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INTERCHANGE SERVICE AMONG THE
AIRLINES OF THE UNITED STATES

By Donald C. Winkelhake


THE air transportation industry of the United States is relatively young and dynamic. Its orderly growth actually began no more than sixteen years ago, when the Civil Aeronautics Act of 1938 placed the airlines under comprehensive federal regulation and expressed Congressional desire to promote air transportation. The growth and progress made by the airlines during the past sixteen years of federal promotion and regulation have been remarkable. Nevertheless, the airline industry has yet to reach full-blown maturity—a fact substantiated by the continued existence of federal subsidy payments to some airlines. The primary goal which remains to be achieved is an economically sound air transportation system. Methods for gaining this goal are many and varied. One such method is interchange service.

This article attempts to review the development, analyze the economics, and examine federal regulation of interchange service in order to determine the nature of the role it has been, is, and should be playing in the development of an economically sound air transportation system.

The Development of Interchange Service

Interchange service is the provision of one-plane through service over the connecting routes of two or more air carriers by the means of interchanging aircraft at the connecting point or points. When compared to the many years during which the railroads of the United States have been providing through service by interchanging equipment over the tracks of two or more carriers, interchange service among the airlines of the United States has had a relatively recent history. Although the first interchange operation performed by the airlines began back in 1940, considerable recognition of interchange, as an effective and desirable method of providing new through service without basically changing the route structures of the air carriers, has only become evident in the past several years.
Since the initial interchange experiment in 1940, the development of interchange service has progressed through three periods of relatively different rates of growth. War conditions restricted interchange operations in the 1940-1945 period. In the remainder of the decade, the benefits of interchange service began to receive recognition, and several interchange operations were inaugurated. It has been in the years since 1950, however, that the development of interchange service—encouraged by the Civil Aeronautics Board—has made its greatest advances.

**Early Experiences and War-time Restriction, 1940-1945**

The earliest airline experience with interchange service dates back to the opening years of World War II, when this country was yet a neutral nation. In the summer of 1940, United Air Lines and Western Air Express began providing one-plane overnight sleeper service between New York and Los Angeles by interchanging aircraft at the connecting point, Salt Lake City. War conditions subsequently discouraged the operation, however, and it was terminated within several months after the Japanese attack at Pearl Harbor. Although the Civil Aeronautics Board recognized interchange of equipment as a possible means of providing new through service in several route proceedings in 1944 and 1945, little further attention was given interchange during the war years.

**United-Western interchange at Salt Lake City.** On March 17, 1939, United Air Lines, a major transcontinental trunkline, and Western Air Express (now known as Western Air Lines), a regional carrier linking Southern California to the Mountain and North Central states, entered into an agreement to provide one-plane overnight sleeper service between New York City and Los Angeles by interchanging aircraft at the connecting point, Salt Lake City. At that time, although United provided direct service between New York City and San Francisco, it was not authorized to serve Los Angeles directly from the East; however, it did connect with Western's route at Salt Lake City to provide two-plane service between Southern California and the eastern cities on its route. The required approval of the five-man regulatory board of the Civil Aeronautics Authority was received in June of the following year. Overnight one-plane through service over the connecting routes of the two carriers was subsequently inaugurated on August 20, 1940. Although unqualified success could not be claimed for this in-

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1 United A. L.-Western A. E., Interchange of Equipment, 1 CAA 723 (1940). The agreement was filed with the Civil Aeronautics Authority for approval on March 20, 1939.

2 This regulatory body became the present-day Civil Aeronautics Board on June 30, 1940, as a result of President Roosevelt's Reorganization Plans Nos. III and IV, printed as H Doc. Nos. 681 and 692, 76th Cong., 3d sess., and Public Resolution No. 75, 76th Cong., 3d sess.

3 United A. L.-Western A. E., Interchange of Equipment, ibid.

itial interchange, the two airlines provided the through sleeper service until the emergency conditions which confronted the air transportation industry, as a result of United States' entrance into World War II, discouraged continued operation. On May 27, 1942, one year and nine months after the service had begun, the interchange agreement between United and Western was terminated.\(^5\)

Although the Civil Aeronautics Board acknowledged the possibility of a future need for the interchange of flight equipment at Chicago, so as to provide through service between the Twin Cities (and points west thereof), and New York, in a route application case decided in 1941,\(^6\) the United-Western sleeper service was the only interchange service operated during the early forties. Several days after the United States entered the War, the Civil Aeronautics Board took action that sharply curtailed all planning along the lines of immediate expansion of air service through route extensions or interchange agreements. On December 12, 1941 the Board announced in a memorandum to the air carriers that all route proceedings would be temporarily suspended after the following day in order to enable the carriers and the Board to devote their immediate and complete attention to the emergency demands growing out of the War. For the ensuing eight months, the Board considered only those cases in which the needs of national defense were of paramount interest, and it considered those cases only on a temporary basis. But on August 29, 1942 the Board resumed proceedings in which hearings had been held prior to the suspension.\(^7\) And in the following summer, convinced that the war effort would no longer be jeopardized by the consideration of applications involving new service, the CAB terminated its suspension policy regarding route proceedings.\(^8\)

Termination of the suspension of route proceedings brought forth applications from the air carriers for new routes, but not voluntary interchange proposals. Nevertheless, Board recognition of interchange of flight equipment as a method of providing through service appeared in several route proceedings.

In November 1944, when granting Western Air Lines a certificate of public convenience and necessity authorizing service between Los Angeles and Denver, the Board pointed out the possibility of providing additional one-plane through service from Los Angeles to the East by

\(^5\)Ibid.
\(^6\)Northwest Airlines, et al., Additional Service to Canada, 2 CAB 641 (1941).
means of interchange of equipment between Western and United Air Lines at Denver. Towards the end of the same year, interchange again appeared in a route application case, when one of the members of the Board, in a dissenting opinion, suggested interchange as a way of providing single-plane service and at the same time avoiding route duplication.

Just prior to the end of the War, the Board once again suggested interchange service when handing down a decision in a route case. In the Great Lakes-Florida case, the Board acknowledged that, in establishing a Detroit-Miami route by extending Eastern Air Lines route from Columbia, S. C., to Detroit, it was subjecting traffic previously transferred between Delta Air Lines and Transcontinental and Western Air (TWA) at Cincinnati to diversion. The Board further indicated that it would look favorably upon a Delta-TWA interchange of equipment at Cincinnati and expressed a belief that such a combined service would succeed in retaining a substantial share of the Detroit-Florida traffic. The Board also considered the possibility of interchange between Capital Airlines and National Airlines at Washington for Detroit-Miami through service since Eastern was being made competitive with Capital at Detroit, Cleveland, and Akron. The attitude of the Board in advocating interchange service in this proceeding differed noticeably from that reflected in earlier cases where the Board had found interchange to be desirable. Whereas the Board suggested interchange of equipment when denying route extensions in earlier cases, in this proceeding the Board granted the route extension to provide one-plane through service and then suggested that interchange be used by the carriers from whom traffic would be diverted in order to enable them to retain a share of it. A consistent CAB policy on interchange service was yet to be established when the War ended.

Post-war Recognition and Service Inauguration, 1946-1949

The immediate post-war period was one of great expansion for the airlines. Expectations of an unprecedented volume of post-war passenger traffic led to optimism that was shared by the CAB and airline managements alike. New routes, new four-engine aircraft, and new

9 Western Air Lines, Inc., et al., Denver-Los Angeles Service, 6 CAB 212 (1944). In denying a route extension to United, the Board dismissed United's contention that additional through service between the East and Los Angeles should be provided by extending its route from Denver to Los Angeles with the argument that interchange of equipment at Denver would provide the same benefits.

10 Northwest Airlines, Inc., et al., Chicago Milwaukee-New York Service, 6 CAB 244 (1944). It is interesting to note that the CAB certified Northwest Airlines between the Twin Cities and New York City via Milwaukee and Detroit, in this case; this action was in direct contradiction to the Board's position several years earlier, when it denied Northwest a route extension to New York stating that interchange at Chicago would be available to take care of any future traffic needs for through service between the Twin Cities, and points west thereof, and New York, supra.

11 Now known as Trans-World Airlines.


13 Northwest Airlines, et al., Additional Service to Canada, 2 CAB 627 (1941); and Western Air Lines, Inc., et al., Denver-Los Angeles Service, 6 CAB 199 (1944).
schedules greatly increased the capacity of the airlines. During such a period of expansion, when route awards were being made rather freely and route duplication did not yet draw forth the condemnation it was to receive several years later, one would expect the role of interchange service to be minor. And such it was. Nevertheless, it is to this early post-war period that the beginning of the present-day route pattern of interchange service can be traced.

Several interchange services were inaugurated during the early post-war years from 1946 through 1949. Of greater significance than these initial operations, however, was the change in the CAB's attitude toward route expansion which took place toward the end of the period. The "over-expansion" of airline capacity in the immediate post-war period, which culminated in financial losses for the industry in 1947 and 1948, caused the Board to adopt a restrictive attitude toward the authorization of new routes and to encourage the use of interchange of equipment to provide new through service. This new policy subsequently resulted in the addition of a considerable amount of new interchange service; however, at the end of 1949, interchange still played only a minor role in the total service picture. The daily amount of capacity provided in interchange service was less than one million scheduled seat-miles or only three per cent of the airlines' total as 1949 drew to a close — Table 4.

**Pan American-Panagra interchange at Balboa.** The first post-war interchange service to be inaugurated was in the field of international air transportation, rather than domestic. In the early post-war period, the management of Panagra (Pan American-Grace Airways), a U. S. certificated carrier providing service solely within South America, realized that it could not even hope to get a route extension which would give Panagra direct access to the U.S. market. Pan American Airways, which owns half of Panagra's stock, would not permit the airline to file for a new route that would be directly competitive with Pan American's service. The only other alternative open to Panagra was interchange. In July 1946, Pan American and Panagra signed an agreement providing for interchange of flight equipment at Balboa, Canal Zone. The agreement stipulated that Pan American would charter aircraft operated by Panagra into Balboa from Lima, Peru, or points further south along its route, for operation in Pan American's scheduled services from Balboa to Miami. This interchange arrangement brought Panagra's service into Miami and represented a compromise in its

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14 In 1947 Pan American and Panagra began Miami-Buenos Aires through service over Pan American's Miami-Balboa route and Panagra's Balboa-Buenos Aires (down the west coast of South America) route; in 1948 Delta and TWA began Detroit-Miami through service over TWA's Detroit-Cincinnati route and Delta's Cincinnati-Miami route; and, in 1949 Delta and American began West Coast-Miami through service over American's San Francisco/Los Angeles-Dallas route and Delta's Dallas-Miami route.

15 Panagra's route extends from Balboa to Buenos Aires via various points on the west coast of South America; Pan American operates from Miami to Balboa, and thence to Buenos Aires via points on the east coast of South America.

16 *Pan American-Panagra Agreement, 8 CAB 50* (1947).
repeated attempts to gain a direct entrance for its flights into the United States.

The agreement received the CAB's approval on May 5, 1947, but in granting its approval the Board limited the life of the document to three years in order to permit later review of the agreement in the light of experience. By early June this initial interchange service (in the post-war period) was in operation. Pan American and Panagra sought reapproval and modification of the interchange agreement, as its life was running out in July 1949, but the CAB consolidated their application with a broader route investigation proceeding and granted only temporary approval pending a decision in the route case. When the board finally handed down the awaited decision almost two years later, it instituted a new proceeding (New York-Balboa Through Service Proceeding, infra.) to consider interchange service between New York City and the west coast of South America via Miami and Balboa and simultaneously consolidated the Pan American-Panagra agreement with this new investigation, while once again temporarily extending its life. Since a final decision in this later proceeding is yet to be handed down, Pan American and Panagra currently continue to operate their Balboa interchange service under the temporary agreement.

**Delta-TWA interchange at Cincinnati.** The first post-war domestic interchange service to be provided by United States carriers was inaugurated one year after the start of the Pan American-Panagra operation, although the signing of the interchange agreement by the two participating carriers, Delta Air Lines and TWA, actually preceded the signing of the Pan American-Panagra agreement by more than a month.

As previously indicated, toward the close of World War II the CAB recommended in the Great Lakes-Florida case, supra, that Delta and TWA interchange equipment at Cincinnati in order to retain a share of the Detroit-Miami traffic. This pronouncement received serious consideration by the two carriers which culminated in their signing an interchange agreement in June, 1946. Board approval of the agreement was not forthcoming until December 1947, however, and further delay in inaugurating the proposed service was experienced when Delta was authorized to serve New Orleans in January 1948. Shortly after Delta received this route extension, Delta and TWA filed a supplemental agreement with the CAB which differed from the original interchange agreement, recently approved, in that it provided for a

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17 Ibid.
21 The Pan American-Panagra agreement carried a July 30, 1946 date; the Delta-TWA agreement, a June 13, 1946 date.
one-plane operation between Detroit and New Orleans via Cincinnati, as well as between Detroit and Miami. When the CAB reopened the proceeding to consider only the Detroit-New Orleans interchange,\textsuperscript{24} Delta and TWA went ahead with plans to inaugurate the approved Detroit-Miami operation and on June 1, 1948 began daily one-plane service.\textsuperscript{25}

The Board finally disapproved the supplemental agreement providing for Detroit-New Orleans interchange service in July 1949, on the grounds that traffic demand didn’t warrant the service and the diversional effect on Chicago and Southern Air Lines would outweigh the slight benefits to be gained.\textsuperscript{26} Consequently, the Delta-TWA interchange connecting Detroit and intermediate points on TWA’s route to Cincinnati with Miami and intermediate points on Delta’s route to Cincinnati continued to be the only domestic interchange service provided, as the summer of 1949 drew to a close.

*Route system expansion influences growth of interchange.* As mentioned previously, anticipation of a greatly increased market for air travel in the immediate post-war period led to an optimistic expansion of the airlines’ capacity which hindsight later labeled “over-expansion.”

