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CREATING COMPETITION AMONG AIRLINES*

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BEGINNING with the *New York-Chicago Case*, decided in September, 1955, the Civil Aeronautics Board has, by a series of decisions since that date, awarded route extensions that broadened the route systems of all of the domestic trunkline carriers to a greater or lesser extent. In many of these route awards, selected carriers were authorized to operate over routes already served by other carriers. The competitive aspects of these awards of parallel routes are the subject of this paper.

Reasons for CAB's Creation of Competition

This increase in the amount of direct competition among the airlines was the result of a conscious and expressed policy of the Board under the assumption that it is not necessary to support monopoly in order to protect existing carriers and that competition between carriers, where the traffic is adequate to support the competing carriers, is in the public interest. This has been specifically stated by the Board.

"... competitive air service offers greater assurance that the public will receive the quality and quantity of air service to which it is entitled."¹

"We are no longer faced with the problem of heavy subsidy support for our trunkline carriers—which was a factor which necessarily inhibited the award of competitive services and, at an earlier date, made the question of diversion of particular importance. On the contrary, there has been a remarkable growth in the strength of many of our trunkline carriers, and the markets which they serve. This presents a greater opportunity than has existed heretofore for the establishment of competitive services. This does not mean, of course, that we are now free to authorize unlimited competition for an excess of competition can bring uneconomic conditions and jeopardize the development of that sound system of air transportation which is the ultimate objective of the Act. But it does mean that in sizeable markets with promising traffic potential we have greater freedom to introduce or enlarge competitive service to insure the full development of those markets without burdening the Federal Treasury."²

* This is a preliminary report on certain of the statistical aspects of a study under way at the Graduate School of Business at Columbia University under a grant to the author from that school's Faculty Research Fund. The final report of the project will be completed in 1958. The author is indebted to Mr. William A. Jordan, whose creative and thorough-going research assistance has been a major contribution.

¹ Civil Aeronautics Board Order No. E-9735, *Denver Service Case*, Docket No. 1841, *et al.*, dated November 14, 1955, page 7 (mimeographed decision).

² Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, pages 35-36 (mimeographed decision).

"Over the years the Civil Aeronautics Board has reaffirmed its belief in the need for effective competition to assure the high quality of service which regulation alone cannot provide."³

"Fundamental to the Act is the provision that the Board shall regard as in the public interest 'Competition to the extent necessary to assure the sound development of an air transportation system properly adapted to * * * our national needs. In the application of this provision, along with the other relevant factors bearing upon the public convenience and necessity, the Board has, over a period of years, authorized the expansion of our air transportation system in such a manner as to bring more and more competitive service to more and more communities. In taking these actions, the Board has not been guided by the negative concept of determining first whether the existing services met minimum standards of legal adequacy. Rather the Board has been influenced, in accordance with its statutory mandate, by the concept that competitive service holds the greatest prospect for vigorous development of our national air transport system with the fullest improvements in service and technological developments. Our recent decisions in the *New York-Chicago Case* and in the *Denver Service Case* fully reflect this policy."⁴

CAB Procedure for Creating Competition

Although the Board has a legislative mandate, as cited above, to regard competition as being in the public interest, the Board does not directly *create* competition. It *permits* it. Under the Act, no carrier may operate without a certificate of public convenience and necessity issued by the Civil Aeronautics Board. (There are some exceptions, unimportant for the purposes of this paper, which the Board permits under its exemption authority.) Therefore, there can be no competition, or, indeed, no service at all, without the authorization of the Board. (Exceptions to this are only the so-called "grandfather" routes, which were operated before the passage of the Civil Aeronautics Act.) However, the service offering which actually constitutes competition comes from the carriers, who, as a matter of practice, once authorized, offer as little or as much service as their abilities and judgment dictate.⁵

Thus, the Board, when it feels that there should be new or increased competition between two points, awards a route extension or modification to a selected carrier so that it may compete with the existing carrier or carriers. After that, the Board typically exercises no formal enforcement action with respect to how vigorously the new carrier

³ *Annual Report of the Civil Aeronautics Board, 1956*, U.S. Government Printing Office, Washington, D. C., 1956, page 1.

⁴ Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, page 10 (mimeographed decision).

⁵ Although, the Board, under Section 404(a) of the Civil Aeronautics Act, may enforce "adequate" service, the applicability to a situation involving a decision about what constitutes adequate or vigorous or effective *competitive* service is not clear. However, in the Supplemental Decision in the *New York-Florida Case*, Order No. E-10884, Docket No. 3051, *et al.*, page 12, there is a suggestion of the possibility of rescinding an authorization for failure to inaugurate service which the Board feels is necessary.

competes, how effective it is, or whether it inaugurates the newly authorized service at all.

To be sure, it may be and, on occasion, has been the case, that the Board has stimulated the offering of competitive service by posing the threat of an additional competitive award to still another carrier or carriers, and in other cases, it has made additional awards over routes where the authorized service had not been inaugurated, implying that, had the earlier award been implemented, the subsequent award might not have been made. For example, Capital Airlines had been authorized in the *Southwest-Northeast Service Case* to serve between Greensboro-High Point and Winston-Salem, on the one hand, and northeast cities, on the other hand, in competition with Eastern Air Lines. Capital's failure to institute this competitive service resulted in the Board's authorizing National to do so in the *New York-Florida Case* for the following reason, as given by the Board:

"As for Greensboro-High Point and Winston-Salem, the record indicates a considerable need for improved air service to the northeast cities. While we expected that our decision in the *Southwest-Northeast Case, supra*, extending Capital's route from Washington to New York via Philadelphia and Baltimore, would result in an improved service for those cities, that result has not as yet been achieved. We do not believe that in this instance it is necessary or desirable to require the cities to wait upon the carrier's convenience in inaugurating the needed new service."⁶

Capital's subsequent inauguration of this service resulted in the rescission of National's authorization (before it became effective) in the supplemental order of the *New York-Florida Case*. Also, in the *New York-Florida Case*,⁷ the Board stated, with respect to service between Hartford/Springfield and the Ohio Valley cities,

"The Examiner found correctly that Hartford should be added to route No. 2 as requested, in order that it be enabled to receive needed through service to the important Ohio Valley cities served by TWA. Both American and United assail the decision on the ground that American can now, as a result of our award in the *Southwest-Northeast Case, supra*, meet all the needs of the important Ohio Valley cities for Hartford/Springfield service. However, the Official Traffic Guide for September 1956, more than six months after our decision in the *Southwest-Northeast Case, supra*, does not show any direct through plane service by American between Hartford/Springfield and any of the Ohio Valley points. It is clear, therefore, that American's interest or ability with respect to the desired service is minimal and constitutes no bar to the granting of TWA's application."

In both cases, the tool used by the Board in actuating the service was, as noted above, its certification authority.

⁶ Civil Aeronautics Board Order No. E-10645, *New York-Florida Case*, Docket No. 3051, *et al.*, dated September 28, 1956, page 33 (mimeographed decision).

⁷ *Ibid.*, page 39.

Decisions Considered in This Paper

The cases involving competitive route awards which were decided between September 1, 1955, and December 31, 1956, are listed in Table 1.⁸

This paper will describe some of the results of these decisions with respect to competition by presenting some of the findings of a systematic statistical analysis of the decisions, the traffic levels under which the awards were made, the characteristics of the resulting route awards, and the competitive behavior of the competing carriers, both the new and the old.

Besides creating a pattern of competitive routes, these decisions resulted in the authorization of first single-plane service for many city pairs which were not formerly authorized for such service.

TABLE 1

CASES INVOLVING COMPETITION DECIDED BY THE CIVIL AERONAUTICS BOARD
BETWEEN SEPTEMBER 1, 1955 AND DECEMBER 31, 1956

<i>Docket No.</i>	<i>Name of Case</i>	<i>Date</i>	
		<i>Initial Decision</i>	<i>Effective</i>
986, <i>et al.</i>	New York-Chicago Service Case	9/1/55	10/31/55
1789, <i>et al.</i>	Reopened Milwaukee-Chicago-New York Restriction Case	9/1/55	10/31/55
2190	United Restriction Case	9/1/55	10/31/55
7253	Louisville-New York Nonstop Investigation	9/1/55	10/31/55
6503, <i>et al.</i>	Southwest Airways Renewal Case	9/27/55	11/26/55
986, <i>et al.</i>	New York-Chicago Case— Supplemental Opinion and Order on Deferred Applications	11/14/55	12/30/55
1841, <i>et al.</i>	Denver Service Case	11/14/55	12/30/55
2355, <i>et al.</i>	Southwest-Northeast Service Case	11/21/55	1/20/56
5564	Tucson Airport Authority Application	7/27/56	9/25/56
4294 and	Northwest Airlines, Pittsburgh- Cleveland and Detroit Restriction Case	8/21/56	10/20/56
	and		
986, <i>et al.</i>	New York-Chicago Service Case— (Deferred Portion of Eastern's Application)		
8134, 8139, 8175	Eastern Airlines, Inc., Huntsville- Madison County Airport Authority and Southern Airways, Inc.	8/28/56	8/28/56
5701, <i>et al.</i>	Florida-Texas Service Case	9/24/56	12/31/56
3051, <i>et al.</i>	New York-Florida Case	9/28/56	12/21/56

⁸ Subsequent cases will be included in the complete report of the study.

Definition of Single-Plane Service Authorization

In order to study the implications of these decisions with respect to the specific city pairs for which new service was authorized, it was necessary to adopt a standard definition of what constitutes "service authorization" for single-plane service between two cities. In this paper, a pair of cities is considered to have "authorized single-plane service" if:

1. a carrier is authorized to offer single-plane service between the two points with circuitry of not more than 15% with respect to the most direct alternative authorized routing, be it single-plane or connecting, or
2. when there is no alternative routing, a carrier is authorized to offer *any* single-plane service.

