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THE AIR ROUTE PROBLEM IN THE UNITED STATES

By M. George Goodrick

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With the exception of a very few years, commercial aviation in the United States has not been a profitable industry. From the very beginning of commercial air transportation, the carriers found that their normal revenues were insufficient to meet their operating expenses; and every principal carrier, including the 16 certificated trunk line carriers which now dominate our air transportation system, has been the beneficiary of substantial direct financial aid from the Federal Government in the form of an air mail subsidy.

Moreover, the cost of the Federal Airways has been borne by the Federal Government, and the cost of constructing airports and related terminal facilities has been shared between the Federal Government and the state and local government agencies. The air carriers themselves have paid no significant part of these costs though they are admittedly the principal users of airways and airports constructed and maintained at public expense.¹

In spite of this failure to develop sufficient revenues from commercial sources, and the continuing need to rely on Government aid, the industry has experienced remarkable growth. Prior to 1926, when the first air mail contracts were granted, there was no scheduled commercial air transport of any consequence in this country. Today the nation is criss-crossed with more than 140,000 miles of scheduled air routes.

How does one account for such rapid expansion of an industry that has failed to earn enough to pay the expenses of its operation? The answer seems to be in the policies of the Federal Government whereby the operations of the air carriers have been subsidized. Indeed, the policies of the Federal Government have probably contributed much to both the expansion of our air transport system and the fact that it has thus far failed to achieve economic self-sufficiency. For the failure of the industry to achieve economic independence is largely a consequence of the fact that the supply of air transportation offered, in total, has consistently exceeded the demand for such transportation, with the exception, perhaps, of the two or three war years.

¹ For specific data supporting these general statements see M. George Goodrick, "Air Mail Subsidy of Commercial Aviation," Journal of Air Law and Commerce, Summer 1949.
Federal Aid to commercial aviation was first accepted as an appropriate public policy on the assumption that as the industry grew it would be able to assume the full burden of its costs of operation so that federal aid would no longer be necessary. This expectation has not thus far been realized. Indeed, the amount of federal aid has been growing rather than decreasing in recent years and the role of the Federal Government in the operations of the industry is such that the costs to be borne by the taxpayer will probably continue to increase rather than decrease as the volume of air transportation grows.

It is the purpose of this paper to review the growth of our air transportation system, to call particular attention to the role of the Federal Government in the development of air routes, and to consider some of the reasons why federal participation has contributed to the expansion of air transportation services beyond the point which the demand for such services will support.

EXPERIENCE BEFORE 1938

Postal Service Beginnings

Commercial aviation in the United States received its most important early stimulus from the efforts of the Post Office Department to demonstrate the benefits and practicability of transporting mail by air.2

The first regularly scheduled air mail flight took place on May 15, 1918, from New York to Washington, a distance of about 218 miles. In 1919 service was begun on air routes west of New York and within a few years thereafter regular transcontinental air mail service was being maintained by the Post Office Department from New York to San Francisco, via Cleveland, Chicago, Omaha, and Cheyenne. The Post Office Department owned and maintained its own planes, it surveyed and charted the first air routes, and designed, built, installed and maintained the air navigation facilities required for its operations, including rotating beacon lights and air-ground radio communication facilities.

By 1925 the air mail service was well established under Post Office Department operation. The Postmaster General believed the time had come when it could safely and properly be transferred to private operators. The Air Mail Act of 1925 authorized him to contract with private carriers for the transportation of mail by air at rates not to exceed four-fifths of the revenue derived from such mail service.

Private air carriers, however, were reluctant to assume responsibility for the maintenance of air navigation facilities along the transcontinental route. The Air Commerce Act of 1926 assigned this responsibility to the Department of Commerce, and thereafter the

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2 For a summary of this experience see the annual report of the Postmaster General for the Fiscal Year 1927, pp. 27 et seq. U. S. Gov't. Printing Office, Washington, D.C.
transfer of the air mail service to private contractors was rapidly accomplished. By September 1, 1927, the transfer was complete.

*Early Contract Operations*

The Post Office Department had inaugurated and maintained air mail service over routes where the advantages of such service were fairly obvious. Its principal operations were over the transcontinental route described above. Shorter routes were established from time to time but these were mostly discontinued, unless they fed directly into the transcontinental route, because the time saved in transporting the mail was not regarded as sufficient to warrant the expense involved.