As shown in Table 1, at the end of 1945 the domestic scheduled airlines had 414 aircraft in service. By the end of 1946, this figure had jumped to 661. By the end of 1948, it had more than doubled, reaching a total of 858. Whereas the airlines were operating over a route system averaging slightly less than 48,000 unduplicated miles in 1945, by the end of 1948 that figure had jumped to over 68,000 miles. More significant than either of the foregoing comparisons, however, is the meteoric rise in available seat-miles flown, for it reflects increased capacity provided by larger, faster aircraft operating many new schedules, as well as increased capacity due to the larger number of aircraft and the expanded route structure.

<table>
<thead>
<tr>
<th>Year</th>
<th>Route-miles Operated During</th>
<th>No. of Aircraft in Service at End of Year</th>
<th>Available Seat-miles Flown (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>47,960</td>
<td>414</td>
<td>3,818,059</td>
</tr>
<tr>
<td>1946</td>
<td>52,745</td>
<td>661</td>
<td>7,574,433</td>
</tr>
<tr>
<td>1947</td>
<td>60,870</td>
<td>794</td>
<td>9,307,896</td>
</tr>
<tr>
<td>1948</td>
<td>68,111</td>
<td>858</td>
<td>11,441,045</td>
</tr>
</tbody>
</table>


Whereas the airlines flew slightly in excess of 3.8 billion seat-miles in 1945, by 1948 this figure had almost tripled to 11.4 billion. During

\textsuperscript{24} CAB Order Serial No. E-1634, May 28, 1948.


\textsuperscript{26} Transcontinental & Western Air, Inc.-Delta Air Lines, Inc., Interchange Agreement (Reopened Proceedings), 10 CAB 527 (1949).
such a period of "free and easy" expansion, interchange of equipment to provide new through service was a rather neglected alternative to route expansion. An airline management was not prone to voluntarily enter into an interchange agreement and share through traffic with another carrier, when it could get authorization to provide the entire through service itself.  

But when the airlines suffered an operating loss of approximately $22,000,000 in the fiscal year ending June 30, 1947 doubts were raised as to the wisdom of the attitude toward expansion that had been shared alike by the airlines and the CAB. The Chairman of the CAB sounded a note of caution for airlines with further plans for route expansion saying, "... the real possibilities for improved air service in the next decade lie less in the extension of routes than in the development of combined through services that will increase the scope of any particular carrier." Nevertheless, during the remainder of the year, although given some consideration in a couple of CAB cases, interchange service continued to play a minor role. However, when it became undeniably apparent in early 1948 that the airlines were passing through a serious financial crisis, and that one of the important reasons for this unfortunate state of events was the great expansion of routes engendered by over-optimism about the volume of immediate post-war traffic, interchange service began to receive a greater amount of attention. 

By autumn of 1948 the CAB had exhibited a more restrictive attitude toward the authorization of new routes and had begun to actively encourage the use of interchange of equipment to provide new through service. In the Kansas City-Memphis-Florida Case it instituted a proceeding (Through Service Proceeding, infra.) to investigate the possibilities of interchanging aircraft at St. Louis and Memphis in order to benefit through traffic moving between Kansas City and Denver, on the one hand, and Miami, on the other. In addition, it instituted a proceeding in 1948 to determine whether new single-plane service between southeastern points and the West Coast should

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27 On September 30, 1947 in a dissenting opinion, Chairman Landis denounced the CAB's willingness to extend routes as the reason for the limited development of interchange service. *Northwest Airlines, Inc., et al., Detroit-Washington Service*, 8 CAB 525 (1947).


29 James M. Landis, "Mutual Problems on Air Transport Service," an address before the American Municipal Association at New Orleans on November 6, 1947, p. 5 of mimeographed copy.

30 *Northwest Airlines, Inc., et al., Detroit-Washington Service*, 8 CAB 525 (1947); and *Middle Atlantic Area Case, Pittsburg Service*, 8 CAB 541 (1947). In denying an extension of Eastern's service to Pittsburgh in the latter case, the CAB indicated that Pittsburgh-Florida single-plane operation would have been possible by interchange of equipment with Pennsylvania Central Airlines (now Capital Airlines) at Washington, D. C., for Eastern Air Lines; at Norfolk, Va., for National Airliners; and at Knoxville, Tenn., for Delta Airlines (now Delta-C & S Airlines).

31 *Survival in the Air Age*, ibid.

32 9 CAB 401 (1948).
be established by equipment interchange between carriers already serving the area in question, and consolidated it into the same case with route applications of ten carriers who had been seeking new southern transcontinental routes (Southern Service to the West Case, infra).³³

Delta-American interchange at Dallas. Recognizing the Board’s changed attitude toward new routes and anticipating an ill fate for the applications for southern transcontinental routes, Delta Air Lines and American Airlines entered into an agreement on November 15, 1948 to provide one-plane through service between Miami, on the one hand, and Los Angeles, Oakland, and San Francisco, on the other, via the interchange point, Dallas. The CAB approved the agreement on August 30th of the following year, but qualified its approval as temporary, pending final disposition of the Southern Service to the West Case, infra.³⁴ Delta and American promptly inaugurated once-daily service in both directions between San Francisco and Atlanta, Los Angeles and Atlanta, and Los Angeles and Miami.³⁵

After the successful start of this second domestic interchange service, no new interchange operations were started and no new interchange agreements were approved during the balance of the year. As 1949 drew to a close, the U. S. was spanned by two interchange routes over which almost 5,700 route-miles (nearly 8 per cent of the industry total) were being operated daily. The Southeastern part of the U. S. was linked to the industrial North by the Delta-TWA interchange at Cincinnati and to the West Coast by the Delta-American interchange at Dallas. Twenty-nine cities, or 5.5 per cent of all cities served by scheduled air carriers were receiving interchange service.³⁶ Nevertheless, the actual airlift offered to the public daily by interchanges was less than one million scheduled seat-miles, or only 3 per cent of the scheduled airline industry’s total.³⁷

CAB Encouragement and Expansion of Interchange Service, 1950-1953

Although no new interchange services were inaugurated in late 1949 and during the entire year of 1950, this lull in interchange activity was more apparent than real for two important interchange cases were under consideration by the CAB. These two significant cases, viz., Through Service Proceeding and Southern Service to the West Case, infra, were to result in the addition of four new interchange operations in the eight month period from May 1951 to January 1952 and to give the growth of interchange service the greatest impetus in its brief history. Five more interchange operations also were inaugurated in the

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³⁶ Table 3.
³⁷ See Table 4.
Combined these nine interchanges accounted for the addition of over 19,000 daily route-miles and more than 2,000,000 daily seat-miles of interchange service. Interchange was no longer a unique experiment in the airline industry. Nine out of the thirteen domestic scheduled trunklines participated in one or more of eleven interchange operations. These eleven interchange operations served a total of 580 cities and offered about 63,000,000 seat-miles daily to the traveling public.

**Capital-National Interchange at Washington.** The two major cases cited in the paragraph above made the greatest contributions to the development of interchange service and CAB policy relative to it in the early 1950's. Nevertheless in keeping with the chronological order, prior attention will be given to the Capital-National interchange at Washington, D. C.

Although the Capital-National interchange began in the autumn of 1951, the historical background leading up to the service inauguration dates back to the early post-war period. When the CAB certified Eastern Air Lines to provide service to the Southeast from Detroit, Cleveland, and Akron in the Great Lakes-Florida case in July 1945, it also considered the possibility of interchange between Capital Airlines and National Airlines to improve their connecting service at Washington, since Eastern was being made competitive with Capital in three cities. While recognizing that some of Capital's passenger traffic would be diverted by Eastern's through service to the three cities, the Board expressed hopeful anticipation that Capital would be able to retain some of the Detroit-Florida business through connections with National's service to the South. Experience proved the CAB's expectation to be incorrect, however, and Capital soon lost substantially all of its earlier participation in the Florida traffic to Eastern's one-plane service.

In an effort to recapture some of the passenger traffic lost to Eastern, Capital and National entered into an interchange agreement on March 12, 1948 to provide one-plane through service between Detroit and other Capital cities northwest of Washington, on the one hand, and Miami and other National cities south of Washington, on the other, via the interchange point, Washington, D. C. The Board approved the agreement the following month. Shortly thereafter Eastern filed a petition to void the agreement, but the CAB upheld its earlier decision, indicating that Eastern had advanced no new proof that it would suffer substantial diversion or any new matters

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38 A listing of interchange services by date of inauguration appears in Table 5.
39 See Tables 2, 3, and 4.
40 Eastern A. L., et al., Great Lakes-Florida, 6 CAB 440 (1945). The Board also suggested the Delta-TWA interchange at Cincinnati in this case. See Delta-TWA interchange at Cincinnati, supra.
42 Ibid. p. 254. The agreement was approved April 28, 1949.
which would warrant changing the original finding of the Board.\textsuperscript{43}

Although Capital and National were now officially cleared to provide the new interchange service, National's attention was diverted to a pressing dismemberment case which threatened its very existence, and inauguration of interchange service was further delayed.\textsuperscript{44} Finally, however, in April 1951 Capital and National began operating twice-daily service in each direction between Detroit and Miami via the interchange point Washington.\textsuperscript{45} Detroit-Miami traffic was now served by two interchange operations, \textit{viz.}, the Delta-TWA interchange at Washington, as well as by Eastern's one-plane service. During the same Cincinnati and the Capital-National interchange at Washington, as well as by Eastern's one-plane service. During the same month plans were also made to provide Miami-Kansas City and Miami-Denver passenger traffic with interchange service, when the Board approved two interchange arrangements it had recommended in the \textit{Through Service Proceeding} case.

\textit{Through Service Proceeding.} This proceeding, the expressed purpose of which was to investigate the possibilities of interchange service between Rocky Mountain and Midwest cities, on the one hand, and cities in the Southeast, on the other, grew out of the \textit{Kansas City-Memphis-Florida Case}, in which a second and final decision was handed down in July 1948.\textsuperscript{46} An earlier decision rendered by the CAB in September 1947 had certificated Chicago and Southern Air Lines to provide service between Kansas City and Memphis via Springfield, Mo.\textsuperscript{47} In response to various petitions and motions filed by parties to the proceeding,\textsuperscript{48} the Board reopened it in the following November\textsuperscript{49} for "... the purpose of receiving in evidence the September 1946 Air Traffic Survey, and for reargument and reconsideration of the entire case upon the record as thus supplemented ..."\textsuperscript{50} That Chicago and Southern could provide service adequate to meet the needs of local traffic between Kansas City and Memphis was not challenged by the petitioners. They contended that the CAB's recent traffic survey

\textsuperscript{44}National Route Investigation, Docket No. 3500, \textit{et al.}, CAB Order Serial No. E-5205, March 16, 1951. Due primarily to serious accidents in the fall of 1947 which resulted in the grounding of National's DC-6 aircraft from November, 1947 to April, 1948 National's peak traffic season, and to National's labor strike in 1948, the airline was in a precarious financial position. On September 28, 1948 the Board instituted a proceeding to determine whether certain transfers of National's routes and property would be in the public interest, seeking a solution to National's dilemma in dismemberment. However, National recovered much of its financial strength in 1949 and 1950, and in March 1951, the Board terminated the dismemberment case.
\textsuperscript{45}Official Airline Guide, April 1951, p. 128. Service was extended beyond Detroit to Milwaukee and Minneapolis/St. Paul in January 1954.
\textsuperscript{46}Kansas City-Memphis-Florida Case, 9 CAB 401 (1948).
\textsuperscript{47}Kansas City-Memphis-Florida Case, 8 CAB 554 (1947).
\textsuperscript{48}Delta Air Lines, Eastern Air Lines, Mid-Continent Airlines, and various cities.
\textsuperscript{49}CAB Order Serial No. E-1025, November 28, 1947.
\textsuperscript{50}Kansas City-Memphis-Florida Case, \textit{op. cit.}, p. 402.
showed the need for through service to be greater than the need for local service, and they further maintained that the Board had erred in selecting a carrier that would not be able to offer single carrier service to the through traffic moving to or from cities beyond Kansas City and Memphis, the terminals of the route given to Chicago and Southern.51

Nevertheless, the Board reaffirmed its earlier decision to award the route to Chicago and Southern; however, it also acknowledged that the needs of the through traffic moving through St. Louis and Memphis from the west and north to the southeast warranted an investigation to determine the desirability of providing interchange service through either or both of the two gateways.52 In accordance with this opinion the Board instituted a proceeding concurrently with its decision in the Kansas City-Memphis-Florida Case which was docketed as the Through Service Proceeding.53

On November 13, 1950 the Board issued its opinion and decision in the Through Service Proceeding Case, recommending that interchange service connecting Kansas City-Omaha and Miami via St. Louis be provided by Mid-Continent Airlines and Eastern Air Lines, and that similar service between Denver and Miami via Memphis be provided by Braniff Airways and Eastern Air Lines.54 In taking this unprecedented action of "requesting" carriers to enter into interchange agreements, the Board indirectly served notice on the scheduled airlines that interchange of equipment was to play a significant role in the Board's thinking on the future development of the air service pattern. This was the first time the Board had really taken the initiative in proposing interchange of equipment to provide new one-plane through service. Previously it had merely suggested the possible use of interchange and had reserved its judgment for determining whether or not interchange agreements conceived and proposed by the carriers themselves should be approved.

The CAB also declared in this important case that it had the authority to compel the interchanges desired, but chose only to recommend that the desired services be inaugurated, and ordered that the record in the proceeding be kept open for a period of sixty days to permit the carriers involved to negotiate and file interchange agreements with the Board.55

Agreements between Mid-Continent and Eastern and Braniff and Eastern were subsequently filed and received Board approval in April 1951.56 The interchange services authorized were not immediately in-

51 Ibid, p. 403.
52 Ibid, p. 408.
54 Through Service Proceeding, 12 CAB 278 (1950).
55 Ibid, pp. 277, 279.
56 On December 15, 1950 the Board issued CAB Order Serial No. E-4932 extending the time for filing agreements to February 15, 1951. Mid-Continent and Eastern filed their agreement on January 10, 1951, and Braniff and Eastern filed theirs on
augurated, but in December 1951 Braniff and Eastern began once-daily round trip service between Denver and Miami via the interchange point, Memphis.\(^{57}\) Mid-Continent and Eastern inaugurated once-daily round trip service between Kansas City and Miami via the interchange point, St. Louis, in the following month.\(^{58}\)

**Southern Service to the West Case.** Probably even more significant and far reaching in its effects than the Board's decision in the *Through Service Proceeding* late in 1950, was the Board's action in the *Southern Service to the West Case* decided on January 30th of the following year.\(^{59}\)

This proceeding had been instigated to determine the need for through service between cities in the southeastern and southern parts of the United States and cities on the West Coast.\(^{60}\) It included both new route applications and a broad interchange investigation and achieved great significance as an interchange case since out of it came the only official general policy statement on interchange service that the CAB has issued to this day.