It should be noted that "single-plane service" as here used refers always to single-plane single-carrier service. None of the authorizations in the cases considered here involved interchange service.

Competitive Awards to Most Heavily Traveled Routes

In these decisions, the Board, in effect, peeled the top traffic-generating noncompetitive city pairs from the top of the rankings by traffic, and authorized competitive service for them. At the same time, by virtue of these selfsame carrier route extensions, many other city pairs shared in the competitive authorizations. For example, in the *New York-Florida Case*, Docket No. 3051, TWA was authorized to offer service between Hartford-Springfield and Las Vegas, Nevada, two points which exchange very little traffic and between which neither TWA nor United, the original carrier, offered single-plane service in September, 1957. Clearly, the Board did not set out, purposely or deliberately, to create competition between these two points. It resulted from the fact that, for other purposes, Hartford-Springfield was added to TWA's route which previously contained Las Vegas.

In much the same way, many of the city pairs which received their first authorizations for single-plane service, received these authorizations as a result of route awards that were made for other reasons. In these cases, there was no clear need for the service in terms of large volumes of traffic waiting to be served, the Board did not specifically and purposively authorize the new service between those city pairs, and the carrier will probably not offer the service for some time, if at all. An illustration of this is found in the *Tucson Airport Authority Case*, Docket No. 5564, where TWA was authorized to offer single-plane service between Tucson, Arizona and many other cities on TWA's route No. 2, including, say, Reading, Pennsylvania, for which city pair, single-plane service was certainly not an issue in that case.

However, the primary objective of many of the route awards was the authorization of competitive service for selected city pairs which, in the judgment of the Board, needed and justified competitive service. These are typically heavily traveled routes. The Board has indicated that the volume of traffic, both actual and potential, traveling between

these cities was an important factor in its decisions to award the competitive routes.

"In our judgment, the size and potential of the New York-Detroit market will now support three turnaround services rather than merely one heretofore operated by American. Thus, the record shows that in this area the New York-Detroit market is exceeded only by the New York-Chicago market, and yet American is the only unrestricted operator between New York and Detroit. The much smaller New York-Cleveland market has two turnaround services. Furthermore, the New York-Detroit market increased by 86 percent from 1949 to 1954. Under such circumstances, we have no hesitation in finding that the New York-Detroit market will support two additional turnaround services."⁹

"As previously indicated, we agree with the Examiner's conclusion that a competitive air service should be established between Dallas/Ft. Worth and the Northeast and that Memphis and Nashville should be served as intermediate points on this route. The predominant purpose of this new route is to provide a new service competitive with American between Dallas and Ft. Worth, on the one hand, and New York and Washington, on the other hand. In 1954, there were over 86,000 passengers exchanged between these cities; the New York-Dallas/Ft. Worth segment alone was, in terms of revenue passenger miles, the largest noncompetitive market in the country."¹⁰

"We shall also authorize American to provide service to Columbus on a routing through Pittsburgh to New York. The Columbus-New York market was 69th among the first 100 pairs of points, ranked by passengers, and is one of the top markets in which there is now no competitive service available."¹¹

"The question remains, of course, as to just how large a market need be before it will support competition or additional competition. No ready formula is available for this purpose; the decision must turn upon all the surrounding facts and circumstances. This has been true in the past and must continue to be true under our statute. But with the establishment of the larger domestic trunkline carriers on a firm subsidy-free footing, and the great growth and potential in existing markets, we feel warranted in enlarging competitive service in the manner authorized in this proceeding."¹²

"Where the markets are of sufficient size and importance to warrant a new service, and such service is shown to be economically feasible and consistent with the overall development of a sound air transportation system, the benefits of a fully competitive service by Northwest will not be withheld from the traveling public merely because Capital may be rendering adequate service within the legal minimum specified by Section 404(a) of the Act."¹³

"In decisions handed down since June 30, 1955, the Board increased competition on the trunkline routes. At the time of the final decision of the first of the trunkline-area cases, approximately

⁹ Civil Aeronautics Board Order No. E-9537, *New York-Chicago Case*, Docket No. 986, *et al.*, dated September 1, 1955, pages 7-8 (mimeographed decision).

¹⁰ Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, pages 9-10 (mimeographed decision).

¹¹ *Ibid.*, page 31.

¹² *Ibid.*, page 36.

¹³ Civil Aeronautics Board Order No. E-10550, *Northwest Airlines, Pittsburgh-Cleveland and Detroit Restriction Case*, Docket No. 4294, dated August 21, 1956, page i (mimeographed decision).

55 percent of trunkline passengers already had a choice of competitive services. On June 30, 1955, 37 of the top 50 markets and 23 of the second 50 were competitive. Logically the more extensive competition was in the more heavily traveled markets. Today only 4 of the top 50 and 12 of the second 50 remain noncompetitive, and proposals are pending for competitive service for these markets.”¹⁴

Circumstances for Creating Competition—Areas vs. City Pairs

As noted above, in many of the competitive route authorizations, the Board has indicated that the awards were made in order to create competition between important selected city pairs. On the other hand, there are many cases in which the Board has grouped together several cities, some perhaps very important and others of sundry importance, and, without noting whether or not individual city pairs might, of themselves, merit competitive service, has created competitive authorizations between that group of cities and another city or group of cities. This, nevertheless, creates competitive authorizations between a series of city pairs. Typically, some of these are heavily traveled and some not. In these cases, the published CAB opinion does not express the Board's purpose with respect to the individual city pairs, except, sometimes, for the most important. Geographical areas that have been treated in this way in CAB decisions include: the Northeast, the Pacific Northwest, New England points, the Southwest, Ohio Valley cities, and Florida cities. (Unfortunately, the actual cities intended to be included in these groups are not always completely defined.) The following quotations illustrate this procedure. The concept here is somewhat different from that illustrated in the previous quotations, which were concerned with traffic and service between specified *city pairs*.

“... The route so authorized will enable Delta to provide the first single-carrier competitive service in the Houston-Northeast markets, as well as needed additional competition in the important New Orleans-Northeast and Atlanta-Northeast markets. Delta will also be able to provide Charlotte and Birmingham with needed new services to the southwest and northeast.”¹⁵

“Authorization of additional air service found warranted in order to provide improved service between important cities in the Northeast and in Florida where the available traffic potential is sufficient to support multiple carrier services.”¹⁶

Circumstances for Creating Competition—Competitive Service for a City

Another distinct kind of consideration noted by the Civil Aeronautics Board as a factor in formulating its decisions to create competition is the general concept of competitive air service for a city.

¹⁴ *Annual Report of the Civil Aeronautics Board, 1956*, U.S. Government Printing Office, Washington, D. C., 1956, page 2.

¹⁵ Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, pages 20-21 (mimeographed decision).

¹⁶ Civil Aeronautics Board Order No. E-10645, *New York-Florida Case*, Docket No. 3051, *et al.*, dated September 28, 1956, page i (mimeographed decision).

Here, the reasoning seems to be that a particular city, because of its geographical, economic, and demographic characteristics, should have competitive air service with many points and thus not be dependent upon only one major carrier. Here the Board deems it unnecessary to find that there are specific cities, groups of cities, or areas, with which competitive service is required, and, therefore, the expressed purpose of the award is not to create competition with named points. Rather the total traffic or traffic potential of the city with all other points is cited as the important criterion. This central concept is illustrated in the *Tucson Airport Authority Case*, in which the Board stated:

"Thus, the number of passengers boarded by American at . . . (Tucson) . . . rose from 46,255 in 1951 to approximately 79,000 for the year 1955. In terms of percentage growth, the 1955 passengers boarded by American exceeded the 1954 experience by 30 percent. An indication of Tucson's importance as an air traffic center is the fact that only 42 cities developed more revenue passenger miles during the latest survey period (March 1955). And, it is noteworthy that during this same survey period, Tucson produced more revenue passenger miles than did both Tulsa and Oklahoma City, both of which were recently given a second transcontinental service. The evidence leaves no doubt that Tucson has developed into a city of such size and importance in terms of air traffic potential as to justify service by a second transcontinental trunkline carrier.

"The importance of air transportation to Tucson is underscored by the city's high degree of isolation. With the exception of Phoenix, the distances between Tucson and other major cities is considerable, and there are mountain barriers separating Tucson from every major city except Phoenix. The record shows that Tucson is highly dependent upon good air transportation to sustain its economy, particularly with respect to its tourist business."¹⁷

City Pairs and the Intent of the Board

In this paper, the route awards of the Civil Aeronautics Board are analyzed in terms of the *city pairs* affected by these awards. There are three compelling reasons for analyzing the data in terms of city pairs. First, data are available for both traffic and schedules in these terms. Second, the data are more amenable to certain kinds of statistical investigation and analysis when expressed in terms of city pairs than in any other form. Third, regardless of the intent of the Board with respect to consideration of the total route configurations of various carriers or of service between groups of cities, the eventual impact of all service authorizations and of the resulting flight schedules operated by the carriers is the offering of air transportation between city pairs. Similarly, the transportation services available to the traveling public exist only in terms of city pairs. A traveler wishing to purchase transportation between Philadelphia and Cincinnati or between Tampa and Boston is concerned with the service available between those specific city pairs, and the total service between Northeast cities and Ohio

¹⁷ Civil Aeronautics Board Order No. E-10487, *Tucson Airport Authority Application*, Docket No. 5564, dated July 27, 1956, pages 1-2 (mimeographed decision).

Valley cities or between Florida cities and New England cities is of little consequence to him. Therefore, although, in the deliberations of the Board and in the operations of the carriers, there may be many considerations over and above that of the requirements for service between the city pair, it is, in a real sense, the city pair which defines the unit of transportation that is offered, that is sold, and that is consumed.