The announcement that air mail contracts were to be let to private carriers stimulated a great increase in interest on the part of the public in 1926. This interest was further stimulated by Col. Lindbergh’s historic flight from New York to Paris in May of 1927. City governments and chambers of commerce were encouraged by the business men of their communities to petition the Post Office Department for air mail service. Many of these communities undertook the construction of airports.

During the fiscal year 1926, nine air mail contracts were awarded and put into operation as follows:

1) Chicago-St. Louis
2) Chicago-Dallas (via Kansas City and Wichita)
3) Salt Lake City-Los Angeles (via Las Vegas)
4) Elko, Nevada-Pasco, Washington (via Boise)
5) Detroit-Cleveland
6) Detroit-Chicago
7) Chicago-Minneapolis (via Milwaukee, LaCrosse and St. Paul)
8) Jacksonville-Miami (via Fort Myers)
9) Cheyenne-Pueblo (via Denver and Colorado Springs)

Because many of these routes fed into the transcontinental service, which was still being operated by the Post Office Department, an increase in capacity along that route was required.

During the fiscal year 1927, additional operations were begun under contract as follows:

1) Boston-New York (via Hartford)
2) Philadelphia-Washington
3) Philadelphia-Norfolk (via Washington)
4) Seattle-Los Angeles (via Portland and San Francisco)
5) Cleveland-Pittsburgh (via Youngstown)

The route from Jacksonville to Miami was extended to include Atlanta and Macon, Georgia. By September, 1927, the last segment of the transcontinental route had also been transferred to contract operations.

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4 Annual Report of Postmaster General for Fiscal Year 1927, p. 27.
During the years 1926 through 1930 the air transport system was expanded rapidly by the granting of new air mail contracts and the extension of existing contracts by the Post Office Department. Contracts were let to the lowest qualified bidder in each case, after routes had been surveyed, and bids had been invited by public advertisement.

Much difficulty was soon encountered. Although the first Air Mail Act had provided that payments to carriers should not exceed four-fifths of the revenues derived from air mail service, it was soon demonstrated that such amounts would be inadequate to meet the costs of the contracting carriers. Successive amendments to the Air Mail Act authorized the Postmaster General to establish other bases of payments. The prevailing assumption remained, however, that the air mail service ought to be self-supporting.

In his report for the fiscal year 1928, for instance, the Postmaster General stated:5

"Growing interest (in the air mail service) is indicated by the increasing number of applications from cities for new routes, the commendable interest of so many cities in facilities for air mail fields, and the desire of post offices for extension of service for supply on existing routes. While this interest is gratifying to the department, it must be conceded that so far as the wish to advance commercial aviation is concerned, it must yield to the necessity for considering the establishment of routes from a postal revenues standpoint.6 This is necessary to insure the continuous operation by the contractors who must make considerable outlay of funds for the purchase of the necessary ground and flying equipment."

During the fiscal year 1929 there was established an inter-departmental committee to consider petitions for the establishment of additional civil airways. This committee included three members from the Post Office Department and three from the Department of Commerce.7 The establishment of such a committee suggests that new air routes were thenceforth to be established on the basis of broader considerations than air mail service alone. On June 12, 1929, for instance, hearings were held before this committee to consider the establishment of air mail services in various parts of the South and Southwest. These hearings were attended by more than a score of Senators and Congressmen, virtually all of whom "pledged their support . . . and promised generous appropriations. Delegations from the cities concerned added their arguments."8

By amendment of August 1, 1928, to the Air Mail Act of 1925, the Postmaster General had been authorized to issue route certificates to contract carriers who had satisfactorily performed air mail services for two years or more. This relieved the carriers of the risk that they

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5 P. 28.
6 Underscoring supplied.
might be under-bid and encouraged them to undertake greater capital commitments. Rates for carrying the mail under such certificates were to be negotiated between the carrier and the Post Office Department. These rates, however, were not to exceed those established by the original contract.

Watres Act of 1930

The Watres Act of 1930 reaffirmed the authority of the Postmaster General to issue certificates in lieu of contracts. It authorized payments to carriers on a space-mile rather than on a plane-mile basis, however, and thereby deliberately provided the means whereby payments to carriers could exceed by substantial amounts the revenues earned from air mail business.