In denying the applications of six airlines for new routes between the southeastern part of the United States and south Texas points, on the one hand, and points in the Southwest and California, on the other hand, the Board reasoned that, in view of: (1) the large expansion of the domestic route pattern since the enactment of the Civil Aeronautics Act of 1938; (2) the enormous increase in transport capacity during the post-war years; (3) the failure of the post-war traffic to reach the level which was anticipated by the industry and CAB alike; and (4) the critical economic situation which confronted the industry during 1947 and 1948, when the remainder of the American economy was in a healthy condition:

... the conclusion would seem too inescapable that, in the light of present facts and conditions, the difficulty of reconciling any material route expansion with the statutory mandate looking toward the development of an economically sound air transportation system would seem to present ... a major, if not insurmountable, task and that under such circumstances serious consideration should be given to interchange operations as an alternative measure for meeting the future air service needs.\(^{61}\)

The Board then went on to lay down certain principles or standards which it believed would be useful as guides to judgment in future interchange cases, as well as the one at hand, stating that:

... Interchanges which would best satisfy the public interest

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\(^{59}\) *Southern Service to the West Case*. Docket No. 1102, et al., CAB Order Serial No. E-5090, January 30, 1951.


would be those which would cause the minimum interference with the existing route pattern and this... would favor interchanges that were not dependent upon new route extensions with their attendant cost and competitive implications to implement them. It would also seem to be a basic requirement that sound interchanges should provide improved through service over reasonably direct routes. And finally... the interchange arrangement which would be most consistent with the public interest... would leave substantially undisturbed the historical participation of various existing carriers in the traffic movement to be served, and would not cause undue diversions.\textsuperscript{62}

In accordance with the policy so stated in its opinion, the Board denied the application of American Airlines, Eastern Air Lines, Delta Air Lines, Continental Air Lines, Braniff Airways, and National Airlines for new routes. At the same time the Board officially sanctioned the interchange agreement under which Delta and American had been operating (see \textit{Delta-American interchange at Dallas, supra}). Insofar as it provided for through service between the West Coast and Atlanta (the two carriers had been operating the interchange service to Miami under temporary approval) and between the West Coast and New Orleans via Dallas.\textsuperscript{63} It further found the public interest to require interchange between National, Delta, and American over a Miami-New Orleans-Dallas-West Coast route\textsuperscript{64} and between Braniff, Continental, and American over a Houston-San Antonio-El Paso-West Coast route.

As in the \textit{Through Service Proceeding, supra}, the Board again acknowledged its authority to compel interchange operations by appropriate order, but chose to call upon the carriers involved to present voluntary interchange agreements for the Board's approval;\textsuperscript{65} furthermore, in accordance with this action, the Board once again held open the record in the proceeding for a period of sixty days to permit the carriers to work out and file interchange agreements.\textsuperscript{66}

Braniff, Continental, and American filed an interchange agreement on March 9, 1951; and National, Delta, and American filed theirs a week later on March 16. Both agreements were subsequently approved by the Board on May 1, 1951.\textsuperscript{67} National, Delta, and American began operating their southern transcontinental interchange service immediately,\textsuperscript{68} but the Braniff-Continental-American interchange service never materialized.

\textsuperscript{62}Ibid., pp. 32-33.
\textsuperscript{63}Delta was later authorized to serve New Orleans, Birmingham, and Atlanta on the same flight. CAB Order Serial No. E-5231, March 22, 1951.
\textsuperscript{64}Delta and American had been providing similar interchange service between the West Coast and Miami via Atlanta, a more circuitous route, under their temporary approval.
\textsuperscript{65}Southern Service to the West Case, \textit{op. cit.}, p. 32.
\textsuperscript{66}Ibid., p. 55.
\textsuperscript{67}CAB Order Serial No. E-5337, May 1, 1951.
\textsuperscript{68}Official Airline Guide, May 1951, p. 85. They offered once-daily round trip service between Los Angeles and Miami via San Diego, El Paso, Dallas, New Orleans, and Tampa, and between San Francisco and Miami via Dallas, New Orleans, and Tampa.
On July 13, two months later, the Board reversed its former position in regard to the Braniff-Continental-American interchange and revoked its approval of the agreement.\(^6\) In explaining its unusual action, the Board stated that it had reconsidered its earlier decision and had concluded that in certain respects it should be modified.\(^7\) The modification consisted primarily of (1) disapproving the Braniff-Continental-American interchange agreement; (2) finding a Continental-American interchange between Houston and the West Coast via San Antonio and El Paso to be in the public interest; (3) amending Continental's certificate to extend its service from San Antonio to Houston on through flights between the later city and points west of El Paso on American's route operated under an interchange arrangement; and, (4) to reopen the proceeding for further argument on and consideration of whether it would be in the public interest to provide through service from Miami via Houston and Amarillo to points west thereof on TWA's route to the West Coast by interchange of equipment between Eastern, Braniff, and TWA, and whether Eastern's certificate should be amended to authorize it to engage in trans-Gulf operation under the suggested interchange arrangement.\(^7\)

In reversing its stand on the Braniff-Continental-American interchange, the Board now concluded that it was unsound and that:

\[\ldots\text{such an arrangement in which Braniff's participation and financial stake is relatively so small [actually Braniff was confronted with the problem of short-hauling itself over the Houston-San Antonio segment as against moving Houston-West Coast traffic over its Houston-Dallas route to connect with American or over its Houston-Amarillo route to connect with TWA] does not offer that prospect for development and continued success originally envisaged.}\(^7\)

In apparent contradiction to the interchange "principle" laid down in the first CAB opinion and decision in this case, which held interchange dependent upon route extensions in disfavor, \(^*\) supra, the CAB now had extended Continental's route from San Antonio to Houston, albeit only for interchange flights, and had indicated a favorable attitude toward the proposed Eastern-Braniff-TWA interchange, which also depended upon a route extension, by agreeing to reconsider it. This capricious action by the Board can only be explained by recognizing that the Board which handed down the second decision was not the same Board that handed down the initial decision and opinion, containing the interchange policy statement and principles. Of the five members of the CAB which handed down the second decision on July 13, 1951, only two had been members of the Board in the previous

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\(^7\) *Southern Service to the West Case*, op. cit., p. 5.


January when the initial decision had been rendered. Thus the change in Board attitude can be attributed primarily to a change in membership. Such complete reversals of Board policy contribute little to foster stability within the airline industry. The Board's supplemental opinion completely invalidated the earlier policy statement and "principles" laid down to guide future action in interchange cases, and left the airlines confused.

Immediately after the CAB issued its supplemental opinion, Continental and American filed an interchange agreement. Board approval came on July 24, 1951. The carriers began once-daily service in each direction between Houston and Los Angeles via San Antonio and El Paso in October. Similar service between Houston and San Francisco via the same intermediate points was added in the following month. A second daily flight between Houston and Los Angeles was added in November 1952. This added "local flight" served intermediate points San Antonio, El Paso, Douglas, Tucson, Phoenix, and San Diego.

In February 1952, seven months after it had reopened the proceeding to reconsider an Eastern-Braniff-TWA interchange operation, the Board handed down its second supplemental opinion in the Southern Service to the West Case and found the provision of through one-plane service by means of interchange of aircraft between Eastern (from Miami to Houston via Tampa), Braniff (from Houston to Amarillo via Dallas or Ft. Worth), and Trans World Airlines (from Amarillo to San Francisco via Los Angeles) to be in the public interest. In addition it authorized Eastern to operate across the Gulf of Mexico from Tampa to Houston for one year only (expiration date was April 11, 1953) subject to the condition that service over that segment of Eastern's route would be limited to through flights operated in conjunction with Braniff and TWA, pursuant to an interchange agreement providing for through service by interchange of aircraft between Miami and points west of Amarillo.

The three carriers subsequently filed an interchange agreement which the Board approved on April 7, 1952. However, on the following day National Airlines filed a petition in the U. S. Court of Appeals for the District of Columbia Circuit seeking judicial review of the CAB's orders which had found the Eastern-Braniff-TWA interchange to be in the public interest, certificated Eastern for trans-Gulf operation in conjunction with the interchange service, and approved the interchange agreement filed by the three carriers. On April 10th the Court issued an injunction staying inauguration of service under the

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73 In January 1951 the Board was composed of Chairman Rentzel and members Ryan, Lee, and Jones with one vacancy. By July 1951, Nyrop had replaced Rentzel as Chairman, Gurney had replaced Jones, and Adams had filled the vacancy.
74 CAB Order Serial No. E-5546, July 24, 1951.
78 CAB Order Serial No. E-6297, April 7, 1952.
interchange agreement, pending hearing of the case by the Court.79

Faced with the prospect of lengthy judicial review (and perhaps a
decision unfavorable to the CAB), the Board backed down on its
earlier decision, rescinded the orders in question, and reopened the
Southern Service to the West Case for the purpose of conducting
further hearings on the proposed Eastern-Braniff-TWA interchange
and the amendment to Eastern's certificate which would authorize
trans-Gulf operation in conjunction with the interchange service.80
Subsequently, the Court of Appeals remanded the case to the CAB.81
In December 1953, a year later, the Board reversed its position on the
proposed Eastern-Braniff-TWA southern transcontinental interchange
once again and withdrew its approval. Nevertheless, in the same de-
cision it found a Houston-Miami interchange service over Eastern Air
Lines' route from Houston to New Orleans and National Airlines'
trans-Gulf route from New Orleans to Tampa and Miami to be in the
public interest.82

Almost five years earlier (March 3, 1949), Eastern and National
had filed an application for approval of a voluntary interchange agree-
ment which included a Miami-Houston service via the interchange
point, New Orleans.83 Hearings had been held by the Board on this
application as part of the proceedings in the National Route Investi-
gation case with which it was first consolidated and from which it was
later severed.84 When the Board reopened the Southern Service to the
West Case85 in July 1951 for the further argument and consideration
of the previously disapproved Eastern-Braniff-TWA transcontinental
interchange service between Miami and the West Coast via New Or-
leans, Houston, and Amarillo, Eastern's interest in its proposed trans-
Gulf interchange with National immediately waned. Several months
later (October), when favorable CAB action on the Eastern-Braniff-
TWA interchange seemed assured, Eastern submitted a letter to the
CAB withdrawing its application for approval of the Eastern-National
interchange and requesting that the proceeding be dismissed.86

Although Eastern's request for dismissal was not granted, the Board
handed down a decision denying approval of the interchange agree-
ment in February of the following year, stating that, "... without the
enthusiastic support of both carriers, there can be no justification for
... approval of the agreement."87 The Board went on in its opinion

80 Ibid., pp. 3-4.
82 Reopened Southern Service to the West Case, Docket No. 1102, et al., CAB
83 CAB Order Serial No. E-6878, October 15, 1952, footnote on p. 3.
84 National Route Investigation, Docket No. 3500, et al., CAB Order Serial
No. E-5205, March 16, 1951. The application was consolidated on July 15, 1949 by
CAB Order Serial No. E-3017 and severed on March 16, 1951, concurrently with
the decision in the National Route Investigation case.
86 National-Eastern Interchange Agreement, Docket No. 3681, CAB Order
Serial No. E-6106, February 11, 1952, mimeographed opinion, p. 3.
87 Ibid., p. 4.
to qualify the foregoing statement, lest it be construed to mean that compulsory interchange would never be a possibility, by adding that:

... the fact that one party to an interchange agreement loses interest in the proposed service does not necessarily mean that the Board will automatically deny approval of the agreement. However, the willingness of the parties is a substantial factor to be considered in passing upon the agreement. And where, as here, there is a need for the development of new traffic in order to make the operation successful, the unwillingness of one party definitely tips the scale against approval of the agreement. 88

The foregoing decision and opinion in the National-Eastern Interchange case were issued by the CAB on February 11, 1952, the same day during which the Board issued the supplemental opinion and decision in the Southern Service to the West Case which found the Eastern-Braniff-TWA transcontinental interchange to be in the public interest. Although the Board apparently had dealt the proposed National-Eastern interchange a final death blow by its action, subsequent developments in the Southern Service to the West Case gave it new life.

As indicated above, Eastern, Braniff, and TWA were prevented from inaugurating service on their authorized interchange route in April 1952, when National obtained a court injunction. Faced with lengthy litigation, the CAB revoked its previous order in June and reopened the case to reconsider the Eastern-Braniff-TWA interchange. With the whole question of additional interchange service between Florida and Texas open once again, National revived its application for a National-Eastern interchange service, and on October 15, 1952, the Board instituted a proceeding to investigate the proposed interchange service, and consolidated it with the Southern Service to the West Case for hearing and decision. 89

Although the Board had previously denied approval of a National-Eastern interchange at New Orleans, because it did not have the enthusiastic support of both carriers, the Board now felt that such mutual enthusiasm was not essential, stating that:

... we do not believe that the condition with respect to an expression of Eastern's willingness is necessary or appropriate, particularly in the circumstances of this proceeding. ... It is clear that the Board's power to compel through service pursuant to Section 1002(i) of the [Civil Aeronautics] Act would be largely destroyed if the Board in this or any other proceeding should condition such a proceeding upon the willingness of one or more of the carriers involved. 90

Once again the Board had reversed itself on a policy statement on interchange service. This time, however, the membership of the Board

88 Ibid., p. 5
90 Ibid., p. 3.
had not changed between decisions; only the minds of the members had.

As mentioned above, the Board approved the Eastern-National interchange in December 1953 and disapproved the Eastern-Braniff-TWA interchange with which it had been consolidated for hearing. Eastern, Braniff, and TWA immediately sought a reversal of the Board’s decision. Nevertheless, in June 1954 the Board reaffirmed its earlier decision. At the same time, it tentatively approved a Braniff-TWA interchange at Amarillo, linking Texas and California points, and consolidated it for hearing with Continental Air Lines’ application for renewal of its authorization to serve Houston, Texas on interchange flights between that point and California points. In addition to reaffirming its previous approval of an Eastern-National interchange, the Board held the record open for 60 days to permit the two carriers to enter into and file for CAB approval an interchange agreement. Eastern and National were not disposed to take immediate action toward that end, however, and the interchange was not forthcoming.