As has been noted, of those city pairs receiving authorizations for new or improved single-plane service, some were clearly given these authorizations purposely; i.e., because that is what the Board set out to do. On the other hand, many city pairs received authorizations for new or improved competitive single-plane service as a consequence of route changes made for other reasons. It is important for the purposes of this study to differentiate between these situations for two reasons. First, the effectiveness of the CAB use of competition as a technique of and an adjunct to regulation can best be assessed in terms of the CAB intent.

Second, one of the aspects of this study is an analysis of the verdicts of the Board resulting in competitive authorizations. In this connection, these awards, classified by CAB intent, will be examined in the light of the traffic levels prevailing between the city pairs involved, at the time the awards were made, because traffic data are an important, if not the most important, kind of information on which to base judgments about the advisability of making competitive route authorizations.

For the purposes of this study, all the city pairs which were authorized for new or improved competitive single-plane air service in any one of these decisions were classified according to how the Board, as indicated by its statements in the published opinion, intended to treat that particular city pair. The various city pairs affected by the decisions were classified into seven categories, as listed below.

1. *Purposive-specific*. Those city pairs for which the Board created competitive authorizations because it was the stated purpose of the Board to do so. The following quotation is such a Board statement in connection with the Dallas-New York and Dallas-Washington city pairs.

"The predominant purpose of this new route is to provide a new service competitive with American between Dallas and Ft. Worth, on the one hand, and New York and Washington, on the other hand."¹⁸

2. *Purposive-group (or area)*. Those city pairs which received authorizations because of the Board's stated purpose to create competitive authorizations between a named city and a group of cities or between two groups of cities, but where the actual *city pair* is not specified. This is illustrated in the quotation below.

¹⁸ Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, page 9 (mimeographed decision).

"Authorization of additional air service found warranted in order to provide improved service between important cities in the Northeast and in Florida where the available traffic potential is sufficient to support multiple carrier services."¹⁹

3. *Noted-specific.* Those city pairs which were given competitive authorization in the decision and which were specifically noted by the Board in its opinion as receiving such competition, although the Board did not indicate that the route modifications that resulted in this competition were made in order to create competition between these city pairs. This may be illustrated by the following quotation.

"... It is highly significant that the first one-plane competitive service proposed by TWA relates to four of Tucson's five leading passenger markets, namely, Los Angeles, Chicago, New York and San Francisco. First competitive service will also be available to a number of other cities.*..."

"*Albany, Baltimore, Boston, Cincinnati, Dayton, Detroit, Indianapolis, Louisville, Philadelphia, Phoenix, St. Louis, Scranton and Washington."²⁰

4. *Noted-group.* These city pairs correspond to those classified under number 3 above except that, instead of individual cities or city pairs being named, the Board statement is in terms of groups of cities or of areas. This is illustrated in the following quotation.

"Delta will also be able to provide Charlotte and Birmingham with needed new services to the southwest and northeast."²¹

5. *Corrective-specific.* Those city pairs which received competitive awards because the Board felt that there should be single-plane service between those specific city pairs, and the existing certificated carrier was not offering such services. The statement in note 6, *supra*, from the opinion in the *New York-Florida Case* illustrates this situation. (It will be recalled that this authorization to National was rescinded before its effective date because of Capital's immediate inauguration of the service.)

6. *Corrective-group.* These city pairs correspond to those classified under number 5 above with the exception that the Board spoke in terms of groups of cities or areas instead of in terms of specific city pairs.

"... The Examiner found correctly that Hartford should be added to route No. 2 as requested, in order that it be enabled to receive needed through service to the important Ohio Valley cities served by TWA. Both American and United assail the decision on the

¹⁹ Civil Aeronautics Board Order No. E-10645, *New York-Florida Case*, Docket No. 3051, *et al.*, dated September 28, 1956, page i (mimeographed decision). This is the same quotation as appears in note 16 above. See also Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, page 18 (mimeographed decision), for reference to service between Houston and the Northeast.

²⁰ Civil Aeronautics Board Order No. E-10487, *Tucson Airport Authority Application*, Docket No. 5564, dated July 27, 1956, pages 3-4 (mimeographed decision).

²¹ Civil Aeronautics Board Order No. E-9758, *Southwest-Northeast Service Case*, Docket No. 2355, *et al.*, dated November 21, 1955, page 21 (mimeographed decision). This is part of the quotation which appears in note 15 above.

ground that American can now, as a result of our award in the *Southwest-Northeast Case, supra*, meet all the needs of the important Ohio Valley cities for Hartford/Springfield service. However, the Official Traffic Guide for September 1956, more than six months after our decision in the *Southwest-Northeast Case, supra*, does not show any direct through plane service by American between Hartford/Springfield and any of the Ohio Valley points. It is clear, therefore, that American's interest or ability with respect to the desired service is minimal and constitutes no bar to the granting of TWA's application."²²

The seventh category, which, for the purposes of punch card coding was coded "0," contains all city pairs of which there was no mention, either in terms of the specific city pair or of areas or groups of cities, which could be construed as referring to the city pair in question. Whether the Board was concerned about, or even aware of these implications of the decisions cannot be ascertained from study of the decisions.

City Pairs Affected by the Decisions

Each of the decisions listed in Table 1, and summarized by airline in Appendix A, created new or improved single-plane service authorizations for several city pairs, and, in all, approximately 1,500 unduplicated city pairs were so affected. Since some of these city pairs received such authorizations in more than one case, the sum of the city pairs affected by the decision in each of the docketed cases exceeds the number of unduplicated city pairs. For example, in a deferred portion of Docket No. 986, *et al.*, United Airlines was authorized to operate single-plane service between Pittsburgh-Los Angeles in competition with TWA. Later, in Docket No. 2355, *et al.*, American Airlines was also authorized to provide service between these points. Thus, the "geographical city pair," Pittsburgh-Los Angeles, appears in two cases as receiving new or improved competitive authorizations and thereby becomes two "docket-city-pairs" for the purpose of authorization analyses. Approximately 1,550 docket-city-pairs result from the new or modified authorizations ordered by the Board during the period under study.

Of the 1,500 geographical city pairs involved in these decisions, 513 had competitive authorizations; i.e., were authorized single-plane service by two or more carriers as of December 31, 1956. Actually 35 of these appeared in one other of these cases, and 5 of them appeared in two other of the cases with the result that, when summed over the various cases, there were 558 docket-city-pairs authorized competitive service in these cases.

Among the 513 city pairs receiving new or improved single-plane service authorizations were some receiving their first competitive au-

²² Civil Aeronautics Board Order No. E-10645, *New York-Florida Case*, Docket No. 3051, *et al.*, dated September 28, 1956, page 39 (mimeographed decision).

thorizations, some their second, some their third, and, in the extreme, New York-Washington, its ninth (10 airlines certificated).

Among those city pairs which received their first competitive authorizations as a result of these cases were many heavily traveled pairs such as: Buffalo-New York, Dallas-New York, Denver-Los Angeles, Houston-New York, Detroit-Philadelphia, Kansas City-New York, Norfolk-Washington, and Boston-Miami. As a result of these cases, the former great exclusive transcontinental and long-haul markets such as United Airlines in Denver, American Airlines in Dallas, and TWA in Kansas City and Pittsburgh were opened to selected competitive carriers.

These route extensions represented the implementation of a conscious Board policy of extending competition to the heavily traveled routes as indicated above. However, as has been pointed out before, the Board, by the very fact of extending these routes, created competitive authorizations between other city pairs for which there was no stated intent or purpose, on the part of the Board, to create competition. Thus, of the 558 "docket-city-pairs" which received new or improved single-plane competitive service authorizations, roughly $\frac{2}{3}$ were not mentioned in the opinion, either specifically or as part of a group, and only $\frac{1}{3}$, or less than 200 were "purposive," "noted" or "corrective."

It is the "purposive" city pairs which are of particular interest since these are the pairs for which the Board sought to create competition. Among the questions which might be asked are, first, what are the traffic levels for these city pairs for which the Board specifically and intentionally sought to create competition, and, second, has the Board created the competition that it intended? How have the various carriers, both existing and newly authorized, responded as shown in their service offerings?

In this preliminary report, attention will be limited to the docket-city-pairs which represented *first* competitive service authorizations and which were purposive, noted, or corrective as defined above. There were 106 of these city pairs, and there is no duplication among them because, for each city pair, there is only one *first* competitive authorization.

Appendices B and C illustrate some of the information which is stored on punch cards for these city pairs. Appendix B is a listing of the information for the 106 "traffic" cards which were selected by data on the cards indicating that the particular city pair was awarded first competitive authorization which was purposive, noted, or corrective. Appendix C is a partial listing of the "certification" cards for the same 106 "docket-city-pairs." It is presented here to illustrate the kinds of data utilized in the study. For pairs receiving second, third, etc. competitive service, the amount of data on the cards is correspondingly greater. The full code for the information shown is given in the footnotes to the tables.

The traffic levels for these 106 city pairs as shown on Appendix B are highly variable, ranging from just a few passengers in the CAB

survey periods to a high of several thousand. For those cases decided in 1955, the Board had before it the traffic data for 1954, and for those cases decided in 1956, the traffic data for 1955 were available. Thus, for, say, Buffalo-New York, the 1954 traffic data, 13,090 passengers for the March and September survey periods, or, expanded, 170,000 annual passengers was the traffic level that inspired the Board to speak of Buffalo's need for a competitive service to New York. Similarly, the 60,000 annual passengers between Detroit and Philadelphia prompted the Board to note that ". . . the size and potential of these markets clearly warrant competitive air service in order to insure that the traveling public will obtain the quantity and quality of service to which it is entitled."

The number at the foot of each of the traffic columns is the total traffic for each survey period for the 106 city pairs. When the city pairs are classified according to the intent of the Board, as discussed above, the grouping of Appendix E emerges. The traffic data present an interesting and suggestive pattern when, as in Appendix E, the city pairs are grouped according to the fourth digit in the certification code. This is the code which is described in detail above in the section entitled *City Pairs and the Intent of the Board*. In the final report of this study, the data for the other city pairs as well as these 106 will be analyzed and various statistical measures will be computed and comparisons will be made.