Although there was considerable evidence to indicate that air mail contractors had incurred losses on their efforts to provide passenger transportation, the Watres Act specifically provided that all air mail carriers must provide passenger service, and by July 1, 1931, all but two such carriers had complied with these provisions of the Act.9

The Watres Act authorized the Postmaster General to consolidate and extend existing air mail routes with a view to establishing a more adequate air transportation system throughout the United States. Pursuant to this authority the Postmaster General adopted a vigorous policy for the extension of air mail service, so that by June 30, 1932, air mail routes covered approximately 26,745 miles. The Postmaster General at this time, though opposed to subsidies as a long range policy, believed that by the use of a deliberate subsidy policy for a short period he could induce the general public to use air transportation and thus get the industry onto a firm basis of economic self-sufficiency.10

In his report for the fiscal year 1932 the Postmaster General said:11

"The Post Office Department is not only improving the communication system of the United States, but by promoting an economically independent aviation industry it is making a substantial contribution to the peace and security of the country."

The methods used by the Postmaster General during this period in his relationships with the principal air mail certificate holders, led to charges of fraud and collusion and on February 19, 1934 all air mail contracts and certificates were annulled by his successor. During the Spring of that year the air mail service was operated by the Army on an emergency basis until commercial operations could be re-established under the Air Mail Act of 1934, which was enacted June 12 of that year.

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10 For a detailed consideration of this point of view see Henry Ladd Smith, Airways, Alfred A. Knopf, 1942, especially Chapters 13 and 14.
11 P. 31; underscoring supplied.
Air Mail Act of 1934

Under the provisions of the Air Mail Act of 1934 the Interstate Commerce Commission was given responsibility for reviewing air mail rates each year in order to prevent unreasonable profits to the carriers, and to establish or revise air routes under certain circumstances. The Postmaster General retained authority to award contracts to the lowest responsible bidders for air mail routes and to enforce air mail regulations. Maintenance and operation of the Federal Airways remained a responsibility of the Department of Commerce.

Much confusion resulted under this arrangement. On August 30, 1935, for example, Transcontinental and Western Air, Inc., applied for authority to inaugurate and maintain an off-line, or spur service in connection with its operations over Air Mail Route #2 (Albuquerque to San Francisco via Winslow, Arizona and Las Vegas, Nevada). The Interstate Commerce Commission denied this application on the ground that it would compete with passenger and express service available on other air mail routes. Transcontinental and Western Air, Inc., thereupon made a bid of 1 mill per airplane mile to provide air mail service over this route and was awarded a contract by the Post Office Department.12

The Air Mail Act of 1934 specifically provided that on and after July 1, 1938, air mail payments should no longer exceed air mail revenues. In accordance with this objective the Interstate Commerce Commission appears to have exercised a restraining influence over the expansion of air transportation services. The growth of traffic was substantial but the increase in air route mileage was limited.

Reports of the Commission to the Congress repeatedly expressed dissatisfaction with the division of authority under the Air Mail Act of 1934 and urged the enactment of new legislation which would provide for control over the expansion of air routes on the basis of certificates of public convenience and necessity such as were provided for in the case of rail transportation by the Transportation Act of 1920.13

Experience Under the Aeronautics Act

The Civil Aeronautics Act of 1938

Section 401 (a) of the Civil Aeronautics Act of 1938, which became effective August 10, provides that “no air carrier shall engage in any air transportation unless there is in force a certificate issued by the Authority (now the Civil Aeronautics Board) authorizing such air carrier to engage in such transportation.”

Section 401(d) (1) of the Act provides that "The Authority shall issue a certificate authorizing the whole or any part of the transportation covered by an application, if it finds that the appli-

12 See 213 ICC 551 and 214 ICC 552.
cant is fit, willing, and able to perform such transportation properly, and to conform to the provisions of this Act and the rules, regulations, and requirements of the authority hereunder, and that such transportation is required by the public convenience and necessity..."  

The recommendations of the Interstate Commerce Commission on this point were thus adopted by the Congress. Other provisions of the Act, however, went much further, apparently, than the Interstate Commerce Commission had contemplated and reflect the influence of the industry itself and other interested groups on the drafting of the legislation.