**New York-Balboa Through Service Proceeding.** An important interchange proceeding still awaiting final decision by the CAB is the *New York-Balboa Through Service Proceeding*, which had been instituted by the Board back in March 1951, concurrently with its decision in the *National Route Investigation* case.

When the Civil Aeronautics Board initiated the National Investigation in January 1949, it indicated that the investigation would include such possibilities as interchange of equipment or merger of the financially sick National with another carrier, as well as the transfer of one or more of National’s routes or segments. Subsequently, however, National’s operating record and financial condition improved and the CAB decided that the public interest no longer required a transfer of the whole or any part of the routes of National to any other carrier or carriers. Consequently, on March 16, 1951, the CAB terminated its investigation of the routes and property of National, leaving the airline intact. At the same time, it instituted a proceeding, designated the “New York-Balboa Through Service Proceeding”, which directed Pan American World Airways, Panagra, and National Airlines to show cause why the Board should not order a compulsory interchange operation between Pan American and National for through service between New York and Balboa to be provided by using Panagra’s aircraft already being used in the Panagra-Pan American interchange operation. Applications for approval of interchange agreements

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93 Docket No. 4882.


95 Ibid., mimeographed opinion, p. 4.

96 Ibid., p. 9.
between National and Panagra and Eastern and Pan American, providing for interchange at Miami, both of which had been filed during the National Route Investigation proceeding, were consolidated with the new proceeding, as was an application for modification and extension of the Pan American-Panagra Through Flight Agreement (see Pan American-Panagra interchange at Balboa, supra). Recognizing that a National-Pan American-Panagra interchange service would subject Latin American traffic via Eastern and Braniff to considerable diversion, the Board also included in the new proceeding the question of whether or not Braniff or Eastern should have their certificates amended to include service between Miami and Havana, and also why, in the event of such an amendment, a compulsory interchange between Eastern and Braniff to provide through service between New York and Balboa should not be ordered by the Board.98

A month later the Board opined that the proceedings would take a substantial period of time and that some through service should be provided in the interim. Consequently, it tentatively approved the National-Panagra interchange agreement and a supplement to the Pan American-Panagra Through Flight Agreement pending final decision in the New York-Balboa Through Service Proceeding.99 The Board’s action made possible through one-plane service using Panagra equipment from New York to Argentina over National’s route from New York to Miami; Pan American’s, from Miami to Balboa; and Panagra’s, from Balboa down the west coast of South America to Santiago and thence eastward to Buenos Aires.

This interchange differed markedly from others the Board had considered in that the interchange connected a domestic route with an international route, providing for equipment interchange at an international gateway. In its opinion, the CAB acknowledged that the red tape of government clearance encountered at the gateway would reduce the advantages of through service by equipment interchange found to exist in domestic travel. However, despite the fact that passengers would still have to disembark and go through health, immigration, and custom checks, the Board believed that there was "... still a definite benefit to the traveling public in removing the possibilities of missed connections flowing out of connecting service and assuring passage to an ultimate destination . . .", and also noted that there was a strong public desire for through service at the Miami gateway.100

In May, 1951 the Board decided to amend its original order and

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97 National Route Investigation, Docket No. 3500 et al., Order Serial No. E-5205, March 16, 1951.
98 Ibid., mimeographed opinion, pp. 12-13. The Board specifically stated in a later order that an extension of Eastern’s route from Miami to Havana or Braniff’s Latin American route to include Miami would be limited to interchange flights only, if granted. CAB Order Serial No. E-5642, August 23, 1951.
99 CAB Order Serial No. E-5282, April 12, 1951. The supplement extended the Through Flight Agreement to 1961, and gave Panagra the right to operate the Panagra aircraft coming into Miami under that agreement over National’s route to New York pursuant to the National-Panagra arrangement.
100 Ibid., mimeographed opinion, p. 6.
expand the New York-Balboa Through Service Proceeding to include consideration of a Braniff-National interchange at Havana and the possible participation of Panagra in the proposed Pan American-Eastern interchange operation. Meanwhile, Pan American changed its attitude toward the National-Panagra interchange and exercised an option granted it in the recently approved supplement to the Through Flight Agreement to call upon Panagra to terminate the Panagra-National interchange. This action left the three airlines at loggerheads. Finally, the Board stated that lack of cooperation between the airlines made the interim interchange no longer feasible as a voluntary arrangement, and that since the agreements had been presented as voluntary arrangements and had been so considered all the way through the proceeding, the Board believed that it could not simply order the agreements to be activated. Consequently, the Board rescinded its temporary approval of the National-Panagra Interchange agreement and the Pan American-Panagra agreement. However, the interchange remained one of the several under consideration in the proceeding.

Since international air routes are involved in the New York-Balboa Through Service Proceeding, any decision reached by the CAB must be approved by the President before it can become an enforceable order. In June 1951, the Board found that Braniff should interchange with Eastern and National with Pan American and Panagra at Miami. This decision was never acted on by former President Truman, but was returned to the CAB in January 1953 so that it could be resubmitted to the new Administration. It was subsequently sent to President Eisenhower, but in May 1953 he returned it to the Board, indicating that further evidence was desired because a considerable period of time had elapsed since the close of the hearings. The complicated and drawn-out case is still on the CAB docket; however, unofficial reports indicate that a Board decision will soon go to the White House for approval once again.

Pan American-C & S Interchange at Houston. Another interchange proposal involving both foreign and domestic air service received the CAB's consideration in 1952, but not its approval. In February 1951, Chicago and Southern Airlines and Pan American had signed an agreement to provide one-plane through service between Chicago and Mexico City via St. Louis and the interchange point Houston. One year later, in May 1952, the Board disapproved the agreement, finding it not to be in the public interest. The Board maintained that there was insufficient traffic to support the proposed service and that there was

101 CAB Order Serial No. E-5389, May 18, 1951. Miami was also included later as a possible interchange point for the Braniff-National arrangement. CAB Order Serial No. E-5642, August 26, 1951.
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doubt as to the economic self-sufficiency of the operation. Furthermore, it found the interchange agreement to be contrary to its decision in the Latin American case because it would create a third competitor for American Airlines and Braniff Airways, who already had been certified to serve Mexico City from the Midwest. Finally, the Board feared that the interchange agreement would jeopardize route negotiations with the Mexican Government.

Continental-Mid Continent Interchange. Although the development of foreign interchange service among U. S. airlines received little impetus in 1952, activity on the domestic scene was greater. In addition to the inauguration of interchange service between Kansas City and Miami via St. Louis by Mid-Continent and Eastern in January (see Through Service Proceeding, supra), Continental Air Lines and Mid-Continent Airlines began operating a Denver-Kansas City-St. Louis interchange service in February.

Continental and Mid-Continent had signed their agreement to provide through one-plane service between Denver and St. Louis via Colorado Springs and the interchange point, Kansas City, in April 1951, and had filed it with the Board for approval in the following month. Finding that the benefits to the participants and to the public of this relatively short interchange service—it is only 781 air miles from Denver to St. Louis via Kansas City, and 839 air miles when a stop at Colorado Springs is included—outweighed any harmful effects that might result to TWA (which serves both Kansas City and St. Louis) due to diversion of traffic, the Board approved the agreement on October 10, 1951. Service was inaugurated in February 1952 with a once-daily round trip flight (Colorado Springs being served on westbound flights only). The service remained unchanged in September 1952 when Braniff and Mid-Continent merged to become one carrier, Braniff.

Minnesota-California Through Service. Expansion of interchange service had reached a climax in 1951. Four new interchange operations were introduced in that year, adding almost a million seat-miles daily in interchange service. By the end of 1951, almost five per cent of the daily passenger airlift offered to the public by the domestic scheduled airlines was in interchange service. Furthermore, a long-awaited opinion in the Southern Service to the West Case, supra, had expressed the intent of the CAB to prefer interchange of equipment over route extension in future new through service cases. But in 1951, when all this occurred, the airlines were yet recovering from the lean years of the late forties. By the middle of 1952, however, the airline industry

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104 Latin American Air Service, 6 CAB 857 (1946).
was profitably carrying record volumes of traffic, and the old optimism was returning. With the return of prosperity, came the return of route expansion.

In August 1951, as an outgrowth of the Salt Lake City-Rapid City Extension proceeding in which Western Air Lines sought to have its route extended from Salt Lake City, Utah, to Rapid City, South Dakota, and thereby have a through route from Minneapolis to Los Angeles, the CAB instituted an investigation with respect to possible interchange services between the Twin Cities and Los Angeles, viz., (1) United Air Lines between Los Angeles and Denver, and Western between Denver and the Twin Cities, (2) United between Los Angeles and Omaha, and Mid-Continent Airlines between Omaha and the Twin Cities, and (3) TWA between Los Angeles and Kansas City and Mid-Continent between Kansas City and the Twin Cities. When it handed down its decision a year later, the Board gave the route extension to Western and dismissed the interchange investigation. It deemed a Kansas City interchange to be too circuitous—231 miles longer than a connection at Denver, and 161 miles longer than Western's proposed service via Salt Lake City. Interchange between United and Mid-Continent at Omaha was held to be undesirable because Mid-Continent could not be expected to short-haul itself by delivering traffic at Omaha to United instead of carrying it to Kansas City for transfer to TWA. Finally, the Board dismissed the interchange between United and Western at Denver because the two carriers had indicated an unwillingness to enter into such an interchange, and would do so only under direct compulsion by the Board. The Board stated that, "Where attractive alternatives are available which offer additional benefits to the public, as in this case, we are not disposed to require an interchange arrangement between two such unwilling partners." It is interesting to note that these two "unwilling partners" had cooperated to operate the first interchange service.

New York-Houston Interchange. Although the Mid-Continent interchanges with Eastern and Continental were the only interchange services inaugurated in 1952, the Board did approve a TWA and Chicago & Southern agreement in December which provided for the interchange of equipment at Indianapolis and/or St. Louis on flights between New York and Houston. The Examiner in the case had found the proposed interchange service to be in the public interest, but further recommended that final approval be deferred pending the Board's decision on a proposed merger between Delta Airlines and Chicago & Southern. Nevertheless, the CAB did not believe that the benefits which the interchange would provide for the public should be delayed, and on December 16, 1952 approved the agreement. The

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proposed Delta-Chicago & Southern merger was subsequently approved several weeks later. This event in no wise basically changed the plans for the interchange operation, but did delay inauguration of the service.\textsuperscript{112}

TWA and Delta-C & S (the resulting airline of the merger) finally began their interchange service on April 1, 1953 offering twice-daily round-trip schedules between New York and Houston (one schedule via Pittsburgh and St. Louis and the other via Pittsburgh, Indianapolis, Memphis, and Shreveport).\textsuperscript{113}

United Interchanges at Denver with Braniff and Continental. Two more interchange services were inaugurated in the Fall of 1953, bringing the total number of domestic interchange operations to eleven. On October 30, 1952 United Air Lines entered into an interchange agreement with Braniff to provide one-plane through service between Seattle and Portland, on United’s route west of Denver, and Oklahoma City, Dallas, Ft. Worth, and Houston, on Braniff’s route east of Denver. At the same time, it also entered into an agreement with Continental Air Lines to provide similar through service between Seattle and Portland, and Wichita and Tulsa on Continental’s route east of Denver. These proposed interchanges met with little opposition, and the agreements were approved by the CAB the following July.\textsuperscript{114}

Daily round-trip interchange service was inaugurated over both routes in September 1953.\textsuperscript{115}

Although these interchange services offered one-plane through service between the Pacific Northwest and major cities in Kansas, Oklahoma, and Texas for the first time, the amount of new traffic they generated was disappointing to the participating carriers. Consequently, in April 1954 they filed to suspend operations over the two interchange routes, maintaining that they could better utilize the interchange aircraft over their own respective routes for the forthcoming seasonal traffic peak. The CAB approved the suspensions for the period from April 25 to December 31, 1954.

As previously indicated, the inauguration of interchange service over these two routes brought the total number of domestic interchange arrangements in operation at the end of 1953 to eleven. All but two of these eleven services had been started within the first three years of the ’50s, a period during which the CAB had firmly kept the lid clamped on major route grants to the airlines, while looking favorably upon interchange of equipment and mergers.

\textsuperscript{112}Delta-Chicago and Southern Merger Case, Docket No. 5546, CAB Order Serial No. E-7052 and E-7053, December 24, 1952.

\textsuperscript{113}Official Airline Guide, April 1953, p. 168.


\textsuperscript{115}Official Airline Guide, October 1953, p. 432.
The growth of interchange service in recent years has been noteworthy. Nevertheless, its place in the development of the air transportation system of the United States is not yet firmly established. Recently activated major route proceedings threaten to relegate interchange to a minor role in the development of the air transport pattern once again. It is too early to predict what the outcome of these route cases will be; however, it may be safely said that if the Civil Aeronautics Board grants major route awards in these cases, the interest in interchange operations exhibited by the scheduled airlines in the past several years will wane appreciably.