The Resulting Competition

When the Civil Aeronautics Board seeks to create competition by the award of a competitive route, what is it that it is seeking to do? It is seeking to provide for the traveling public a choice of carriers under the assumption that, with such a choice, the public will have more and better service, more low-priced coach service, and freedom from dependence on a single firm to provide the needed service.

The achievement of these goals requires that the new carrier be willing and able to provide the new service, that he will indeed compete, or vie for business, with the existing carrier, and that the existing carrier will not abdicate the market or, at least, will not decrease his service offering by more than that measure of service which is provided by the new carrier. The results of some of the Board decisions will be examined in two specific cases in the following pages.

In the 37 purposive-specific and the 27 purposive-group city pairs listed in Appendix E, the intention of the Board to create competition is clear, and its action in authorizing the new service constitutes its implementation of its expressed desire to create a competitive situation. Has the Board succeeded in creating competition? How soon and how much? What have been the results of its steps?

Questions such as these can be answered by consideration of the schedule patterns of the competing carriers. In this preliminary report,

three city pairs will be examined. For example, between Cleveland and Kansas City, as of September, 1957, United Airlines, the new competitive carrier was offering no flights in competition with TWA, the original carrier. The Board, in awarding this authorization, said:

"The basic objections noted with regard to the proposed interchange service for Denver are equally applicable to Kansas City. The interchange service would clearly be inferior to the trunkline service which United is equipped to provide. The Kansas City market fully justifies the establishment of a vigorous competitive trunkline service to the major markets in the east, particularly New York, and United is well qualified to meet this need. . . . As to points east of Chicago, United can offer improved nonstop service to four major Kansas City markets now served by TWA, namely, Detroit, Cleveland, Washington and New York."²³

Between these two cities, TWA has offered the service pattern given in columns (1) through (7) of Table 2, while the total origin and destination traffic between these cities was as given in column (8). The data in column (8) are the CAB Airline Traffic Survey figures.

TABLE 2
SERVICE OFFERED BY TWA AND NUMBER OF ORIGIN AND DESTINATION PASSENGERS BETWEEN CLEVELAND AND KANSAS CITY

		Flight Schedules Listed						Origin and Destination Passengers	
		Seats						Two-Week Survey Period	Two-Week Survey Period
		Per Week							
		East-bound (1)	West-bound (2)	Total (3)	East-bound (4)	West-bound (5)	Total (6)		
March 1954		1	2	3	259	481	740	1,480	237
Sept. 1954		1	1	2	259	222	481	962	358
March 1955		2	1	3	481	259	740	1,480	278
Sept. 1955		1	1	2	259	259	518	1,036	270
March 1956*		3	4	7	1,078	1,300	2,378	4,756	281
Sept. 1956		3	5	8	1,078	1,897	2,975	5,950	509
March 1957		3	4	7	1,041	1,337	2,378	4,756	n. a.
Sept. 1957		3	3	6	1,041	1,041	2,082	4,164	n. a.

*On October 31, 1955, in the *Reopened Milwaukee-Chicago-New York Restriction Case*, Docket No. 1789, *et al.*, dated September 1, 1955, TWA's route No. 2, Segment 1 (b) was extended from Cleveland to New York, thus improving that carrier's ability to schedule Cleveland-Kansas City service. Source: See footnotes to Appendices B and F.

In comparing the data in columns (7) and (8), it must be borne in mind that the seats flown between two points, such as, in this case,

²³ Civil Aeronautics Board Order No. E-9735, *Denver Service Case*, Docket No. 1841, *et al.*, dated November 14, 1955, pages 7-8 (mimeographed decision).

Kansas City and Cleveland, are utilized, not only for origin and destination passengers between that city pair, but for passengers traveling over all or part of the segment, whether they originated or terminated at, beyond, or between these points, and whether their entire journey was on the same airplane or was continued or started on a different airplane of the same or a different carrier.

The kind of data from which Table 2 was constructed is illustrated in Appendix F for the city pair, Buffalo-New York. The data for Buffalo-New York are shown for 1956 only because of space considerations.

As a contrasting illustration, Capital Airlines, the newly authorized competitive carrier between Buffalo and New York, has inaugurated service over that route in competition with American Airlines. Table 3, which summarizes the Buffalo-New York schedule data, shows that Capital began service between March and September of 1956, and Capital has been operating about 45% as many seats between those cities as American. The relative quality of the service of the two carriers may be ascertained from study of Appendix F which shows the class of service, equipment, number of intermediate stops, and whether the flights are through flights or originating and terminating flights.

TABLE 3

SERVICE OFFERED BY AMERICAN AND CAPITAL AIRLINES AND NUMBER OF ORIGIN AND DESTINATION PASSENGERS BETWEEN BUFFALO AND NEW YORK

		<i>Service in Both Directions</i>					<i>Origin and Destination Passengers Two-Week Survey Period (7)</i>
		<i>American Airlines</i>		<i>Capital Airlines</i>			
				<i>Seats per Week</i>		<i>Combined Seats for Two-Week Survey Period (6)</i>	
<i>Flight Schedules¹ (1)</i>		<i>Seats Per Week (2)</i>	<i>Flight Schedules² (3)</i>	<i>Number (4)</i>	<i>As a Percentage of American's (5)</i>		
March 1954	53	11,846	..	..	..	23,692	5,449
Sept. 1954	54	11,098	..	..	..	22,196	7,641
March 1955	56	11,738	..	..	..	23,476	5,765
Sept. 1955	55	12,946	..	..	..	25,892	8,864
March 1956	54	12,478	..	..	..	24,956	7,363
Sept. 1956	51	12,514	20	5,896	47%	36,820	11,728
March 1957	49	12,234	19	5,280	43	35,028	n. a.
Sept. 1957	42	10,618	16	4,824	45	30,884	n. a.

¹ Primarily Convair 240 equipment, but including six or less Douglas DC-6 or DC-6B schedules.

² Vickers Viscount equipment.

Source: See footnotes to Appendices B and F.

The schedule data in Appendix F, on which these analyses of the schedules of the competing carriers are based, are stored on punch cards. Appendix F is a partial listing of the thousands of cards, one for each schedule, for the months of March and September, 1954, 1955, 1956, and 1957 for the competitive city pairs. The cards listed in Appendix F are part of those from which the information of the preceding paragraphs was drawn.

The number of different ways in which these cards might be analyzed is clearly very great, and these various kinds of analytical approaches give different and useful measures of the competitive behavior of the carriers. The facts summarized in the last few paragraphs are only a small part of what is available. These statements clearly are true also for the cards shown in Appendices B and C. Readers who detect useful and interesting analyses which might be made from these cards are invited to communicate with the author.

It is hoped that this preliminary report will be helpful to students of this subject and that it will evoke comments with respect to either the subject matter or the techniques of analysis. The final report will, of course, contain extensive analyses of these data as well as a historical and theoretical treatment of the general problem of airline competition.

APPENDIX A

ROUTE EXTENSIONS OF THE TRUNKLINE CARRIERS—SUMMARIZED BY AIRLINE

The route cases decided by the Board between September 1, 1955 and December 31, 1956, as listed in Table 1, resulted in the authorization of every trunkline carrier in the United States to offer new or improved service to one or more points. The following is a summary of the significant authorizations for each carrier.

<i>Airline</i>	<i>Docket No.</i>	<i>New Authorization</i>
American	7253	Nonstop service between Louisville and New York/Newark on route No. 4.
	1841, <i>et al.</i>	Nonstop service between San Francisco/Oakland and Chicago by the addition of a new segment to routes Nos. 7 and 25.
	2355, <i>et al.</i>	Houston added to route No. 4 as the terminal of a new route segment from New York/Newark (with restrictions).
		Pittsburgh added to route No. 4 between Columbus, Ohio and New York/Newark (with restrictions).
Braniff		Nonstop service between Columbus, Ohio and New York/Newark on route No. 4 (with restriction).
	2355, <i>et al.</i>	New York/Newark, Washington, Chattanooga, and Nashville added to route No. 9 on a new segment from Dallas and Ft. Worth (with restrictions).
Capital	986, <i>et al.</i>	Turnaround service between Pittsburgh and New York/Newark on routes Nos. 14 and 55.

<i>Airline</i>	<i>Docket No.</i>	<i>New Authorization</i>
		<p>Buffalo and Rochester, New York added to route No. 14 between Detroit and New York/Newark.</p> <p>Nonstop service between New York/Newark, on the one hand, and Toledo and Chicago, on the other; and nonstop, turnaround service between New York/Newark and Detroit on routes Nos. 14 and 55.</p> <p>Philadelphia added to route No. 55 between New York/Newark and Harrisburg (with restrictions).</p>
	2355, <i>et al.</i>	<p>Nonstop, turnaround service between Atlanta and New Orleans; and nonstop service between Atlanta, on the one hand, and Birmingham and Mobile, on the other, on newly consolidated route No. 51 (with restriction on the Atlanta-Birmingham and Atlanta-Mobile service).</p> <p>New York/Newark, Philadelphia and Baltimore added to newly consolidated route No. 51 by the extension of segment 2 from Washington (with restriction).</p> <p>Nonstop, turnaround service between Philadelphia and Pittsburgh on newly consolidated route No. 51.</p> <p>The consolidation of routes Nos. 51 and 55 into new route No. 51 resulting in several improvements, including nonstop service between Washington, Richmond, Newport News, Raleigh-Durham, Greensboro-High Point, Winston-Salem and Charlotte, on the one hand, and Atlanta, Birmingham, Mobile and New Orleans, on the other hand (with restrictions).</p>
	3051, <i>et al.</i>	<p>Nonstop, turnaround service between Newport News and Norfolk, on the one hand, and Philadelphia and New York/Newark, on the other, on route No. 51.</p> <p>Long-haul restriction on flights serving New York/Newark and Philadelphia, on the one hand, and Baltimore and Washington, on the other hand, modified thereby permitting more effective routings.</p>
Continental	1841, <i>et al.</i>	Chicago and Los Angeles added to route No. 29 as the terminals of a new route segment extending from Kansas City and Denver (with restrictions).
Delta	2355, <i>et al.</i>	<p>New York/Newark, Philadelphia, Baltimore, Washington and Charlotte added to route No. 24 by the extension of existing route segments from Atlanta (with restrictions).</p> <p>Houston added to route No. 24 as the terminal of a new route segment from New York/Newark via New Orleans (with restriction).</p>
Eastern	986, <i>et al.</i>	Nonstop service between Pittsburgh, on the one hand, and Akron, Cleveland and Detroit, on the other (with restriction). (Note: this temporary authorization was made permanent in the decision and order of Docket No. 4294.)
	7253	Nonstop service between Louisville and New York/Newark on route No. 47.