Section 2 of the Act, for instance, requires that “the encouragement and development of an air transportation system,” the “promotion of adequate, economical, and efficient service by air carriers at reasonable charges,” and the “encouragement and development of civil aeronautics” are to be considered “as being in the public interest, and in accordance with public convenience and necessity.” This Section of the Act also provides that the Authority shall provide competition in air transportation “to the extent necessary to assure the sound development of an air transportation system properly adapted to the needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the National Defense.”

Section 406 (b) of the Act provides that in fixing fair and reasonable rates of compensation for the carrying of mail, the Authority shall include, among other considerations, “the need of each such air carrier for compensation for the transportation of mail sufficient to insure the performance of such service, and, together with all the other revenue of the air carrier, to enable such air carrier under honest, economical, and efficient management, to maintain and continue the development of air transportation to the extent and of the character and quality required for the commerce of the United States, the Postal Service, and the National defense.”

It is this latter section which provides the basis of the air mail subsidy, that guarantees air mail payments to every air mail carrier sufficient to ensure its solvency, “under honest, economical, and efficient management.”

Public Convenience and Necessity

Historically, certificates of public convenience and necessity have been utilized to prevent the excessive development of service on the part of public utilities, or the too rapid installation of service or equipment. The objective is to prevent the development of a cost structure for such an industry greater than the traffic can bear.  

14 Underscoring supplied.  
The State of New York was the first to adopt this device to regulate the expansion (and contraction) of railroad facilities. The power to issue such certificates for the operation of railroads was granted to the Interstate Commerce Commission by the Transportation Act of 1920. Similar powers for the regulation of motor vehicle carriers were given the Interstate Commerce Commission by the Motor Carrier Act of 1935, and water transportation services are similarly controlled by the Commission pursuant to provisions of the Transportation Act of 1940.

Presumably it was the intention of those who urged the inclusion of such a provision in the Civil Aeronautics Act that it should be used to prevent the over-expansion of the air transport industry. The Civil Aeronautics Authority acknowledged such a purpose when it said in an early decision:17

"Congress . . . clearly intended to avoid the duplication of transportation facilities and services, the wasteful competitive practices, such as the opening of non-productive routes, and other uneconomic results which characterized the development of other modes of transportation prior to the time of their governmental regulation."

The Authority also recognized that the administration of certificates of convenience and necessity under the circumstances prescribed by the Civil Aeronautics Act would be difficult. In its first Annual Report (1939) the Authority stated:

"These applications . . . involving a form of transportation which will derive assurance of economic survival through the payment of air mail compensation, raise new problems in connection with the concept of the public convenience and necessity."

It is useful to compare the premises on which applications for certificates of public convenience and necessity have been considered by the Civil Aeronautics Board and by the Interstate Commerce Commission.

In several of its early decisions18 the Civil Aeronautics Authority held that the important factors to be considered were as follows:

1) Whether the service will serve a useful public service, responsive to a public need;
2) Whether this service can and will be served adequately by existing carriers;
3) Whether it can be served by the applicant without impairing operations of existing carriers contrary to the public interest; and
4) Whether the cost of the proposed service to the Government will be outweighed by the benefit which will accrue to the public from the new service.

The criteria relied upon by the Interstate Commerce Commission in its consideration of new routes, have been summarized as follows:19

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17 Duluth-Twin Cities Operation, 1 CAA 573, 577 (1940) (underscoring supplied).
18 See for instance CAA Docket 245, Sept. 17, 1940.
19 Daggett, op. cit, p. 258.
1) Whether they are likely to be self-sustaining;
2) Whether they will divert traffic from existing facilities;
3) Whether the proposed undertaking is adequately financed.

It is evident that the criteria used by the Civil Aeronautics Board provide very inadequate policy guides as compared to those used by the Interstate Commerce Commission. The most important consideration seems to be the first criterion listed in each case. For the Interstate Commerce Commission this matter is reduced to a question of whether the new route can be expected to pay its own way. For the Civil Aeronautics Board the first criterion involves an independent administrative determination of public need; and the question of whether the new service will pay its own way is not decisive.

It seems fair to assume that carriers who apply for new routes under regulations of the Interstate Commerce Commission will be proceeding on the expectation that revenues from the new services will be sufficient to cover the costs; at least that the additional business derived from the new service will result in some direct benefit to the carrier. Thus the carrier itself has assumed the major portion of the burden of appraising the public need for the proposed service.