As 1948 drew to a close, the TWA-Delta through service between Detroit and Miami via the interchange point, Cincinnati, was the sole domestic interchange service in operation. As shown in Table 2 the two carriers were operating interchange service over about 1,700 route-miles daily, only 2.5 per cent of the total daily route-miles operated by all U. S. scheduled airlines in domestic service. At the end of 1953, nine out of the thirteen domestic trunklines were operating a combined total of eleven interchanges over almost 25,000 route-miles daily. The latter figure represented nearly a third of the domestic airline industry’s daily total route-miles and reflected a fourteen-fold increase over 1948.

The growth of interchange is further evidenced by the increase in the number of cities receiving interchange service. Only 18 cities were served by the Delta-TWA interchange route in 1948. By the end of 1953, the number of cities receiving interchange service had almost tripled, reaching a total of 51 — Table 3.

Despite the growth reflected in the above tables, it should be recognized that the amount of airlift actually being provided in interchange service today is quite small when compared to the total airlift offered to the public in domestic scheduled service. As shown in Table 4, although the average daily scheduled seat-miles in interchange service at the end of 1953 was nearly fourteen-fold that in 1948,
TABLE 3
Cities Served by Domestic Interchange Services, 1948-1953

<table>
<thead>
<tr>
<th>End of Year</th>
<th>No. of Cities Served by Interchange</th>
<th>Total No. of Cities Served</th>
<th>Per Cent Interchange of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>18</td>
<td>521</td>
<td>3.5%</td>
</tr>
<tr>
<td>1949</td>
<td>29</td>
<td>525</td>
<td>5.5</td>
</tr>
<tr>
<td>1950</td>
<td>28</td>
<td>580</td>
<td>4.8</td>
</tr>
<tr>
<td>1951</td>
<td>36</td>
<td>580</td>
<td>6.2</td>
</tr>
<tr>
<td>1952</td>
<td>41</td>
<td>584</td>
<td>7.0</td>
</tr>
<tr>
<td>1953</td>
<td>51</td>
<td>580</td>
<td>8.8</td>
</tr>
</tbody>
</table>

1 Based on schedules published in December issues of Official Airline Guide.

change service still accounted for only about five per cent of the average daily total capacity provided by all domestic scheduled airlines.

TABLE 4
Daily Scheduled Seat-miles Flown in Domestic Interchange Service, 1948-1953

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>236</td>
<td>28,230</td>
<td>0.8%</td>
</tr>
<tr>
<td>1949</td>
<td>983</td>
<td>31,769</td>
<td>3.1</td>
</tr>
<tr>
<td>1950</td>
<td>1,090</td>
<td>35,575</td>
<td>3.1</td>
</tr>
<tr>
<td>1951</td>
<td>2,048</td>
<td>42,320</td>
<td>4.8</td>
</tr>
<tr>
<td>1952</td>
<td>2,340</td>
<td>51,981</td>
<td>4.5</td>
</tr>
<tr>
<td>1953</td>
<td>3,091</td>
<td>63,089</td>
<td>4.9</td>
</tr>
</tbody>
</table>

1 Based on schedules in December issues of Official Airline Guide, airline distances in the CAB Official Airline Route and Mileage Manual, and aircraft seating capacity information received from the interchange carriers.

The Civil Aeronautics Board’s restrictive attitude toward route expansion in recent years has fostered the growth of interchange service. But toward the end of 1953, there were signs that the pendulum was beginning to swing back—back to the early post-war years state when major route cases dominated the Board’s docket of active proceedings. In November 1953, the Board opened hearings in the New York-Chicago Case116 to consider new or additional service in the area between Chicago and New York (the area was further restricted primarily to cities south of Buffalo and north of Pittsburgh).117 This case was the first of three gotten under way late in 1953. The other two are the Denver Service Case,118 concerning additional service to Denver from both the East and the West, and the Additional Southwest-Northeast Service Case,119 concerning new through service between “Oklahoma, Texas, and Louisiana cities” and “Northeastern cities” via

118 CAB Docket No. 1841, et al.
119 CAB Docket No. 2355, et al.
Ten trunklines are seeking new routes in the New York-Chicago Case proceeding; seven, in the Denver Service Case; and eight, in the Additional Southwest-Northeast Service Case. The size and importance of these route proceedings is readily apparent. Several proposed interchange operations are also involved in these proceedings; however, their role appears to be secondary in nature. It is too early to predict what the outcome of these major route proceedings will be. Nevertheless, it may be safely said that, if the Civil Aeronautics Board grants major route awards to the exclusion of interchange service, the interest in interchange that the airlines have exhibited in recent years will all but disappear.

Economics Aspects of Interchange Service

Through Service and the Public Interest

The term "through service" may be used to describe several types of cooperative arrangements between two or more carriers. All of these arrangements have a common purpose, namely, to facilitate the movement in commerce of persons and property in order to bring to the public increased benefits in the form of faster transportation, greater convenience, and lower costs. Such arrangements may be limited to provisions for through ticketing of passengers, through handling of baggage, or through billing of freight; however, the most desirable form of through service from the standpoint of the traveling and shipping public is that which not only includes all of the above provisions but goes farther and actually permits the through movement of passengers, baggage, mail and freight from origin to destination without interruption at any intermediate point along the route of movement. It is this broad meaning that the term "through service" usually is given and will be given in the following discussion.

Public interest in through service. Through service offers a number of benefits to the public. It removes the inconvenience to the passenger of moving from one airplane to another en route and of missing connections. It also results in a faster trip for the passenger since he loses no time at intermediate points along his route waiting for a connecting flight. Furthermore, through service eliminates the labor and time involved in transferring baggage, freight, and mail from one airplane to another en route. This means faster and cheaper service to passenger and shipper alike. It is because of these benefits that through service is recognized to be in the public interest.

120 The Oklahoma, Texas, and Louisiana cities included: Tulsa, Oklahoma City, Fort Worth, Dallas, Houston, San Antonio, and New Orleans; the Midway cities: Memphis, Nashville, Knoxville, Atlanta, Chattanooga, and Birmingham; and the Northeast cities: New York, Newark, Philadelphia, Baltimore, Washington and Pittsburgh.

In the Civil Aeronautics Act of 1938, Congress cited the desirability of through service from the standpoint of the public interest and gave the Civil Aeronautics Board the power to require it. Section 404 (a) imposes upon every air carrier the duty "... to provide reasonable through service ... in connection with other air carriers" and Section 1002 (1) requires that the CAB shall "... whenever required by the public convenience and necessity ... establish through service ..."122 The Civil Aeronautics Board has continually recognized the public benefits inherent in through service and has even gone so far as to point out that, "The ideal air transportation system, as far as the traveling public is concerned, would provide single-plane service between any two points in the country."123 It appears to be well established that through service is "in the public interest."

Public interest in a financially sound airline industry. A financially healthy airline industry is also in the public interest. In 1938 Congress declared its intent to promote air transportation, indicating in the Civil Aeronautics Act that "the encouragement and development of an air transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense" were in the public interest.124 This policy has been implemented down to the present day by means of the application of public funds to the development of the air transportation system. It has been accomplished primarily through air mail payments to the airlines based on need rather than cost of service,125 the provision of airways and navigational facilities, and the use of federal funds for airport construction. The cost has amounted to millions of dollars per year. Airline subsidy payments alone cost the Government $27,476,000 in the fiscal year ending June 30, 1953, according to the Civil Aeronautics Board.126 In regard to airways and navigational facilities, the Civil Aeronautics Administration allocated cost responsibility in the amount of over $38,416,000 to the scheduled airlines for the use of the federal airways in 1953.127

Such use of public funds to foster the development of air transportation is not peculiar to the United States. Most governments have been quick to recognize the need to encourage the development of air transportation. In fact, it has been pointed out that there has been

122 Civil Aeronautics Act of 1938, 52 Stat. 973, as amended.
124 Civil Aeronautics Act of 1938, op. cit. Sec. 2.
125 Since October 1953 air mail payments to the domestic scheduled airlines from the Department of the Post Office have been based on service rates purportedly free of subsidy, while those airlines requiring financial aid have been receiving direct subsidy payments from the Civil Aeronautics Board.
127 Civil Aeronautics Administration, A Program of Charges for the Use of the Federal Airways System (Wash.: G.P.O., 1953), p. 78.
some form of government subsidization in every air transport operating country.\textsuperscript{128}

It is not within the scope of this paper to attempt to judge whether or not the promotional policy, as established by Congress in the Civil Aeronautics Act of 1938, is desirable; whether or not the promotional policy has been properly implemented; or whether or not the cost of fostering air transportation has been commensurate with the social benefits derived therefrom. Suffice it here to indicate and emphasize that a financially healthy airline industry is in the public interest not only because of the improved service it may bring to the traveling public, but also because the public, through its representatives in the federal legislature, has obligated itself to pay the industry's bills when it is financially ill.

\textit{Airline self-sufficiency.} The airlines have made great strides toward self-sufficiency in recent years. The Civil Aeronautics Board recently pointed out in an annual report that ten out of the thirteen domestic trunkline carriers are entirely free from subsidy payments today. Furthermore, these ten account for 96 per cent of all traffic carried by domestic scheduled airlines within the continental United States. Nevertheless, although the large trunklines are apparently free of subsidy, the smaller trunklines and the local service airlines still rely heavily on subsidy for their financial strength. According to the CAB, subsidy payments to the small trunklines amounted to $4,200,000 in 1953, and about $22,000,000 in subsidy was paid to the local service carriers in the same year.\textsuperscript{129} It should be noted of course that the actual amount of subsidy received by the airlines is open to question, depending upon the method of cost allocation used.\textsuperscript{130}

In further regard to airline self-sufficiency, it also may be noted that the major trunklines' freedom from subsidy payments was only recently won and that their ability to maintain this status indefinitely is yet to be established. In 1947 and 1948 the entire airline industry was financially sick. Tremendous expansion of capacity after the war in order to meet an anticipated immediate demand for air travel of gigantic proportions became "over-expansion" when that demand failed to materialize. Normal growth in air travel brought demand more in line with supply in 1949 and the first half of 1950, and the impetus added by the effects of the defense build-up accompanying the Korean War soon filled hitherto empty seats. The major trunklines have enjoyed profitable operations in the '50s. Continued growth in the air travel market has meant increased revenues, year after year. Nevertheless, airline costs have been climbing upward also, and in 1953

\begin{footnotesize}
\begin{enumerate}
\item[\textsuperscript{130}] For a trenchant analysis of methods for separating subsidy from air mail pay, see D. P. Locklin, "A Critique of Proposals to Separate Subsidy from Air Mail Pay," 18, \textit{Journal Air Law & Com.} (Spring 1951), pp. 166-180.
\end{enumerate}
\end{footnotesize}
shop up at a faster rate than revenues. The narrowing profit margins experienced by these major air carriers forbodes financial difficulties despite record-breaking traffic volumes. Although presently free from subsidy payments, it is yet far from certain that the major trunklines will be able to retain their newly-won freedom.

As pointed out above, not all airlines receive subsidy payments today; however, all airlines do benefit from services provided by the government for which they are not required to pay. These services include such essentials as air traffic control, navigational aids, and weather service. It also has been mentioned that the cost responsibility allocated to the scheduled airlines by the Civil Aeronautics Administration for the use of the federal airways system in 1953 amounted to over $38,000,000. Profitable trunkline operations in recent years have incited considerable agitation for the imposition of user charges—charges to the airlines for their use of government facilities hitherto provided free. Should the airlines be forced to pay user charges, the major trunklines probably would have no great difficulty meeting immediate payments, although the additional burden might sharply reduce profits. That the major trunklines could make user charge payments without seriously threatening their financial positions—for the time being anyway—reflects the great strides toward self-sufficiency that have been made in recent years. But the small trunklines and the local service carriers still rely on subsidy. In their case, the payment of user charges would be in effect no more than a bookkeeping entry for the government accountants. Evidently, although the major trunklines may have reached a stage where they can be classed as "self-sufficient", the airline industry, as a whole, is not yet free of subsidy.

**Need to revise domestic route pattern.** Although there may be some disagreement as to where emphasis should be placed, it appears that few students of transportation, if any, would disagree with the premise that reform in the domestic route pattern could do much to improve the airline industry's overall financial position. There also appears to be considerable accord in the opinion that the Civil Aeronautics Board route policy over the years has been less than effective in developing a sound route pattern. A major criticism has been...

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132 After a thorough analysis of airline competition, Frederick W. Gill and Gilbert L. Bates of Harvard University came to the conclusion in 1949 that multiple-carrier competition was the principal obstacle to the attainment of a status of self-sufficiency. A couple of years later, Dr. Harold D. Koontz of the University of California at Los Angeles effectively presented the argument that, although route inadequacy was the basic factor affecting airline profitability, the underlying problem was not particularly one of multiple-carrier competition, but rather the size and character of the market facing each carrier. See F. W. Gill and G. L. Bates, *Airline Competition* (Boston: Harvard School Bus. Adm., 1949); H. D. Koontz, "Economic and Managerial Factors Underlying Subsidy Needs of Domestic Trunk Line Air Carriers," *18 Journal Air Law & Com.* (Spring 1951), pp. 127-156; and comment on Mr. Koontz's articles by John P. Carter of the University of California: "Domestic Air Line Self-Sufficiency: Comment," *48 Am. Economic Rev.* (June 1953), pp. 368-373.

133 See for example: *Survival in the Air Age*, A report by the President's Air...
that the Board has not taken the initiative in planning the airline route pattern, but has simply decided route cases as they have been brought before it by the air carriers. Nevertheless, recent actions by the CAB indicate that it recognizes the importance of route structure to a financially sound airline industry and is making a concerted effort to improve it. The Board has encouraged and approved several significant mergers in the past several years in its efforts to improve route systems and create financially stronger airlines that will have a better chance of being self-sufficient than either of their component parts. But, although commendable, such efforts to reconstruct the airline route pattern are limited in effect and slow to bear fruit. Meanwhile, the U.S. public, traveling and shipping more and more each year, continues incessantly to demand more new through service.