<i>Airline</i>	<i>Docket No.</i>	<i>New Authorization</i>
	2355, <i>et al.</i>	One-stop, turnaround service between Pittsburgh on route No. 6, on the one hand, and Atlanta, Birmingham, Mobile and New Orleans on route No. 5, on the other hand.
	8134, 8139, 8175	Nonstop, turnaround service between Huntsville, Alabama and Atlanta on route No. 10 authorized by exemption.
	3051, <i>et al.</i>	Tampa and St. Petersburg-Clearwater added to segment 1 of route No. 6 between Orlando and Ocala. Turnaround service between Miami, on the one hand, and Tampa and St. Petersburg-Clearwater, on the other hand, on segment 1 of route No. 6. Turnaround service between Boston, Providence, Hartford-Springfield and New Haven, on the one hand, and all points between Richmond and New York/Newark on routes Nos. 5 and 6, and Charleston, W. Va. on route 47, on the other hand.
National	5701, <i>et al.</i>	Houston added to route No. 39 by the extension of this route from New Orleans.
	3051, <i>et al.</i>	Boston and Providence added to route No. 31 by the extension of this route from New York/Newark. Fayetteville added to route No. 31 between Norfolk and New Bern. Nonstop turnaround service between Philadelphia and New York/Newark on route No. 31. Turnaround service between Richmond, Washington and Baltimore, on the one hand, and all points north of Charleston, S. C. on route No. 31, on the other hand. Nonstop, turnaround service between Baltimore and Washington, on the one hand, and Newport News and Norfolk, on the other hand, on route No. 31.
Northeast	3051, <i>et al.</i>	Miami, St. Petersburg-Clearwater, Tampa, Jacksonville, Washington, Baltimore and Philadelphia added to route No. 27 by the extension of this route from New York/Newark. Long-haul restriction on flights between New York/Newark and Hartford-Springfield modified thereby permitting more effective routings.
Northwest	986, <i>et al.</i>	Turnaround service between New York/Newark and Detroit on Route No. 3. Chicago added to segment 1 of route No. 3 between Milwaukee and Detroit (with restriction).
	4294	Turnaround service between Pittsburgh, on the one hand, and Cleveland and Detroit, on the other, on route No. 3.
Trans-World	986, <i>et al.</i>	Detroit added to segment 3(a) of route No. 2 between Chicago and New York/Newark (with restrictions).
	1789, <i>et al.</i>	Nonstop service between Cleveland and New York/Newark by the extension of segment 1 (b) of route No. 2 (with restriction).

<i>Airline</i>	<i>Docket No.</i>	<i>New Authorization</i>
	7253	Nonstop service between Louisville and New York/Newark on route No. 2.
	1841, <i>et al.</i>	Denver added to route No. 2 on a new route segment established between New York/Newark and San Francisco/Oakland (with restrictions).
	2355, <i>et al.</i>	Tulsa and Oklahoma City added to route No. 2 between Amarillo and Wichita (with restriction). Nonstop service between Washington and Baltimore, on the one hand, and Philadelphia and New York/Newark, on the other hand, on route No. 2 (with restriction).
	5564	Tucson added to route No. 2 between Albuquerque and Phoenix (with restriction).
	3051, <i>et al.</i>	Hartford-Springfield added to route No. 2 between Boston and New York/Newark (with restriction). Nonstop service between Boston, on the one hand, and New York/Newark, Philadelphia, Baltimore and Washington, on the other, on route No. 2 (with restriction). Restriction on service between Washington and Baltimore, on the one hand, and Philadelphia and New York/Newark, on the other, modified thereby permitting more effective routings.
United	986, <i>et al.</i>	Turnaround service between Detroit and Philadelphia on route No. 1. Nonstop, turnaround service between Ft. Wayne and Toledo; and nonstop service between Ft. Wayne and Detroit, on route No. 1 (with restriction on the Ft. Wayne-Detroit service).
	2190	Nonstop service between Seattle-Tacoma, Portland, Oregon, Pendleton, Boise and Twin Falls, on the one hand, and points east of Denver on route No. 1, on the other hand. One-stop service between Spokane, Walla Walla and Bellingham, on the one hand, and points east of Denver on route No. 1, on the other hand.
	6503, <i>et al.</i>	Monterey and Santa Barbara restored to route No. 1 by the lifting of the suspension at these points.
	986, <i>et al.</i> (deferred)	Pittsburgh added to route No. 1 between Youngstown and Bradford (with restrictions).
	1841, <i>et al.</i>	Kansas City added to route No. 1 between Omaha and Des Moines (with restrictions).
	3051, <i>et al.</i>	Nonstop service between Washington and Baltimore, on the one hand, and Philadelphia, New York/Newark, Hartford-Springfield and Boston, on the other hand, on route No. 1 (with restriction).
Western	1841, <i>et al.</i>	Nonstop, turnaround service between Denver, Salt Lake City, Reno and San Francisco/Oakland by the addition of a new segment to route No. 35 (with restrictions).

APPENDIX B

CERTIFICATION AND TRAFFIC DATA FOR THE 106 CITY PAIRS MENTIONED IN THE CAB DECISIONS AS RECEIVING
FIRST COMPETITIVE SERVICE AUTHORIZATIONS SEPTEMBER 1, 1955 TO DECEMBER 31, 1956

Origin and Destination Traffic for CAB Airline Traffic Survey Periods												
		1954		1955		1956						
Card Code (1)	Serial Number (2)	Comp. Status (3)	City Name (4)	Docket (5)	Certification Code (6)	Date Decided (7)	March 1-14 (8)	September 17-30 (9)	March 1-14 (10)	September 17-30 (11)	March 1-14 (12)	September 17-30 (13)
11	0023	3	ALBANY	5564	417300	07276	3	242	2	12	10	6
11	0083	3	ALBUQUERQUE	2355	127390	11215	179	296	150	296	360	496
11	0138	3	ALBUQUERQUE	2355	112199	11215	54	69	91	69	84	91
11	0139	3	ALBUQUERQUE	2355	112199	09286	44	54	40	78	63	68
11	0170	3	ALBUQUERQUE	2355	112199	09286	232	279	270	455	347	288
11	0171	3	ALBUQUERQUE	2355	112299	11215	36	20	11	32	19	11
11	0194	3	ALBUQUERQUE	2355	112399	07276	2	7	10	0	5	10
11	0195	3	ALBUQUERQUE	2355	112299	11215	7	9	25	4	11	7
11	0268	3	ALBUQUERQUE	2355	127491	11215	108	275	175	264	168	303
11	0269	3	ALBUQUERQUE	2355	127491	11215	344	267	272	350	278	303
11	0308	3	ALBUQUERQUE	2355	112399	09286	202	168	200	212	253	194
11	0314	3	ALBUQUERQUE	2355	112399	09286	2970	888	4336	1809	6592	2311
11	0344	3	ALBUQUERQUE	2355	112399	09286	407	222	721	291	1174	372
11	0345	3	ALBUQUERQUE	2355	112399	07276	37	26	58	56	54	61
11	0375	3	ALBUQUERQUE	2355	112199	09015	1053	1370	1313	1523	1246	1863
11	0382	3	ALBUQUERQUE	2355	112199	09015	5435	7641	5765	8864	7563	11723
11	0421	3	ALBUQUERQUE	2355	127191	11215	315	125	140	61	69	73
11	0431	3	ALBUQUERQUE	2355	128292	11215	830	1252	1143	1552	1470	1965
11	0432	3	ALBUQUERQUE	2355	128292	11215	226	305	284	284	302	461
11	0465	3	ALBUQUERQUE	2355	113199	11215	1039	1583	1379	1691	1607	2019
11	0481	3	ALBUQUERQUE	2355	112399	07276	617	372	658	268	795	386
11	0485	3	ALBUQUERQUE	2355	112699	09286	185	174	113	164	184	170
11	0487	3	ALBUQUERQUE	2355	112699	11215	34	81	46	59	43	61
11	0490	3	ALBUQUERQUE	2355	112399	07276	12	12	36	48	39	44
11	0491	3	ALBUQUERQUE	2355	112699	11215	20	45	40	46	43	157
11	0496	3	ALBUQUERQUE	2355	112199	11215	237	358	278	270	281	509
11	0498	3	ALBUQUERQUE	2355	112399	11215	50	60	43	69	65	84
11	0508	3	ALBUQUERQUE	2355	112399	07276	32	72	77	77	88	50
11	0509	3	ALBUQUERQUE	2355	112399	11215	26	110	68	65	98	90
11	0522	3	ALBUQUERQUE	2355	112699	09286	93	110	95	127	95	107
11	0526	3	ALBUQUERQUE	2355	127191	11215	1633	2193	2259	2381	2359	3031
11	0527	3	ALBUQUERQUE	2355	112699	11215	30	15	22	27	30	35
11	0530	3	ALBUQUERQUE	2355	112399	07276	33	9	17	16	67	23
11	0531	3	ALBUQUERQUE	2355	112699	11215	26	29	39	45	40	70
11	0543	3	ALBUQUERQUE	2355	112199	11215	100	141	135	185	157	215
11	0544	3	ALBUQUERQUE	2355	139190	11215	2002	2475	2368	2920	2768	3731
11	0547	3	ALBUQUERQUE	2355	139190	11215	601	678	821	709	961	1051
11	0550	3	ALBUQUERQUE	2355	112699	11215	120	160	99	132	130	157
11	0554	3	ALBUQUERQUE	2355	112699	11215	151	110	91	103	106	184
11	0556	3	ALBUQUERQUE	2355	112399	07276	25	16	12	28	18	50
11	0557	3	ALBUQUERQUE	2355	112699	11215	29	26	35	32	35	39
11	0571	3	ALBUQUERQUE	2355	139191	11215	1477	1724	2023	2175	2452	2739
11	0575	3	ALBUQUERQUE	2355	112199	11215	1077	1685	1370	2082	1762	2332
11	0579	3	ALBUQUERQUE	2355	37190	11215	56	99	72	157	125	202
11	0581	3	ALBUQUERQUE	2355	112199	11215	64	47	47	57	47	61
11	0582	3	ALBUQUERQUE	2355	112199	11215	872	873	1025	1032	1157	1283
11	0583	3	ALBUQUERQUE	2355	112199	11215	923	1441	1277	1632	1472	1963
11	0589	3	ALBUQUERQUE	2355	112199	11215	450	609	550	773	704	791
11	0602	3	ALBUQUERQUE	2355	127391	09015	108	168	141	199	234	205
11	0604	3	ALBUQUERQUE	2355	417300	11215	418	488	553	565	553	954
11	0607	3	ALBUQUERQUE	2355	417300	11215	111	108	68	87	97	158
11	0610	3	ALBUQUERQUE	2355	452119	09015	169	264	1942	3691	2355	2888
11	0620	3	ALBUQUERQUE	2355	417300	07276	160	82	213	771	267	108
11	0621	3	ALBUQUERQUE	2355	417300	07276	160	82	213	771	267	108
11	0700	3	ALBUQUERQUE	2355	112399	09015	40	26	26	47	91	51