A similar assumption is not warranted in the case of applications submitted to the Civil Aeronautics Board. For in such cases the carrier does not need to rely entirely on the revenues earned by the proposed service. The Government, under the provisions of Section 406 (b) of the Civil Aeronautics Act, has given assurances that so long as the management of the carrier is "honest, economical, and efficient" air mail pay will be adjusted to ensure adequate income for the carrier. In every extension of air transportation service, therefore, it is the Federal Government rather than the carrier that assumes the risk of unwise expansion.

This situation is further complicated by the fact that although the Civil Aeronautics Board may limit the routes over which air travel is provided it may not restrict the number of schedules offered by the carriers concerned or the capacity offered on each flight, for, as provided in Section 401 (f) of the Civil Aeronautics Act:

"No term, condition, or limitation of a certificate shall restrict the right of a carrier to add to or change schedules, equipment, accommodations, and facilities for performing the authorized transportation and service as the development of the business and the demands of the public shall require."

The importance of this provision is immediately evident when it is pointed out that the amount of air transportation service offered was probably more than doubled, without consideration by the Civil Aeronautics Board, when larger aircraft were put into service by the principal carriers during the years 1945, 1946, and 1947.

The powers of the Interstate Commerce Commission with respect to certificates of public convenience and necessity have been more fre-
quently used, in railroad cases at least, to prevent the carriers from abandoning service than to authorize extensions in service. The rail transportation system of this country was substantially complete when the Transportation Act of 1920 was enacted. In some areas it had been over-built, and carriers have frequently sought to discontinue service on routes that have proved to be unprofitable. The powers of the Commission may be used in such cases to force the continuation of a service on which the public has come to rely, even though the revenues fail to cover the costs. The carrier is thus forced to assume the social burdens arising from its unwise expansion or from changes that have rendered its service in some measure obsolete.

In new route cases the Interstate Commerce Commission has relied primarily upon evidence that new routes would be self-sustaining. This means, in effect, that public convenience and necessity are to be defined in market terms. If the demand for the service is sufficient to support it, this fact stands as prima facie evidence of the need.

The Civil Aeronautics Board, on the other hand, has been unwilling to rely on such a criterion of need. Presumably this is a result of the fact that the Board is charged with responsibility for “promoting” as well as “regulating” air commerce, and this suggests that perhaps air routes were to be established in anticipation of demand for air transportation, as a part of a general program for encouraging greater utilization of such services. The subsidy benefits provided were evidently intended to sustain the carriers until the demand for air transportation services was sufficient to meet the costs.

CAB Procedure in Route Cases

When an application for a certificate of convenience and necessity is received by the Board it is assigned to an examiner who makes an investigation of the need for the service and may afford interested parties, in addition to the carrier, an opportunity to state their views.

A variety of evidence has been used to evaluate the need for air transportation services. On September 17, 1940, for instance, the Civil Aeronautics Board granted to Pennsylvania Central Airlines a certificate of public convenience and necessity “authorizing it to engage in air transportation of persons, property, and mail between the terminal point of Norfolk, Va., the intermediate points of Rocky Mount, Raleigh, Greensboro, and Asheville, N.C., and the terminal point, Knoxville, Tenn.” The factors considered by the Board in this case may be summarized as follows:

1) the population of North Carolina;
2) Federal taxes paid by citizens of North Carolina;
3) the growth of Industry in North Carolina;
4) the volume of tourist traffic, especially to the Great Smoky Mountains;
5) the amount spent for highway development;
6) the industrial and commercial importance of the terminal cities

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20 II CAB 207.
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(here specific reference was made to operations at the Norfolk Naval base);
7) the importance of the intermediate cities;
8) the population of such cities (to a radius of thirty miles from the center);
9) a comparison of train time, bus time, proposed air time, noting the savings to result;
10) flow of traffic among the several cities; as determined by an analysis of bus and train tickets sold;
11) hotel registrations (noting the community of interest among the several cities);
12) the extent of existing air service (none along this particular route);
13) the volume of mail along the route; and
14) the probable costs and revenues to be derived from the service as estimated by the carrier.