How can the utility of this new through service be maximized? More specifically, how can this new through service be provided at least cost to the airline industry — and, therefore, at least cost to the public? In answer to this question it can be pointed out that three ways of providing new through service exist, viz., (1) interchanging equipment over existing routes, (2) expanding the present route structure, and (3) consolidating existing routes by means of airline consolidations. More questions naturally follow. Which of these methods offers the greatest net benefit to the public? Should one be used to the exclusion of the others, or is there a proper place for each in the evolution of the air transport route pattern? The balance of this chapter suggests answers to these fundamental questions.

Interchange Service and Route Expansion

Where a city is not presently being served by a scheduled airline, any new through service it might receive would necessarily have to be provided by the expansion of the existing airline route pattern. Furthermore, where two or more cities having a community of interest are currently connected by air routes, but the service is circuitous and slow, the need for new through air service may best be met by the certification of a more direct route between these cities. However, where cities having a community of interest already receive reasonably direct connecting service over the routes of two or more scheduled airlines, interchange of equipment enters into consideration as a desirable method of providing new through service and offers several distinct and important advantages that make it preferential to route expansion, viz., (1) it requires no new ground facilities, (2) it does little to disturb the existing route structure, and (3) it introduces flexibility into the route system.

When provided by new routes or the extension of existing routes,
new through service necessitates additional requirements for aircraft, flight crews and ground facilities. Furthermore—and the extent to which this is applicable depends on the nature of the route extension—such new ground facilities as are required must be adequately staffed with personnel. Each new station added will have its share of the following expenses: ground operations, ground and indirect maintenance, passenger service, traffic and sales, advertising and publicity, general and administrative, and ground depreciation. In contrast with this, interchange service makes use of existing equipment, facilities, and personnel and entails little additional cost. It transforms two or more connecting flights into one through flight, and in order to do so, requires little more than a greater amount of cooperation and coordination between the air carriers involved than was demanded by the prior connecting service.\textsuperscript{135}

As pointed out above, new through service is in the public interest, but a financially healthy and self-supporting airline industry, operating over an economically sound route structure, is also in the best interest of the public. A new route or the extension of an existing route to provide new through service between two points already receiving two-plane (or more) connecting service necessarily diverts traffic from the existing service, if it reduces en route travel time and removes the inconvenience of changing airplanes and perhaps missing a connecting flight. This resulting diversion can have a deleterious effect on the financial health of one or more of the carriers providing the connecting service. Furthermore, it may abruptly disturb a delicate balance in the existing route structure.

Interchange of equipment, on the other hand, is an arrangement between existing carriers that improves existing service with a minimum of disturbance. Although it may divert traffic from the carriers serving the points in question via other intermediate points, as would a new route or route extension, it does little to disturb historical participation in the traffic over the route it serves. Furthermore, if experience later does reflect an undesirable amount of diversion from other carriers serving the two points, the Civil Aeronautics Board may peremptorily terminate the interchange agreement and easily remove the disturbance.

Experience has shown that once awarded, an airline route tends to become a permanent thing. This permanence introduces a rigidity

\textsuperscript{135} The American-Delta-National interchange can be used to exemplify the magnitude of the savings that may result from an interchange arrangement as opposed to route extension. Suppose that National Airlines' route system were extended from New Orleans, its present western terminus, to Dallas and then on to the West Coast to serve San Diego, Los Angeles, San Francisco, and Oakland. Such a route extension would permit National to provide the same through service which the American-Delta-National interchange currently offers. Based on National Airlines' average station expense per flight at its major stations (Jacksonville, Miami, New Orleans, New York/Newark, Norfolk, Tampa, and Washington) in the first quarter of 1954, and the number of flights operating in the current interchange service, the author estimates that the additional cost to National to provide the southern transcontinental through service alone would be in the neighborhood of $10,000,000 annually.
into the national route pattern that makes adjustment to change difficult and keeps a sound route structure only a distant goal. Interchange of equipment, on the other hand, introduces an element of flexibility into the route system. The irrevocable nature of a permanent certificate of public convenience and necessity is absent. If experience should prove an interchange service to be an undesirable operation, the participating airlines or the Civil Aeronautics Board need only terminate the interchange agreement. No additional facilities were required to inaugurate the service; consequently, no substantial investment need be written off as a loss, if the interchange service is terminated. Recent examples of this flexibility in interchange service are the cases of the United Air Lines-Continental Air Lines interchange operation, providing through service between the Pacific Northwest and Kansas and Oklahoma via the interchange point, Denver, and the United Air Lines-Braniff Airways interchange, providing through service between the Pacific Northwest and Oklahoma City and Dallas via the interchange point, Denver. Maintaining that they needed their aircraft over their own routes for the forthcoming seasonal traffic peak, United, Continental and Braniff applied to the CAB for temporary suspension of their interchange services in April 1954. The Board acceded to their request and approved the temporary suspension of the United-Continental interchange from April 25 through August 21, 1954, and the United-Braniff interchange from April 25 through December 31, 1955.

Consolidation

In addition to route extension and interchange of equipment, a third method of providing new through service for the traveling and shipping public is consolidation of airlines. Depending upon the circumstances, consolidation can offer a number of significant benefits which may make it the preferable method to use in a given instance.

The consolidation of airlines currently linked by connecting routes may create a single superior route system where two relatively weaker ones previously existed, and in so doing may even be responsible for replacing subsidy with self-sufficiency. Such financial betterment can come from both new revenue traffic and decreased unit costs. The replacement of two-plane connecting service over the routes of two carriers with new one-plane through service over the routes of a single carrier can normally be expected to generate new traffic and additional revenue. Probably even more significant than this probable effect on revenues, however, is the potential impact consolidation may have on costs. Consolidation of airlines may offer an opportunity for increased efficiency and savings. This is especially pertinent where duplicate facilities and services exist prior to consolidation. The merger of two airlines can mean greater utilization of aircraft, facilities, and personnel. Considerable savings in ground and indirect expenses may result.\textsuperscript{136} Even where the amount of duplication which can be eliminated

\textsuperscript{136} Examples of such savings may be found in the following Civil Aeronautics
is negligible, consolidation can offer cost savings normally associated with size. Not unlike other areas of economic activity, economies of scale are also present in the airline industry. For example, big airlines with sizable assets and earning power are usually better able to command adequate low-cost financing for equipment purchases or the expansion of capital facilities.

Despite the benefits it may offer, however, consolidation has a number of limitations which rather sharply restrict its use as a method for providing new through service. Probably of primary importance in this respect is the fact that, generally speaking, new through service is primarily a by-product of consolidation. Potential improvement in the financial condition of one or both of the carriers is usually the basic motivation for consolidation. Because of this fact, consolidation cannot be expected to introduce new through service where the greatest demand for it exists.

Another limitation to the use of consolidation as a method of providing new through service is its cost. Consolidation can be a very expensive action. Furthermore, if anticipated benefits are not forthcoming, a consolidation can be a mistake that is very difficult to correct. The financial success of a consolidation is never assured. A current example of this is the Braniff/Mid-Continent merger which took place in August 1952. Prior to the merger, Braniff was on a CAB "service" or non-subsidy mail rate, while Mid-Continent was on a "subsidy" rate. When the merger was effected, the Civil Aeronautics Board was of the opinion that Braniff, the surviving company, could operate the entire system at its non-subsidy rate. Evidently the anticipated economies of the combined operation were not forthcoming. Within a year and a half after the merger, Braniff had to petition the Board for subsidy relief.

Still another limitation to the use of consolidation is the difficulty of effecting it. Many months of preparation and great effort are required to successfully merge two corporate structures and their respective operations. It is not a simple matter to satisfy the Civil Aeronautics Board, stockholders, creditors, management, and employees all at the same time. Union labor contract provisions can be an especially formidable obstacle.


137 Delta Airlines and Chicago and Southern Airlines merged in May 1953. While business boomed for the merged company during fiscal 1954, the first year of combined operations, profit (net after taxes) dropped by almost $3,000,000. Partly responsible for this, according to President C. E. Woolman, were the expense of standardizing equipment, facilities, and training plus the legal and administrative work involved. "Delta-C&S Net Profit Drops in Merger Year," Aviation Week, August 2, 1954, p. 68.


139 A striking example of how union labor contract provisions may wreck otherwise acceptable consolidation plans may be seen in the case of the recently
The use of consolidation to provide new through service is further limited by its voluntary nature. The Civil Aeronautics Board may be capable of encouraging consolidations by exerting pressure on airlines through its power to determine mail rates.\textsuperscript{140} However, it lacks direct control. Even when it considers a consolidation to be in the public interest, the Board lacks the power to compel it if the carriers hold permanent certificates of public convenience and necessity for their routes, as do the trunklines.\textsuperscript{141} The CAB possesses greater power over the local service airlines since they hold only temporary certificates at the present time. Nevertheless, by their very nature these "feeder" airlines were created and exist primarily to feed traffic from outlying small cities to trunkline routes, not to combine and assume the characteristics of trunklines.

An economy-minded Administration is encouraging mergers as a method for reducing subsidy.\textsuperscript{142} No doubt this encouragement will add strength to the Civil Aeronautics Board's persuasive powers and stimulate more consolidation activity. Desirable as such consolidations may be, it is difficult to see how much of the demand for new through service can be satisfied by consolidation alone.

Since consolidation cannot be expected to do the job alone, interchange of equipment and route extensions must be relied upon to fill the gap in providing new through service. As stressed earlier, the advantages of interchange service, \textit{viz.}, no new ground facilities required, minimum disturbance of existing route structure, and needed flexibility built into the route system, recommend its greater use. The airline industry has been and continues to be one of dynamic growth. Many of the industry's most difficult problems in the future will probably be the result of conflict between original route pattern and technological progress in aviation. A route system with built-in flexibility will be better able to meet the demands of progress than one with a rigid route pattern.

\section*{Federal Regulation of Interchange Service}

\textit{Interchange Agreements Under the Civil Aeronautics Act}

The Civil Aeronautics Board's authority to regulate interchange agreements under those provisions of the Civil Aeronautics Act which govern the filing and approval of agreements and leases was clearly established in early interchange cases. It has never been seriously challenged. The airline industry's initial interchange agreement be-

\begin{itemize}
\item[\textsuperscript{140}] dropped merger of two all-cargo carriers, The Flying Tiger Line and Slick Airways. Although approved by the Civil Aeronautics Board, the apparently imminent merger was never consummated because of labor protection conditions which the companies estimated would have cost the surviving airline several million dollars. "Flying Tigers-Slick Give Up on Merger Idea," \textit{American Aviation}, September 27, 1954, p. 4.
\item[\textsuperscript{142}] Op. cit. 128, pp. 149-150.
\item[\textsuperscript{143}] "Industry Hostile to ACC Recommendations," \textit{American Aviation}, June 7, 1934, p. 31f.
\end{itemize}
tween United Air Lines and Western Air Express was approved in 1940 under sections 408 and 412 of the Act. The provisions of these two sections have governed the submission and approval of interchange agreements ever since. Arguments favoring the applicability of other sections of the Act have been advanced by individual airlines on several occasions, but in each case the CAB has seen fit to dismiss them.

United and Western filed their interchange agreement in accordance with the requirement of section 412 (a) of the Act which directs that:

Every air carrier shall file... [with the CAB]... a true copy ... of every contract or agreement ... affecting air transportation ... between such air carrier and any other air carrier ... for pooling ... equipment ... or for other cooperative working arrangements.

Furthermore, they sought approval of the agreement under paragraph (b) of section 412 which requires that:

[The CAB] ... shall by order approve any such contract or agreement ... that it does not find to be adverse to the public interest, or in violation of this Act. ...

The Civil Aeronautics Board acknowledged the applicability of these provisions in section 412, but ruled that section 408 also applied.

Section 408 (Acquisition of control)—The applicability of section 408 of the Act derives from the provision in paragraph (a) which states that:

It shall be unlawful unless approved by order ... [of the CAB] ... for any air carrier ... to ... lease or contract to operate the properties, or any substantial part thereof, of any air carrier. ...

and the stipulations in paragraph (b) which direct that:

Unless, after ... [a public] ... hearing, the ... [CAB] ... finds that the ... lease, operating contract ... will not be consistent with the public interest or that the conditions of this section will not be fulfilled, it shall by order, approve such ... lease, operating contract ... upon such terms and conditions as it shall find to be just and reasonable and with such modifications as it may prescribe; Provided, that the ... [CAB] ... shall not approve any ... lease, operating contract ... which would result in creating a monopoly or monopolies and thereby restrain competition or jeopardize another air carrier not a party to the ... lease, operating contract. ...

The Board had maintained that sections 412 and 408 are supplementary and explains their relationship in this way:

If there is a contract or lease involving something less than a substantial part of the properties of any carrier, it is enough if it meets the public interest test prescribed in section 412 (b), but if a substantial part of the properties of any carrier is subject to such contract or lease, a hearing must be held and the additional test of the first proviso in section 408 (b) ... [see above] ... must be met. In the latter case ... the possibility of control is greater, which demon-

143 United A. L.-Western A. E., Interchange of Equipment, 1 CAA 723 (1940).
strates the need for a hearing and the additional safeguard embodied in the proviso.\textsuperscript{144}

Being a relative term, the key word, "substantial," in section 408 has not been construed by the CAB to mean any particular amount or proportion of the total assets of an airline. In practice, amounts as low as two or three per cent of an airline's total assets have been held to be "substantial" within the meaning of section 408.\textsuperscript{145} On the basis of the Board's record to date in interchange cases, it would be reasonably safe to assume that a single airplane would be considered by the Board to be a "substantial" part of any airline's total assets.