11 0705	3	FIWBN	2355	112199	11215	27	451	23	35	39	71	59
11 0706	3	FIWNY	2355	139190	11215	451	381	435	332	526	381	712
11 0709	3	FIWDC	2355	139190	11215	299	323	267	306	278	323	310
11 0718	2	GSONY	2355	127291	11215	537	645	519	723	773	645	868
11 0739	2	GSOPH	2355	127291	11215	111	98	115	122	126	98	133
11 0753	3	BOUJAX	3051	112299	09286	47	466	33	52	57	55	42
11 0760	3	BOUJAX	3051	112299	09286	466	455	181	553	207	1122	345
11 0771	3	BOUJAX	3051	112299	09286	181	282	172	278	245	282	382
11 0785	3	BOUJAX	3051	112299	09286	107	318	50	126	318	181	282
11 0826	3	BOUJAX	3051	112299	09286	2043	2995	2643	2738	3043	2995	3903
11 0836	3	BOUJAX	3051	112299	09286	154	261	195	207	244	261	291
11 0846	3	BOUJAX	3051	112299	09286	576	812	630	816	690	812	826
11 0880	2	INDTUD	5564	117300	07276	18	32	19	55	50	32	46
11 0912	3	JAXPVD	3051	112299	09286	23	46	27	32	24	46	39
11 0923	3	MKCLAX	1841	113199	11145	816	990	908	975	1044	990	1347
11 0930	3	MKCLAX	1841	113199	11145	1899	2088	2071	1781	2215	2088	3000
11 0935	2	MKCPIT	1986	127190	11145	253	254	219	216	249	254	297
11 0944	3	MKCSFO	1841	112190	11145	545	641	520	495	641	570	910
11 0956	3	MKCDCA	1841	112190	11145	588	665	624	537	754	665	816
11 1009	3	LAXOKC	2355	112299	11215	275	447	323	334	398	447	589
11 1010	2	LAXPIT	1986	127190	11145	488	754	444	209	913	754	1301
11 1013	3	LAXTUD	5564	112299	07276	272	1358	223	1358	1358	1358	1477
11 1014	3	LAXTUD	5564	112299	07276	265	349	298	321	349	429	512
11 1017	3	SDFOKC	2355	112299	11215	22	18	18	28	57	28	51
11 1020	3	SDFTUD	5564	112299	07276	8	11	4	5	11	8	25
11 1021	3	SDFTUD	5564	112299	07276	38	42	42	23	42	75	25
11 1075	3	MIAPVD	3051	112299	09286	262	172	101	420	172	382	189
11 1099	2	MSYPI	2355	127390	11215	85	150	124	174	178	150	87
11 1198	2	MSYPI	2355	127390	11215	147	198	136	170	276	198	178
11 1210	3	NYCOKC	2355	112299	11215	277	366	320	312	394	366	420
11 1218	3	NYCTUD	5564	112299	07276	367	598	320	512	598	593	749
11 1239	3	NYCTUD	5564	112299	07276	494	685	477	598	797	685	906
11 1253	3	PHFUDCA	3051	112299	09286	1713	2556	648	2394	2394	2556	2909
11 1258	3	ORFUDCA	3051	112299	09286	35	30	44	30	30	73	108
11 1269	3	OKCPIT	2355	112299	11215	24	24	47	26	38	24	78
11 1271	3	OKCPIT	2355	112299	11215	90	139	332	158	139	196	260
11 1274	3	OKCSFO	2355	112299	11215	235	387	217	191	387	309	522
11 1281	3	OKCDCA	2355	112299	11215	32	54	21	43	54	90	64
11 1339	3	PHLTUD	5564	112299	07276	40	74	91	83	74	107	109
11 1340	3	PHLTUD	5564	112299	07276	22	50	40	35	50	30	51
11 1357	2	PITPDX	1986	127190	11145	350	472	380	479	455	472	745
11 1371	2	PITSEA	1986	127190	11145	168	212	106	131	212	191	204
11 1378	3	PITSEA	1986	127190	11145	72	109	90	81	126	109	102
11 1411	3	PVDTPA	3051	112299	09286	66	134	27	87	30	134	62
11 1413	3	PVDTPA	3051	112299	09286	66	134	27	87	30	134	62
11 1445	3	STLTUD	5564	112299	07276	210	290	223	280	260	318	290
11 1470	3	SFOITUD	5564	112299	07276	107	209	232	139	209	170	208
11 1471	3	SFOITUD	5564	112299	07276	107	209	232	139	209	170	208
11 1494	2	AVPTUD	5564	117300	07276	1	4	39	88	94	66	102
11 1528	3	TUODCA	5564	112299	11215	181	274	242	204	289	274	328
11 1532	3	TUODCA	5564	112299	11215	181	274	242	204	289	274	328
106						43971	51025		53226	60769	65119	74169

Codes and sources:

1. City code, "11" designates traffic card.
2. City code, "11" designates traffic card.

3. Competitive status as a result of the awards made in the decision noted in column (5). "gr" indicates that one or more of the new or improved authorizations is equivalent (equal restrictions or lack of restrictions) to the best competing authorization; i.e., equivalent competitive status was created. "2" indicates that none of the new or improved authorizations is equivalent to the best competing authorization; i.e., the award did not create equivalent competitive status.

4. Standard 3-letter codes for airline stations. See Official Airline Guide.

5. Docket number for decision affecting competition. Code "1986" refers to the deferred portion of docket 986 which was decided contemporaneously with the Denver Service Case.

6. Date of initial decision, first two columns, month; second two columns, day; fifth column, year (add 1950).

7. Source: CAB Airline Traffic Surveys.

APPENDIX C

PARTIAL LISTING OF CERTIFICATION CARDS FOR THE 106 CITY PAIRS

Carriers' Identification and Authorizations						
Card Code (1)	Serial Number (2)	City Names (3)	Docket (4)	Certification Code (5)	Number of Carriers (6)	Original Carriers (7)
33 0025	ALB TUO	5564	417300	101	2000	1111
33 0085	ATL PIT	2355	127390	101	1611	1300
33 0138	BAL HOU	2355	112199	101	1500	1600
33 0169	BAL PHF	3051	112199	101	1700	1300
33 0170	BAL ORF	3051	112199	101	1700	1300
33 0171	BAL OKC	2355	112299	101	2000	1100
33 0194	BAL TUO	5564	112399	101	2000	1100
33 0195	BAL TUL	2355	112299	101	2000	1100
33 0256	BIR HOU	2355	127491	101	1532	1600
33 0262	BIR PIT	2355	127390	101	1611	1300
33 0308	BOS JAX	3051	112299	201	1700	1800
33 0314	BOS MIA	3051	112299	201	1700	1800
33 0344	BOS TPA	3051	452209	211	1700	1800
33 0345	BOS TUO	5564	112399	101	2000	1100
33 0375	BUF YIP	0986	112199	101	1300	1100
33 0382	BUF NYC	0986	112199	101	1300	1100
33 0421	CLT HOU	2355	127491	101	1522	1600
33 0431	CLT NYC	2355	128292	201	1332	1532
33 0432	CLT PHL	2355	128292	201	1332	1532
33 0465	CHI DEN	1841	113199	201	1400	2000
33 0481	CHI TUO	5564	112399	101	2000	1100
33 0485	CHI BAL	1841	113694	201	1400	2000

Codes:

- Column 1. Card code. "33" designates certification card.
 2. City pairs are serially numbered in alphabetical order.
 3. Standard & letter codes for city stations. See Official Airline Guide.
 4. Docket number for decision affecting competition.
 5. Certification code. See Appendix D.
 6. Number of carriers.

