (230) | | | | | | | AD | Exec Express | 12 | | | 12 |
| Waterloo, IA (ALO) (284) | | | | | | | TW* | Air Midwest | 27 | | | 27 |
| Carbondale, IL (MDH) ( 90) | | | | | | | DE | Prime Air | 1 | 11 | | 12 |
| Rochester, MN (RST) (373) | | | | | | | TW* | Air Midwest | 27 | | | 27 |
| South Bend, IN (SBN) (296) | | | | | | | TW* | Air Midwest | 20 | | | 20 |
| Knoxville, TN (TYS) (405) | | | | | | | TW* | Air Midwest | 20 | | | 20 |

| | Pre-Acquisition (June 1986) | | | | | | Post-Acquisition (June 1988) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Frequencies | | | | | | Weekly Frequencies | | | |
| Markets/Distance | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total | OAG Code | Carrier | Non-Stop | One-Stop | Two or More Stops | Total |
| **GRAND TOTALS** | | | | | | | | | | | | |
| Regional Carriers | OZ* | Air Midwest | 375 | 49 | 7 | 431 | TW* | Air Midwest | 490 | 14 | 0 | 504 |
| | RU | Britt | 271 | 42 | 0 | 313 | RU | Britt | 0 | 0 | 0 | 0 |
| | TW* | Resort Air | 227 | 56 | 0 | 283 | TW* | Resort Air | 360 | 6 | 0 | 366 |
| | XU | Trans Mo | 22 | 22 | 0 | 44 | XU | Trans Mo | 0 | 0 | 0 | 0 |
| | AL* | Air Kentucky | 12 | 6 | 0 | 18 | AL* | Air Kentucky | 0 | 0 | 0 | 0 |
| | DL* | Comair | 17 | 0 | 0 | 17 | DL* | Comair | 13 | 0 | 0 | 13 |
| | NG | Green Hills | 12 | 0 | 0 | 12 | NG | Green Hills | 0 | 0 | 0 | 0 |
| | | | | | | | DE | Prime Air | 13 | 11 | 0 | 24 |
| | | | | | | | AD | Exec Express | 12 | 0 | 0 | 12 |
| Airport | | Total | 936 | 175 | 7 | 1118 | | | 888 | 31 | 0 | 919 |

APPENDIX III

ALTERNATIVE HUBS
SINGLE-PLANE SERVICE
JUNE 1988

| | June 1986 Nonstop Competitive Situation At St. Louis[1] | Alternative Hubs | Number of Carriers | Number of Stops |
|---|---|---|---|---|
| Markets With 3 or More Alternate Hubs: | | | | |
| Champaign, IL | NC | Chicago | 3 | 0 |
| | | Cincinnati | 1 | 0 |
| | | Indianapolis | 1 | 0 |
| | | Louisville | 1 | 0 |
| Cincinnati, OH | NC | Chicago | 4 | 0 |
| | | Kansas City | 1 | 0 |
| | | Dallas/Ft. Worth | 2 | 0 |
| Fayetteville, AR | NC | Dallas/Ft. Worth | 2 | 0 |
| | | Kansas City | 1 | 0 |
| | | Memphis | 1 | 0 |
| Knoxville, TN | -- | Atlanta | 2 | 0 |
| | | Chicago | 1 | 0 |
| | | Circinnati | 1 | 0 |
| Moline, IL | OV | Chicago | 4 | 0 |
| | | Kansas City | 1 | 0 |
| | | Minneapolis | 1 | 0 |
| Paducah, KY | OC | Dayton | 1 | 0 |
| | | Detroit | 1 | 1 |
| | | Indianapolis | 1 | 0 |
| | | Nashville | 1 | 0 |
| | | Philadelphia | 1 | 0 |
| | | Pittsburgh | 1 | 1 |
| | | Memphis | 1 | 0 |
| Peoria, IL | NC | Chicago | 4 | 0 |
| | | Indianapolis | 1 | 0 |
| | | Minneapolis | 1 | 0 |
| South Bend, IN | -- | Chicago | 4 | 0 |
| | | Detroit | 1 | 0 |
| | | Kansas City | 3 | 0 |
| Springfield, MO | OV | Kansas City | 1 | 0 |
| | | Dallas/Ft. Worth | 1 | 0 |
| | | Denver | 1 | 0 |

| | June 1986 Nonstop Competitive Situation At St. Louis[1] | Alternative Hubs | Number of Carriers | Number of Stops |
|---|---|---|---|---|
| Markets With 2 Alternate Hubs: | | | | |
| Bloomington, IL | OV | Chicago | 2 | 0 |
| | | Kansas City | 1 | 1 |
| Decatur, IL | OV | Chicago | 1 | 0 |
| | | Indianapolis | 1 | 0 |
| Evansville, IN | OC | Chicago | 3 | 0 |
| | | Cincinnati | 1 | 0 |
| Fort Smith, AR | NC | Dallas/Ft. Worth | 2 | 0 |
| | | Memphis | 1 | 0 |
| Joplin, MO | OV | Memphis | 1 | 0 |
| | | Kansas City | 1 | 0 |
| Rochester, MN | -- | Minneapolis | 1 | 0 |
| | | Chicago | 1 | 0 |
| Springfield, IL | OV | Chicago | 3 | 0 |
| | | Indianapolis | 1 | 0 |
| Waterloo, IA | -- | Memphis | 1 | 0 |
| | | Minneapolis | 1 | 0 |
| Markets With 1 Alternate Hub: | | | | |
| Burlington, IA | NC | Chicago | 1 | 1 |
| Columbia, MO | OV | Kansas City | 1 | 0 |
| Harrison, AR | -- | Memphis | 1 | 1 |
| Quincy, IL | NC | Chicago | 1 | 1 |
| Markets With No Alternate Hubs: | | | | |
| Cape Girardeau, MO | NC | -- | -- | -- |
| Carbondale, IL | -- | -- | -- | -- |
| Ft. Leonard Wood, MO | NC | -- | -- | -- |
| Marion, IL | OC | -- | -- | -- |
| Mount Vernon, IL | NC | -- | -- | -- |

1. The June 1986 nonstop competitive situation at St. Louis:

OV = overlap markets or markets in which Air Midwest (OZ*) and Resort Air (TW*) competed prior to the acquisition.

OC = other competitive markets or markets in which Air Midwest (OZ*) or Resort Air (TW*) competed with other regional carriers.

NC = noncompetitive markets or markets which were served by only one regional carrier.

-- = markets which had no nonstop regional service to St. Louis.