Insofar as the public interest is concerned, the Civil Aeronautics Board has interpreted the expressions "adverse to" in section 412 (b) and "not . . . consistent with" in section 408 (b) to have essentially the same meaning. Consequently, it has maintained that the same considerations should govern decisions with respect to the public interest under both sections.\textsuperscript{146} As a general rule, the Board has considered the public interest to best be served when the statutory objectives of the Civil Aeronautics Act, as enumerated in section 2 ("Declaration of Policy"), are most fully satisfied. In most cases, the Board has attempted to determine the probable net effect of any proposed interchange service upon the public interest. This logical approach has required that the Board weigh such factors as the generation of new traffic, a more efficient performance by the participating carriers, the effects on other carriers, and the promotion of air transportation in general, as well as the benefit to the traveling public from new through service, in its deliberations in interchange cases. No single criterion has been held to be controlling. For example, when Delta Air Lines and TWA sought to add interchange service between Detroit and New Orleans to their existing Detroit-Miami operation in 1949, the Board disapproved their application because only Delta stood to gain from the additional operation. Neither Delta nor TWA contended that the interchange service was necessary to satisfy the demands of existing traffic. The principal benefit was to have come in the freedom Delta would have had in operating its equipment so as to permit more efficient rotation and greater utilization. Considering the net benefit to be derived rather than just the gain to one carrier, the Board stated that:

\begin{quote}
In view of the slight benefits which would accrue to the traveling public and to Delta, and the diversional effect on Chicago and Southern . . . [Airlines] . . . , we find that the adverse effect . . . would outweigh the benefits to be derived . . . .\textsuperscript{147}
\end{quote}

The authority of the CAB to regulate interchange service under the

\textsuperscript{144} United A. L.-Western A. E., Interchange of Equipment, 1 CAA 727 (1940).

\textsuperscript{145} See for example: Transcontinental & Western Air, Inc.—Delta Air Lines, Inc. Interchange of Equipment, 8 CAB 864 (1947); and, Capital Airlines, Inc.—National Airlines, Inc., Interchange of Equipment, 10 CAB 240 (1949).

\textsuperscript{146} United A. L.-Western A. E., Interchange of Equipment, 1 CAA 728 (1940).

\textsuperscript{147} Transcontinental & Western Air, Inc.—Delta Air Lines, Inc., Interchange Agreement (Reopened Proceeding), 10 CAB 535 (1949).
provisions of the Civil Aeronautics Act probably received its greatest challenge in the TWA-Delta interchange case in 1947. Eastern Air Lines, acting in the capacity of an intervener in this case contended that the Board had no jurisdiction to approve or disapprove the interchange agreement in question under either sections 408 or 412, since the parties were not legally bound by the agreement to undertake the operation. Nevertheless, the Board stated that it was unnecessary to decide whether or not the agreement before it was enforceable by either party in a court of law. The Board stated that:

... an agreement is subject to the provisions of section 412, even where it is not legally enforceable; it is enough that the parties in fact are carrying out, or intend to carry out, the provisions of the agreement. Similarly, it appears clear that section 408 is concerned with any course of conduct which brings about the relationship covered therein whether that conduct is embodied in an enforceable agreement or not. Eastern challenged the CAB's jurisdiction again a couple of years later, but failed to carry its argument in the second instance, too.

In addition to challenging the Board's overall jurisdiction in interchange cases, as pointed out above, airlines in several instances have taken the position that sections of the Civil Aeronautics Act other than 408 and 412 are also applicable. In such cases however, the Board has consistently ruled against the contesting airline.

An early example of this occurred in the United-Western case. In that proceeding, TWA, acting in the capacity of an intervenor, maintained that section 411 was also applicable. This section of the Act deals with unfair or deceptive practices or methods of competition. Disagreeing with TWA's contention, the Civil Aeronautics Board stated that:

No complaint has been filed under section 411, which provides for the issuance ... [by the CAB] ... of orders to cease and desist from practices or methods of competition which it finds after notice and hearing, to be unfair or deceptive, and an investigation thereunder has not been instituted ... in this case. ... The agreement is not yet in effect, and section 411 applies only to past or existing practices or methods of competition. Insofar as destructive competitive practices generally are concerned, the extent to which they may be embodied in the terms of the agreement is a matter to be considered in this proceeding in connection with the public interest.

149 Ibid., p. 241. Also see: Transcontinental & Western Air, Inc.—Delta Air Lines, Inc., Interchange of Equipment, 8 CAB 859 (1947). The Board went into greater detail in the latter case in explaining the basis for its opinion and drew a comparison with the Sherman Act, saying: "We think therefore that the words 'contract or agreement' in section 412 are intended, like the word 'contract' in section 1 of the Sherman Act, to include all understandings which are, or may become, the basis of concerted action." p. 860.
151 United A. L.—Western A. E., Interchange of Equipment, 1 CAA 725 (1940).
Of greater significance than the question of the applicability of section 411 were several attempts to bring section 401 of the Act into interchange proceedings. Section 401 concerns certificates of public convenience and necessity. It specifically directs that no air carrier shall engage in public air transportation over a particular route unless there is in force a certificate issued by the Board after public notice and hearing which authorizes it to do so.

In the Pan American-Panagra Agreement case in 1947, interveners argued that under the through flight agreement in question Panagra’s aircraft would be operating between Balboa and the United States over a route which Panagra was not authorized to serve. Consequently, they maintained that Panagra should be required to obtain either an amendment to its certificate under section 401 or a specific exemption to the extent necessary to perform the through flight operation. The Board disagreed with this argument. It concluded that neither an amendment to Panagra’s certificate of public convenience and necessity, nor a specific exemption, was required. Complete control and responsibility for the operation over Pan American’s route between Balboa and the United States was to be assumed by Pan American under the agreement, and there would not be “... a holding out to the public of Panagra as the carrier certificated to operate north of the Canal.”

The question of the applicability of section 401 arose again later in the same year; however the basis of the argument presented was different. An intervener in the Transcontinental & Western Air Inc.—Delta Air Lines, Inc., Interchange of Equipment case pointed out that the Interchange agreement under consideration permitted the delivery of airplanes used in the proposed interchange service at points other than Cincinnati, the interchange city. The contention was made that approval of the agreement:

... would authorize the delivery of planes by one of the applicants at any point other than Cincinnati on the route of the other applicant, which would be tantamount to authorizing non-certificated scheduled operations by one of the parties.

In response, the Board countered with the argument that the applicants did not contemplate interchanging airplanes at any point other than Cincinnati except in an emergency such as might be caused by bad weather. It further indicated that since the revenues from the interchange operation were to be shared on the basis of interchange at Cincinnati, it was unlikely, “... that either party would operate beyond that point and bear expenses incidental thereto except in an emergency.” The Board also pointed out, as it had done in the Pan American-Panagra proceeding, that the lessee had complete control and

152 8 CAB 50 (1947).
153 Ibid., p. 54.
154 8 CAB 857 (1947).
155 Ibid., p. 871.
156 Ibid.
responsibility for the operation over its own route. Its conclusion was that section 401 of the Act was in no wise being violated. In this interchange case, as in the others, the Board approved the interchange agreement under the provisions of sections 408 and 412.

Compulsory Interchange

In addition to having the power to approve or disapprove interchange agreements, it appears that the CAB also has adequate authority to compel air carriers to provide interchange service should it deem such service to be in the public interest. Nevertheless, the Board has never tested its power in this regard. Thus far, it has relied solely upon voluntary interchange arrangements for the development of interchange service. Although such voluntary arrangements tend to come slowly, there is considerable merit in the Board's policy. An interchange operation is assured greater success if the participating carriers are willing, as well as able, to provide it.

Experience indicates that voluntary interchanges come slowly. Only twelve such interchange arrangements have been inaugurated since World War II. There is a simple explanation for the apparent reluctance on the part of the airlines to voluntarily enter into interchange agreements. Airline managements consider interchange to be only "second best." Route extension ranks as their first choice. The most obviously attractive interchange possibilities from the standpoint of airline management are those connecting routes of two or more carriers which link together relatively distant points, having a strong community of interest, via several good intermediate points, including a strong point of connection. It is also desirable that the interchange route should permit each of the participating carriers to provide a substantial part of the haul. Such a situation, however, not only makes a good case for interchange service, but also, "... is precisely the kind of situation which whets the appetite of a carrier for a route extension and furnishes the most elegant statistics of traffic for which such an extension would provide one-carrier service.\textsuperscript{157}

That this explanation of airline management's general attitude toward interchange is borne out by experience may be seen by briefly examining the inauguration dates of the eleven interchange services in operation within the borders of the United States today. The first two began in 1948 and 1949, during a period when the ill effects of post-war over-expansion of routes and service were just beginning to result in corrective action by the Board. The remaining nine interchanges began within the years from 1951 through 1953, a period during which the Civil Aeronautics Board was discouraging further expansion of the domestic route structure.\textsuperscript{158}


\textsuperscript{158} See Table 5 for inauguration dates of interchange services.
Authorization for compulsory interchange. That the Board need not rely entirely on the volition and initiative of the airlines for the development of interchange services appears to be well-established. Section 1002 (i) of the Civil Aeronautics Act states:

"The... [Civil Aeronautics Board]... shall, whenever required by the public convenience and necessity, after notice and hearing, upon complaint or upon its own initiative, establish through service... and the terms and conditions under which such through service shall be operated...." 

It has been pointed out that, for all practical purposes, section 1002 (i) is identical with the through route provisions of the Hepburn Act of 1906, which are embodied in section 15 (3) of the Interstate Commerce Act. The fact that specific language concerning interchange does not appear in the Civil Aeronautics Act has not been interpreted to mean that Congress intended that interchange should not be required. Based on the precedence of past interpretations of the Interstate Commerce Act and railroad experience, the argument has been effectively presented that many of the regulatory provisions of the Civil Aeronautics Act have been cast in general terms, the details of which have been left to be spelled out by administrative and judicial interpretation. That the compulsory through service provisions of the Civil Aeronautics Act vest in the Board the power completely to meet the public need makes sense both legally and logically.\(^\text{159}\)

Precedents set by railroad litigation have also been cited as indicating that the Civil Aeronautics Board's power to compel interchange is not limited to cases where each of the participating carriers furnishes operating equipment, but that only one of the connecting carriers can be required to provide the aircraft to be operated by each.\(^\text{160}\) Similarly, railroad precedents indicate that an airline not desiring the interchange service and not providing aircraft therefore, could be compelled to receive the aircraft of the connecting carrier and operate them through the connecting point and over its route. Furthermore, it is possible that it even could be compelled to provide aircraft though it might have to purchase them for the purpose.\(^\text{161}\)

In addition to section 1002 (i) of the Act, section 404 (a)\(^\text{162}\) has also been interpreted as giving the Board the power to require that interchange service be instituted or continued and to control the adequacy of such service to the same extent that it does the service provided by a carrier over its routes.\(^\text{163}\) The Civil Aeronautics Board appears to have adequate authority to compel interchange of equipment to provide through service should it choose to do so.

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\(^{159}\) Westwood and Jennes, op. cit., p. 19.
\(^{161}\) Ibid., case cited: Louisville Board of Trade v. Indianapolis, Columbus & Southern Traction Co., 27 ICC 499, 504 (1913).
\(^{162}\) "It shall be the duty of every air carrier... to provide reasonable through service... in connection with other carriers..." Sec. 404 (a).
CAB use of authority to compel interchange. Although it has recognized and declared that it has authority under the Civil Aeronautics Act to compel the airlines to enter into interchange agreements, the Civil Aeronautics Board has never seen fit to put its authority to the test and attempt compulsion. Instead, when its deliberations have motivated it to decline route extensions and to recommend interchange of equipment as a substitute, it has made a practice of "keeping the record open" for 60 days after its decision, so as to permit the airlines to work out the arrangements voluntarily among themselves. This practice has proven to be very effective. The airlines have invariably reacted positively to the Board's firm but gentle pressure and have come up with suitable interchange agreements. The wisdom of the Board's policy in such cases is apparent. An interchange arrangement worked out in an amicable atmosphere with all parties willingly cooperating is certain to be more successful than an interchange arrangement forced upon reluctant carriers.

The Board's power to compel interchange gives it a powerful tool with which to effect a large measure of reform in the existing route system. Whether or not it can cancel an existing certificate of public convenience and necessity and install interchange service in its place in order to reduce wasteful route duplication may be open to serious legal question. This probably accounts for the Board's reluctance to attempt to compel interchange.\(^{164}\) That it can use interchange of equipment to provide new through service, however, is beyond question. In this role alone, interchange provides the CAB with what probably is its most effective tool for fashioning an economically stronger route system. That the Board has not made greater use of this tool is regrettable.

The Interchange Agreement

With only few exceptions, interchange agreements approved by the Civil Aeronautics Board have contained basically similar general provisions. These provisions merit consideration here, because they reflect the nature and extent of the control the CAB exercises over interchange arrangements. They are summarized below under four headings, viz., equipment and personnel; flight control; revenue and cost distribution; and modification, supplementation and termination of the agreement. The selection of these four categories was arbitrary. The provisions do not appear under these headings in interchange agreements. Nevertheless, it is felt that the following breakdown is a logical one and serves to facilitate presentation.

*Equipment and personnel.* Each party to an interchange agreement is responsible for the major inspection, maintenance, overhaul, and the replacement of major parts of its own aircraft. Furthermore, it is required to guarantee that its aircraft meet the standards and require-\(^{164}\) Selig Altschul, "CAB Asks Interchange Agreement," *Aviation Week*, December 4, 1950, p. 43.
ments of the Civil Air Regulations and are in satisfactory condition before delivery to another party to the interchange agreement. On the other hand, the carrier actually operating the aircraft, whether the owner or the lessee, is responsible for all necessary flight inspection and enroute and turnaround flight maintenance. The lessee is also completely responsible for any damage to the interchange aircraft while in its possession except where the damage is due to the negligence of the lessor. Such essential items as type, number and ownership of aircraft to be used in the interchange operation either may appear in the initial interchange agreement or may be treated as details to be worked out in a supplemental agreement. Captains assigned by their respective carriers to operate the interchange flights are authorized to deliver and accept delivery of leased aircraft at the interchange point. Aircraft leased for the interchange operation may be used by the lessee only for purposes connected with that operation.

In regard to personnel, each party to an interchange agreement is required to provide qualified flight crews, dispatchers, and all other necessary personnel for that part of the operation that it carries on, and is responsible for their training and qualification. Provisions may appear which call for the development of specific training programs to familiarize the lessee's personnel with equipment, maintenance, and procedures of the lessor. If more than one party is to furnish aircraft, each lessor is required to familiarize each lessee's interchange personnel with the lessor's equipment, maintenance, and procedures. In the interest of safety, the Board has never seen fit to require that identical aircraft be used by all parties to an interchange agreement when more than one intends to furnish aircraft for the interchange operation; however, it has required that there be substantial standardization of equipment (instruments, power controls, etc.) in such cases, where the same type of aircraft is to be used by both interchange partners.