Similar evidence was considered with respect to the establishment of air transportation service between the Twin Cities, Des Moines, Kansas City and St. Louis. This case, decided July 18, 1940, involved applications from Mid-Continent Airlines, Inc., Northwest Airlines, Inc., and Braniff Airways, Inc., for the inauguration of air services over slightly different routes through this general area. This case, therefore, involved a comparison of the relative merits of the services proposed by the several interested carriers. It resulted in the granting of a certificate to Mid-Continent Airlines, Inc., and a denial of the other applications.

Although the Civil Aeronautics Act requires that the Civil Aeronautics Board give consideration to the defense requirements of the United States, no evidence of specific testimony on this point was found in the perusal of a considerable number of typical route cases.

Insofar as it is practicable to undertake a prior determination of the need for air transportation services, it appears that the techniques used by the Board are not inappropriate. However, it seems fair to challenge the validity of the Board's judgment as to the need for such services in those cases where subsidy aid is still required after an extended period of service over the route. The growth of our air transportation system while administered by the Civil Aeronautics Board is evident from the following table.

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<th>Year</th>
<th>Trunk Routes (miles)</th>
<th>Feeder Routes (miles)</th>
<th>Total (miles)</th>
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<td>115,484</td>
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<td>138,572</td>
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</table>

21 II CAB 63.
It is evident from this table that the Civil Aeronautics Board pursued a relatively conservative policy during the early years of its existence in the matter of air route extensions. The total increase in authorized route mileage during the first five years amounted to only about 39% over the base year. The increase from 1943 through 1948, however, amounted to 84,070 route miles or an increase of approximately 154% over the authorized mileage in 1934. It appears that the Board relaxed its restraining influence just at the time when it was most needed, i.e. when the plans and ambitions of air carrier officials were over-stimulated by the abnormally favorable experience of the war years.

It is also important to note that nearly all the increase in route mileage was accomplished by extension of the certificates of the sixteen line carriers. These are the carriers whose basic route patterns were certificated by the Civil Aeronautics Authority under the “Grandfather clause” of the Civil Aeronautics Act. This clause provided in effect that the Authority should issue certificates of public convenience and necessity to any carrier which had been continuously engaged in scheduled air transportation prior to the enactment of the Civil Aeronautics Act.

**Competition**

The supply of air transportation available at any time depends not only on the number of miles of authorized routes, but also, as indicated above, on the frequency of the schedules and the capacity of the equipment used. It will also tend to be increased if there is competition among carriers between the principal air terminals.

Although it was evidently the intention of the Congress to prevent unwarranted duplication of service in the development of air routes, it was also the express intention of the Congress that there should be competition among air carriers, “to the extent necessary to assure the sound development of an air transportation system properly adapted to the needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the National defense.” The Congress was evidently unwilling to rely on either competition or regulation to accomplish its purpose and so provided expressly that both types of control were to be utilized.

Pursuant to this Congressional statement of policy, the Civil Aeronautics Board has issued certificates which have resulted in increasing substantially the number of “city-pairs” for which competition is provided. Messrs. Gill and Bates, Research Fellows at the Harvard Graduate School of Business Administration found that in September 1940 competition existed among the air lines for 41% of the revenue generated by passenger travel.\(^2\) By September 1947 this ratio had increased to nearly 60%.

In some cases, as for instance on service between Chicago and Washington, as many as four carriers are in competition with each other,24 and there are many instances in which the traveler has a choice among three carriers. Gill and Bates concluded that, in general, "competition has been one of the most important factors influencing the industry."25 They point out, however, that competition amongst air carriers has been a major factor in preventing their achievement of economic self-sufficiency. According to their analysis the excellent earnings record of Eastern Airlines, with all due respect to the superiority of its management, is in large part attributable to the fact that Eastern's route pattern is the least competitive of those of the "Big Four" carriers.26

It seems self-evident that competition will frequently result in excess capacity with consequent low load-factors for each of the competing carriers. The convenience of travelers requires, for instance, that planes depart from Washington for Chicago, or vice versa, in the late afternoon or early evening. To capture its share of this business each carrier will offer one or more schedules during these hours. If each of the four carriers uses a plane with a capacity of fifty passengers, a total of 200 seats will be offered. If only 100 passengers choose to make the trip during these hours on any day, the average load-factor for the several carriers on that day will be fifty per cent — which is well below the break-even point. A single carrier, however, could use as many planes as the circumstances warranted on each flight and might thereby achieve a utilization of capacity which would be well above his break-even point.