- First digit: number of new carriers authorized in the instant decision.
 Second digit: number of carriers with authorizations improved in the instant decision.
 Third digit: number of carriers authorized before the instant decision (the "original" carriers).
 7, 8, 9. First two digits: Airline code. See Appendix G.
 Last two digits: Restriction code. "00" designates unrestricted. See Appendix H.

APPENDIX D

CERTIFICATION CODE — 6 DIGITS

Digit

1. Status of certifications before the decision.
 1. one unrestricted carrier
 2. two unrestricted carriers
 3. three unrestricted carriers
 4. one restricted carrier
 5. two restricted carriers
 6. three restricted carriers
 7. one of each
 8. three or more, one unrestricted
 9. three or more, two unrestricted
 0. four or more, three or more unrestricted
2. New authorization
 1. Add one or more unrestricted carriers
 2. Add one or more restricted carriers
 3. Add one of each
 4. Lessen restrictions and add one or more of each
 5. Lessen restrictions and add one or more unrestricted carriers
 6. Lessen restrictions and add one or more restricted carriers
 0. Lessen restrictions only
3. Status of certifications after the decision, same as code for digit 1.
4. Intent of the Board (defined in the text).
 1. purposive-specific
 2. purposive-group
 3. noted-specific
 4. noted-group
 5. corrective-specific
 6. corrective-group
 0. not mentioned in the published opinion
5. Number of restricted carriers authorized to provide nonstop service before the decision, same as code for digit 6.
6. Number of restricted carriers authorized to provide nonstop service after the decision. Code "9" indicates "not applicable"; no restricted carriers.

APPENDIX E

CERTIFICATION AND TRAFFIC DATA FOR THE 106 CITY PAIRS MENTIONED IN THE CAB DECISIONS AS RECEIVING
FIRST COMPETITIVE SERVICE AUTHORIZATIONS SEPTEMBER 1, 1955 TO DECEMBER 31, 1956

Origin and Destination Traffic for CAB Airline Traffic Survey Periods													
Card Number (1)	Serial Number (2)	Comp. State (3)	City Name (4)	Docket (5)	Certification Class (6)	Date Expired (7)	1954					September 17-30 (11)	September 17-30 (12)
							March 1-14 (8)	September 17-30 (9)	March 1-14 (10)	September 17-30 (11)			
1	0138	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0139	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0140	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0141	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0142	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0143	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0144	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0145	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0146	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0147	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0148	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0149	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0150	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0151	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0152	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0153	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0154	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0155	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0156	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0157	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0158	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0159	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0160	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0161	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0162	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0163	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0164	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0165	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0166	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0167	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0168	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0169	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0170	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0171	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0172	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0173	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0174	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0175	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0176	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0177	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0178	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0179	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0180	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0181	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0182	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0183	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0184	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0185	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0186	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0187	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0188	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0189	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0190	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0191	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0192	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0193	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0194	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0195	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0196	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0197	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0198	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0199	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0200	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0201	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0202	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0203	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0204	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0205	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0206	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0207	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0208	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0209	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0210	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0211	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0212	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0213	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0214	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0215	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0216	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0217	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0218	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0219	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0220	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0221	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0222	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0223	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0224	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0225	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0226	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0227	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0228	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0229	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0230	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0231	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0232	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0233	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0234	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0235	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0236	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0237	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0238	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0239	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1	0240	3	BALPHL	2355	1	1121	54	69	21	5	84	5	84
1													

11	1274	3	OKCSFO	2355	112999	11215	90	332	158	139	196	260
11	1301	3	OKCDCA	2355	112999	11215	235	217	151	287	109	322
11	1340	3	PHLTUL	2355	112999	11215	40	91	87	30	107	109
11	1411	3	PYDTPA	3051	453209	09286	72	27	134	30	134	62
11	1471	3	SEFTUL	2355	112999	11215	107	232	139	209	208	328
11	1512	3	TULDCA	2355	112999	11215	181	242	204	289	274	328
27							9041	7802	12292	9819	16964	12203
11	0025	3	ALBTUO	5564	417300	07276	3	2	2	12	10	6
11	0085	3	ALPTUO	5564	417300	07276	178	242	150	296	360	406
11	0194	3	BALPTU	5564	417300	07276	2	267	10	6	5	10
11	0242	3	BIRPTU	5564	417300	07276	344	267	272	350	278	337
11	0345	3	BORPTU	5564	417300	07276	37	26	58	56	54	61
11	0481	3	CHITUO	5564	417300	07276	617	372	658	268	795	386
11	0490	3	CVGTUO	5564	417300	07276	12	12	36	48	39	44
11	0498	3	CLEOKC	2355	112999	11215	50	60	43	69	65	84
11	0508	3	CLEOKC	2355	112999	07276	36	72	77	77	88	50
11	0509	3	CLEPTU	2355	112999	07276	69	110	68	65	98	50
11	0510	3	CMHTUO	5564	417300	07276	33	9	17	16	67	23
11	0556	3	DAYTUO	5564	417300	07276	25	16	12	28	18	50
11	0602	3	YIPFWA	0986	127391	09015	108	168	141	199	234	205
11	0607	3	YIPOKC	2355	417300	11215	111	108	68	87	97	158
11	0620	3	YIPTUO	5564	417300	07276	160	82	213	71	267	108
11	0621	3	YIPTUL	2355	417300	11215	84	95	116	109	69	137
11	0700	3	FWATOL	0986	112399	09015	40	26	26	47	91	51
11	0800	3	INDTUO	5564	417300	07276	18	19	55	50	32	46
11	1013	3	LAXTUO	5564	417300	07276	979	923	1395	1458	1639	1477
11	1020	3	MOBPTU	5564	417300	07276	8	4	5	11	8	9
11	1099	3	MSYPTU	2355	127390	11215	85	124	74	178	150	67
11	1199	3	MSYPTU	2355	127390	11215	147	136	170	276	198	178
11	1238	3	NYCTUO	5564	417300	07276	367	326	512	394	593	420
11	1339	3	PHLTUO	5564	417300	07276	32	21	43	54	90	64
11	1445	3	SLTUO	5564	417300	07276	66	44	52	24	71	23
11	1470	3	SFOPTU	5564	417300	07276	210	229	280	260	318	290
11	1494	3	AVPTUO	5564	417300	07276	1	1	88	2	4	3
11	1528	3	TUODCA	5564	112399	07276	65	39	94	94	66	106
28							3887	3535	4641	4605	5804	4909
11	0256	3	BIRHOU	2355	127491	11215	108	275	175	264	182	303
11	0421	3	CLTHOU	2355	127491	11215	35	35	30	61	69	73
2							143	310	205	325	251	376
11	0485	3	CVGRDI	3051	112699	09286	185	174	113	164	184	170
11	0487	3	CVGOKC	2355	112699	11215	34	81	46	59	43	61
11	0491	3	CVGTUL	2355	112699	11215	20	45	40	46	43	157
11	0523	3	CMHBDI	3051	417600	09286	53	65	85	127	95	107
11	0527	3	CMHOKC	2355	112699	11215	30	15	22	27	30	35
11	0531	3	CMHTUL	2355	112699	11215	26	29	39	45	40	70
11	0550	3	DAYBDI	3051	417600	09286	120	160	99	132	130	157
11	0554	3	DAYOKC	2355	112699	11215	151	110	91	103	106	184
11	0557	3	DAYOKC	2355	112699	11215	129	126	35	32	35	39
11	0771	3	BOLPTU	3051	417600	09286	181	179	278	245	262	389
11	1017	3	SFOOKC	2355	112699	11215	22	18	28	57	28	51
11	1021	3	SOFPTU	2355	112699	11215	38	42	23	42	75	25
12							889	944	899	1079	1071	1445

Codes and sources:

Column 1. Card code. "11" designates traffic card.

2. Card code. "11" designates traffic card.

3. Competitive status as a result of the awards made in the decision noted in column (6). "3" indicates that one or more of the new or improved authorizations is equivalent (equal restrictions or lack of restrictions) to the best competing authorization; i.e., the award did not create equivalent best competitive status.

4. Standard 3-letter codes for airline stations. See Official Airline Guide, Appendix D.

5. Docket number for decision affecting competition. Code "1986" refers to the deferred portion of docket 986 which was decided contemporaneously with the *Denser Service Case*.