In general, interchange flights utilize the crews of all parties to the interchange agreement, each party furnishing personnel to operate that portion of the flight over its own route. An interesting exception to this general practice is the Capital—National interchange operation. In this particular case, due to the complementary nature of seasonal traffic peaks over the routes of the two carriers—demand is greatest for Capital's service in the summer months, for National's in the winter—the interchange operation is performed with Capital's aircraft and crews from the middle of December through the middle of May and

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166 Transcontinental & Western Air . . . , ibid., p. 871.
168 See for example: Transcontinental & Western Air, Inc.—Delta Air Lines, Inc. . . . , op. cit., p. 869; or Delta Air Lines, Inc.—American Air Lines, Inc. . . . , ibid.
with National’s aircraft and crews during the other six months. This type of interchange arrangement raises additional safety questions concerning route familiarization for the crews of one party flying over the route of the other party. Nevertheless, in regard to the Capital-National arrangement, the Civil Aeronautics Board found no evidence that the operation would be unsafe since adequate plans had been established for flight-crew training which included among other things familiarization flights and acquaintance with airport data, weather characteristics, and navigational facilities on each carrier’s route.\footnote{170}

The special benefit to airline employees from an interchange such as the Capital—National operation makes this type of arrangement especially desirable. Better utilization of the aircraft and crews of each carrier during the seasonal low in demand for its passenger service permits steadier year around employment and higher average monthly earnings.

Labor problems have caused the CAB little concern in most interchange cases. Where an interchange agreement has been in conflict with bargaining agreements between the interchange carriers and the labor organization representing their employees, the Board has conditioned its approval of the interchange agreement in question on the carrier’s compliance with procedures set forth in the Railway Labor Act\footnote{171} and existing bargaining agreements for the purpose of amending said bargaining agreements.\footnote{172}

\textit{Flight control.} In regard to the control of interchange flights, each of the parties to an interchange agreement assumes full responsibility for and control of the operation of interchange aircraft and crews over its own routes. This control includes such functions as dispatch, flight plan clearance, communications, navigation and weather facilities and services, and the handling of passengers, freight, express, and mail.

Each carrier also controls the utilization of the payload space over its own routes; however, in keeping with the principal purpose of interchange service, viz., to provide the public with through service, through traffic is always given preference over local traffic. Furthermore, no party to an interchange agreement has the right to determine whether any flight of another party shall be operated or cancelled, either in whole or in part. In addition, operation and control of the interchange flight by one party over the route of another party is permissible only in emergencies, when it is impossible to accomplish the
interchange at the designated interchange point. In such cases the interchange flight may proceed to an alternate airport. If it is determined that an unreasonable delay would result from changing crews at the alternate airport, the flight crew making the emergency landing may be directed, subject to flight time limitations, to proceed to the next change point.\textsuperscript{173}

So that there will be no misunderstanding in the minds of the traveling public as to whose routes they are flying over, the CAB requires that a sign be displayed in each interchange aircraft showing which carrier is operating and controlling the flight.\textsuperscript{174} Interchange carriers also indicate plainly in their schedules that the interchange flight is operated over the combined routes of two or more carriers.

\textit{Revenue and cost distribution.} In addition to the delimitation of responsibilities covering equipment, personnel, and flight control, interchange agreements also stipulate the manner in which revenues and costs are to be distributed among the interchange partners.

Revenue from interchange operations is usually to be acquired and distributed in the same manner as if there were merely connecting service. Fares, rates, charges, and rules applicable to interchange service are to be determined and published by the interchange carriers in the same way as for normal single carrier services. In accordance with normal procedures, fares are to be calculated by adding the fare applicable over the route of one interchange partner to that applicable over the route of the other or others, or, where a lower fare exists between the same pair of points over a more direct route, by meeting such a fare in order to be competitive. In the latter case, the revenues derived from the depressed fare are prorated among the interchange partners.\textsuperscript{175}

In addition to providing that each carrier should receive the revenues earned over its own routes, an interchange agreement normally stipulates that each also bear the expenses entailed in the operation of the interchange flight over its own routes. This means in effect that each carrier bears direct and indirect costs as well as overhead for that part of the operation performed over its routes. When an interchange aircraft is being operated by the lessee, certain costs are met through payment of a monthly rental to the lessor. This rental charge usually covers depreciation of aircraft and accessory equipment plus overhaul costs. Depreciation normally is computed by multiplying the hourly depreciation rate for each aircraft used in the interchange operation by the hours it is in the possession of the lessee during the month. Overhaul charges are usually computed by multiplying the overhaul charge per hour for each aircraft used in the interchange operation by the hours said aircraft was flown by the lessee during the

\textsuperscript{173}Pan American-Panagra Agreement, 8 CAB 53-54 (1947); Delta Air Lines, Inc.—American Air Lines, Inc., Interchange of Equipment, 10 CAB 764-766 (1949); Transcontinental & Western Air, Inc.—Delta Air Lines, Interchange of Equipment, 8 CAB 858, 871 (1947).
month. As a rule, the cost of replacement of parts of aircraft and equipment, except where necessitated by damage caused by the lessee, is included in the overhaul charge.176

The rental charge, which is intended to constitute a return to the lessor upon his investment in the aircraft for the period during which it is in the lessee's possession, is subject to change from time to time in accordance with changes in the cost experience of the carriers. Normally, it is subject to periodic review at the end of each quarter.177

When approving provisions in interchange agreements for the distribution of revenues and costs, the Civil Aeronautics Board makes clear that its approval may not be considered to be a determination for rate-making purposes of the reasonableness of any of the costs or charges claimed under the terms of an interchange agreement.178 Furthermore, the Board maintains rather close scrutiny of the manner in which revenues and costs are distributed even after an interchange arrangement is in operation. Any changes in accounting under an interchange agreement, even though considered minor by all parties to the agreement, must be reported to the Economic Bureau of the CAB in accordance with Section 407 of the Civil Aeronautics Act, governing the filing of reports.179

Modification, supplementation, and termination of the agreement. Interchange agreements primarily contain certain general and basic arrangements. Many of the details of a proposed interchange operation may not appear in the original document at all, but will be left to be worked out in supplemental agreements, if and when the Civil Aeronautics Board approves the initial, basic agreement. Furthermore the Board may condition its approval on the requirement that certain modifications be made to the interchange agreement. Modifications also may be sought later either by the CAB or the parties to the agreement, themselves, in the light of changing conditions. All such additional agreements which supplement or modify the initial interchange agreement must be filed with the Civil Aeronautics Board for its approval. When granting its approval to the initial, basic interchange agreement, the Board usually stipulates that the filing of modifying or supplementing agreements must be made a specified number of days prior to their proposed effective dates. The period usually specified is 15 or 20 days.180

174 See for example: United A. L.—Western A. E., Interchange of Equipment, 1 CAA 724 (1940); or Pan American-Panagra Agreement, 8 CAB 54 (1947).


176 See for example: Transcontinental & Western Air . . . ibid., pp. 858, 872.


179 Pan American-Panagra Agreement, 8 CAB 64 (1947).

180 See for example: CAB Order Serial No. E-5778, Docket No. 4926, October
In addition to reserving for itself the power to modify at a later date an interchange agreement it approves, the Board also reserves for itself the right to terminate the agreement, if at any time it finds that the continued operation of interchange service under the terms of the agreement would be adverse to the public interest, or in violation of the Civil Aeronautics Act or any rule, regulation, or order of the Board. The parties to the agreement, themselves, also may terminate the agreement at any time, subject only to written notice and CAB approval. The written notice requirement in interchange agreements usually stipulates a period of either 30 or 60 days.\textsuperscript{181}

Control of schedules and service. In addition to its power to modify, supplement, or terminate the interchange agreement itself, the Civil Aeronautics Board exercises continuing control over interchange operations under its authority to approve or disapprove schedules and service. All proposed interchange schedules are required to be filed with the Board and served on each carrier serving a city on the proposed schedule 15 days in advance of their effective date. Operations on such schedules cannot begin unless approved by the Board. Interchange schedules are set up jointly by the partners in the interchange operation. No one carrier is permitted to exercise control.\textsuperscript{182}

In regard to the Civil Aeronautics Board’s control over the adequacy of the service provided in the interchange operation, its approval of the agreement is contingent upon the airlines rendering adequate through service to each city served under the agreement.\textsuperscript{183} Service under an interchange agreement can neither be suspended nor extended to additional cities without prior approval by the CAB. Furthermore, such service details as are involved in the ticketing and handling of passengers, the billing of cargo, etc., must be in accordance with standard interline forms and procedures.

As clearly indicated by the foregoing, the Civil Aeronautics Board’s regulation of interchange service is extensive and detailed. Its power to control the terms of the interchange agreement and all service performed thereunder is adequate to enable it to shape interchange operations in the pattern which best serves the public interest.

**Conclusions**

Interchange service among the airlines of the United States has had a relatively recent history. Although the first interchange opera-
tion performed by United States' airlines was inaugurated in 1940, considerable recognition of interchange of equipment, as a desirable method of providing new through service, has only appeared in recent years. In 1948, only one domestic interchange service was in operation. In contrast, nine out of the thirteen domestic trunklines were operating a combined total of eleven interchanges over nearly 25,000 route-miles daily at the end of 1953.

The impetus given the development of interchange service in recent years can be attributed primarily to the encouragement it has received from the Civil Aeronautics Board. The "over-expansion" of airline capacity in the early post-World War II period, which subsequently led to a severe financial set-back for the airline industry, caused the Board to adopt a restrictive attitude toward the authorization of new routes, beginning in the late 1940's. As a substitute for route expansion, it encouraged the use of interchange of equipment to provide new through service where the public interest justified it. Recently, however, there have been signs that the Civil Aeronautics Board's restrictive attitude toward route awards may be undergoing change. Several major route cases are currently on the Board's active docket, and new route awards appear to be imminent. There appears to be real danger that in spite of its recent growth interchange service may be relegated to a secondary role in the development of the air transportation system and may not receive the recognition and wide use it merits.

The provision of new through service is deemed to be in the public interest. An economically sound air transportation industry is also in the public interest. One objective cannot be sought to the exclusion of the other. Both are essential. Interchange of equipment offers the best available method for facilitating the attainment of an optimum balance between the two, i.e., a balance which will maximize the net benefit to the public.

New through service may be provided in three ways, viz., route expansion, interchange of equipment, and consolidation of airlines. The amount of new through service which may be expected to be forthcoming from future consolidations of existing airlines is small. New through service must come primarily from the other two methods.

Both route expansion and interchange are essential. Nevertheless, interchange of equipment has certain fundamental advantages that recommend its wider use. New routes mean new ground facilities. Interchange, on the other hand, utilizes existing facilities. New routes mean diversion of traffic from air carriers already providing service to the cities in question over connecting routes. Interchange service, on the other hand, is provided by airlines already carrying some or all of the existing traffic over their connecting routes, thereby minimizing the diversion of traffic that may result from the new through service. Furthermore, once granted, a route tends to become a permanent franchise, whether or not it continues to be economically justified in the
future. Interchange service, on the other hand, offers a maximum of flexibility. It may be speedily terminated by the Civil Aeronautics Board or the carriers should the circumstance ever warrant such action.

The Civil Aeronautics Board has acknowledged the economic benefits to be derived from the use of interchange of equipment to provide new through service and has encouraged its use. In addition, it has effectively controlled interchange arrangements through its power to approve or disapprove agreements between air carriers for pooling of equipment. A workable pattern of regulation for interchange service has been successfully established. Furthermore, although the Board has never seen fit to exercise such power, it appears to have the authority to compel interchange arrangements between unwilling carriers should it deem the interchange service in question to be required by the public interest.

The Board’s power to compel interchange if necessary permits the introduction of a great deal of reform into the air route pattern, should the Board choose to use it. In the past, the Board has not found such action necessary. Its policy of refusing to grant new routes while encouraging interchange arrangements as a substitute has been effective. It is desirable that this policy continue and receive even greater implementation in the future. Interchange of equipment can be the Civil Aeronautics Board’s most effective tool for giving the public new through service, while fashioning an economically sound air transportation system in the United States.

### TABLE 5
**Inauguration Dates of Interchange Services**

<table>
<thead>
<tr>
<th>Interchange Carriers</th>
<th>Interchange Cities</th>
<th>Month Service Began</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pan American/Panagra</td>
<td>Balboa, C. Z.</td>
<td>June 1947</td>
</tr>
<tr>
<td>2. Delta-C&amp;S/TWA</td>
<td>Cincinnati</td>
<td>June 1948</td>
</tr>
<tr>
<td>3. Delta-C&amp;S/American</td>
<td>Dallas</td>
<td>September 1949</td>
</tr>
<tr>
<td>6. American/Continental</td>
<td>El Paso</td>
<td>October 1951</td>
</tr>
<tr>
<td>7. Braniff/Eastern</td>
<td>Memphis</td>
<td>December 1951</td>
</tr>
<tr>
<td>8. Braniff/Eastern</td>
<td>St. Louis</td>
<td>January 1952</td>
</tr>
<tr>
<td>9. Braniff/Continental</td>
<td>Kansas City</td>
<td>February 1952</td>
</tr>
<tr>
<td>10. TWA/Delta-C&amp;S³</td>
<td>St. Louis and Memphis</td>
<td>April 1953</td>
</tr>
<tr>
<td>11. United/Braniff</td>
<td>Denver</td>
<td>September 1953</td>
</tr>
<tr>
<td>12. United/Continental</td>
<td>Denver</td>
<td>September 1953</td>
</tr>
</tbody>
</table>

*¹ Delta was original interchange partner before merger.
*² Mid-Continent was original interchange partner before merger.
*³ C&S (Chicago & Southern) was original interchange partner before merger.