6. Docket number for decision affecting competition. See Official Airline Guide, Appendix D.

7. Date of initial decision, first two columns, month; second two columns, day; fifth column, year (add 1950).

8. Source: CAB Airline Traffic Surveys.

APPENDIX F

FLIGHT SCHEDULES BETWEEN BUFFALO AND NEW YORK CITY
MARCH AND SEPTEMBER, 1956

Card Code (1)	Serial Number (2)	City Name (3)	Distance (4)	Date (5)	Carrier (6)	Direction (7)	Number of Flights (8)	Number of Flights (9)	Number of Flights (10)	Number of Flights (11)	Number of Flights (12)	Number of Flights (13)	Number of Flights (14)	Weekly Seat Capacity		
														by class shown in column (12)		All Classes
														Number of Flight Schedules (15)	Seats per Week (16)		Seats per Week (17)
21	038200	BUF	NYC	0292	36	11	2	0	32	284	0	6	1	7	54	378
21	038200	BUF	NYC	0292	36	11	2	0	02	282	0	6	1	6	54	324
21	038200	BUF	NYC	0292	36	11	2	1	02	770	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	1	02	776	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	2	02	712	24	1	1	40	40	40
21	038200	BUF	NYC	0292	36	11	2	1	32	746	24	1	5	40	200	200
21	038200	BUF	NYC	0292	36	11	2	2	32	746	24	1	1	40	40	40
21	038200	BUF	NYC	0292	36	11	2	1	32	762	24	1	5	40	200	200
21	038200	BUF	NYC	0292	36	11	2	1	02	728	24	1	1	40	40	40
21	038200	BUF	NYC	0292	36	11	2	1	32	756	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	2	32	580	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	2	32	582	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	1	32	704	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	482	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	2	32	432	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	2	32	794	24	1	1	40	40	40
21	038200	BUF	NYC	0292	36	11	2	1	32	744	24	1	1	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	710	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	730	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	754	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	756	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	0	32	758	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	0	32	792	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	32	740	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	0	02	722	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	0	02	714	24	1	6	40	240	240
21	038200	BUF	NYC	0292	36	11	2	0	02	742	24	1	7	40	280	280
21	038200	BUF	NYC	0292	36	11	2	0	02	718	24	1	1	40	40	40
															29	6502
															29	6502
21	038200	BUF	NYC	0292	96	11	2	1	02	770	24	1	6	40	240	240
21	038200	BUF	NYC	0292	96	11	2	1	02	766	24	1	1	40	40	40
21	038200	BUF	NYC	0292	96	11	2	2	02	712	24	1	2	40	80	80
21	038200	BUF	NYC	0292	96	11	2	1	02	746	24	1	6	40	240	240
21	038200	BUF	NYC	0292	96	11	2	1	32	762	24	1	5	40	200	200
21	038200	BUF	NYC	0292	96	11	2	1	02	728	24	1	1	40	40	40
21	038200	BUF	NYC	0292	96	11	2	1	32	756	24	1	6	40	240	240
21	038200	BUF	NYC	0292	96	11	2	2	02	798	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	1	32	704	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	2	32	582	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	0	32	482	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	1	32	744	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	0	32	710	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	2	32	730	24	1	7	40	280	280
21	038200	BUF	NYC	0292	96	11	2	2	32	756	24	1	6	40	240	240

21	038200	BUF	NYC	0292	96	11	2	2	32	764	24	1	7	40	280
21	038200	BUF	NYC	0292	96	11	2	0	02	742	24	1	7	40	280
21	038200	BUF	NYC	0292	96	11	2	0	32	758	24	1	6	40	240
21	038200	BUF	NYC	0292	96	11	2	0	32	792	24	1	7	40	280
21	038200	BUF	NYC	0292	96	11	2	0	32	740	24	1	6	40	240
21	038200	BUF	NYC	0292	96	11	2	0	02	722	24	1	6	40	240
21	038200	BUF	NYC	0292	96	11	2	0	02	714	24	1	6	40	240
21	038200	BUF	NYC	0292	96	11	2	0	02	718	24	1	1	40	40
21	038200	BUF	NYC	0292	96	11	2	0	32	284	60	1	7	58	406
21	038200	BUF	NYC	0292	96	11	2	0	02	282	60	1	6	58	348
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(Continued)

APPENDIX F (Continued)

FLIGHT SCHEDULES BETWEEN BUFFALO AND NEW YORK CITY
MARCH AND SEPTEMBER, 1956

Card Code (1)	Serial Number (2)	City Name (3)	Distance (4)	Date (5)	Carrier (6)	Direction (7)	Number of Intermediate Stops (8)	Outgoing Terminal (9)	Flight Number (10)	Equipment (11)	Class (12)	Seats per Week (13)	Weekly Seat Capacity by class shown in column (12)			All Classes	
													Number of Flight Schedules (14)	Seats per Week (15)	Number of Flight Schedules (16)	Seats per Week (17)	
21	038200	BUF	NYC	0292	96	11	4	2	30	783	24	1	5	40	200	200	
21	038200	BUF	NYC	0292	96	11	4	2	30	731	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	1	30	785	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	2	30	705	24	1	5	40	200	200	
21	038200	BUF	NYC	0292	96	11	4	2	30	745	24	1	1	40	40	40	
21	038200	BUF	NYC	0292	96	11	4	2	30	799	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	0	30	789	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	1	30	743	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	3	30	773	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	0	30	781	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	2	30	797	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	1	30	791	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	3	30	311	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	3	30	373	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	2	30	775	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	0	30	709	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	0	30	739	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	0	20	757	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	0	20	721	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	0	20	367	24	1	6	40	240	240	
21	038200	BUF	NYC	0292	96	11	4	0	20	713	24	1	7	40	280	280	
21	038200	BUF	NYC	0292	96	11	4	0	30	153	60	1	7	58	406	406	
21	038200	BUF	NYC	0292	96	11	4	0	30	109	60	1	1	58	58	58	
21	038200	BUF	NYC	0292	96	11	4	0	30	283	60	1	6	58	348	348	
21	038200	BUF	NYC	0292	96	11	4	0	20	287	60	1	6	58	348	348	
													25	6360	25	6360	
21	038200	BUF	NYC	0292	96	13	4	1	30	241	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	0	30	243	11	1	6	44	264	264	
21	038200	BUF	NYC	0292	96	13	4	0	20	245	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	0	30	235	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	1	30	249	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	0	30	251	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	0	20	253	11	1	7	44	308	308	
21	038200	BUF	NYC	0292	96	13	4	1	30	255	11	1	6	44	264	264	
21	038200	BUF	NYC	0292	96	13	4	0	20	257	11	1	7	44	308	308	
													9	2684	9	2684	
21	038200	BUF	NYC	0292	96	13	4	0	20	845	11	3	6	44	264	264	
													1	264	1	264	
													10	2948	10	2948	

APPENDIX G

AIRLINE CODE

<i>Code</i>	<i>Airline</i>
<i>Trunkline</i>	
11	American Airlines
12	Braniff Int'l Airways
13	Capital Airlines
14	Continental Air Lines
15	Delta Air Lines
16	Eastern Air Lines
17	National Airlines
18	Northeast Airlines
19	Northwest Orient Airlines
20	Trans-World Airlines
21	United Air Lines
22	Western Air Lines
26	*Colonial Airlines
<i>Local Service</i>	
31	Allegheny Airlines
32	Bonanza Airlines
33	Central Airlines
34	Frontier Airlines
35	Lake Central Airlines
36	Mohawk Airlines
37	North Central Airlines
38	Ozark Air Lines
39	Piedmont Airlines
40	Southern Airways
41	Southwest Airways
42	Trans-Texas Airways
43	West Coast Airlines
50	†Mackey Airlines

* Merged with Eastern Air Lines, 1956.

† Operates local domestic segment between Tampa/St. Petersburg, on the one hand, and West Palm Beach and Ft. Lauderdale, on the other hand, in addition to its international segments.

Codes and sources:

Column 1. Card code. "21" designates schedule card.

2. City pairs are serially numbered in alphabetical order.

3. Standard 3-letter codes for airline stations. See Official Airline Guide.

4. Distance in miles between the city pair. Source: *Airline Distances Between Cities in the United States*, U. S. Department of Commerce, Coast and Geodetic Survey, Special Publication No. 238, 1947.

5. Date, first digit, month. Second digit, year (add 1950).

6. Airline code. See Appendix G.

7. Direction: "1"—North, "2"—East, "3"—South, "4"—West. "9" in this position indicates no flights offered in this month.

8. Number of intermediate stops scheduled.

9. Originate ("0"), terminate ("2"), or through ("3"). The first digit refers to the first city named in the city pair, and the second refers to the other city.

10. Flight number.

11. Equipment. See Appendix I.

12. Class of service.

1—first class

2—tourist

3—night coach

4—mixed classes

5—class changes for different segments of the flight

13. Number of days per week flight scheduled.

14. Number of seats in the aircraft. Source: the various airlines and the Civil Aeronautics Board.

15. Number of flight schedules during month in indicated direction by indicated airline for each class.

16, 18. Number of seats per week for the flight schedule (column 14 multiplied by column 13).

17. Number of flight schedules during month in indicated direction by indicated airline for all classes.

Source of schedule data:

Official Airline Guide. A flight schedule was recorded if effective for 15 or more days during the month.

APPENDIX H

RESTRICTION CODE

<i>Code</i>	<i>Type of Restriction</i>
00	Unrestricted
11	1 intermediate stop required
12	2 intermediate stops required
13	3 intermediate stops required
21	Long haul restriction beyond either one of the two cities (carrier's option)
22	Long haul restriction beyond a specified one of the two cities
23	Long haul restriction beyond both of the two cities
24, 25, 26	Same as 21, 22, 23 but also one intermediate stop required
27, 28, 29	Same as 21, 22, 23 but also two intermediate stops required
31	Required designated stop beyond either one of the two cities (carrier's option)
32	Required designated stop beyond one of the two cities
33	Required designated stop beyond both of the two cities
34, 35, 36	Same as 31, 32, 33, but also one intermediate stop required
37, 38, 39	Same as 31, 32, 33, but also two intermediate stops required
40	Same as 22 beyond one city and 32 beyond the other
41	Same as 40 but 1 intermediate stop required
42	Same as 40 but 2 intermediate stops required
43	Same as 40 but 3 intermediate stops required
99	(For "improved" carriers only) Restriction code same as before, but circuitry reduced

APPENDIX I

EQUIPMENT CODE

<i>Code</i>	<i>Equipment</i>
	<i>Douglas</i>
03	DC-3
04	DC-4
06	DC-6
61	DC-6B
60	DC-6 or 6B—undifferentiated
07	DC-7
71	DC-7B
72	DC-7C
70	DC-7, 7B or 7C—undifferentiated
	<i>Lockheed</i>
09	L-049
79	L-749
59	L-049 or 749—undifferentiated
90	L-1049
93	L-1049C
97	L-1049G
98	L-1049H
16	L-1649
22	Lodestar
	<i>Convair</i>
24	240
34	340
44	440
35	340 or 440—undifferentiated
	<i>Martin</i>
20	202A
40	404
41	202A or 404—undifferentiated
	<i>Vickers</i>
11	Viscount
	<i>Boeing</i>
77	377 (Stratocruiser)
	<i>Curtiss</i>
46	C-46 (CW-20)