The Civil Aeronautics Board in the establishment of competition among air carriers as a means of improving service at low rates, seems to have ignored for the most part the fact that nearly every air route operates in direct competition with rail and/or motor services.

Modification, Suspension or Revocation

Section 401 (h) of the Civil Aeronautics Act provides that the Authority (now the Board) "upon petition or complaint or upon its own initiative, after notice and hearing, may alter, amend, modify, or suspend" a carrier's certificate in whole or in part, "if the public convenience and necessity so require, or may revoke any such certificate in whole or in part, for intentional failure to comply with any provisions of this title or any order, rule, or regulation issued hereunder or any term, condition, or limitation of such certificate," provided that any carrier shall be afforded reasonable time in which to comply with a specific order of the Board "commanding obedience."

This provision affords a broad grant of authority pursuant to which the Civil Aeronautics Board might, on its own motion, make

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24 Ibid., p. 102.
25 Ibid., p. 615.
26 Ibid., p. 619-620.
whatever revisions of the air route structure it regarded as required by the public convenience and necessity. The Board has made but little use of this authority. In the fall of 1948, however, it did undertake an investigation of the air route pattern of National Airlines, Inc., seeking to determine whether the interests of aviation might be better served by the transfer of National's property and various segments of its route system to other carriers. While hearings in this case were being held, National Airlines announced that it had reached agreements with Pan American and Pan American Grace Airways for an interchange of equipment at Miami. Subsequently the Board gave consideration to proposals for an agreement between National Airlines and Eastern Airlines for cooperative service on east-west routes through New Orleans. This aspect of the case is still pending.

The carriers themselves have applied from time to time for authority to consolidate their own route patterns and the Board has generally acted favorably on such applications.

The Board has made from time to time, systematic surveys of the traffic actually carried by the certificated carriers. These surveys, suspended during the war, have been made at six month intervals since March 1946. They include a summary of the total traffic for the survey month, by types, for each carrier between each of the stations served by the carrier. They also include data concerning the number of flights and the total revenue capacity made available as compared to the volume of traffic actually carried. Such data provide some statistical evidences of the public need supporting each route segment. They might conceivably serve as the basis for a general reconsideration of the validity of the existing route structure. As indicated above, however, the Board has not thus far undertaken such a program.

"Feeder" Routes

Because of the many applications it had received for the initiation of local or "feeder" air line services, the Civil Aeronautics Board began an investigation of this problem in 1943. The Board found that the air traffic potential of small cities was too small to support such service in most instances and that such routes, if established, would have to compete with surface transportation systems under circumstances where the speed of air travel would not afford much of an advantage. The establishment of "feeder" services was, therefore, rejected at that time.

Immediately following the end of the Second World War there was much interest in the idea that our aviation achievements during the

28 Cf 7 CAB 337, American Airlines et al. (Sept. 23, 1946) and 8 CAB 28, TWA et al. (May 19, 1947).
war might somehow be translated into the rapid development and expansion of commercial aviation. Influenced, no doubt, by the same optimism which resulted in a great increase in certificated route miles for trunk line carriers, the Board reconsidered the question of feeder lines and the first of such service was authorized in 1946. By the end of 1946 some 28 "feeder" carriers had been certificated for about 23,000 miles of local service.³⁹

The record of these carriers has shown that most of them have been unable to develop satisfactory load factors and have been obliged to rely heavily on mail pay to meet their expenses.

*Influence of the Civil Aeronautics Administration*

The Civil Aeronautics Administration of the Department of Commerce has performed since 1940 the functions that were first assigned to that Department by the Air Commerce Act of 1926. These are primarily concerned with the construction, maintenance and operation of air navigation facilities. The Civil Aeronautics Administration, and its predecessor agencies in the Department of Commerce, have also played an influential role, however, in the construction of airports.

Under the Federal Airports Act of 1946, the CAA is administering a matched funds, grant-in-aid program for the construction and improvement of airports. The Federal Airport Plan for 1949 included aid for 4,977 airports, of which 2,749 represented new locations.³¹

As a part of its responsibility for the administration of the $500,000,000 authorized for these purposes the Civil Aeronautics Administration undertook a series of studies for the purpose of appraising the air traffic potentials of the cities of the United States. The results of these studies were published in the fall of 1949.³² They provide one set of factors used by the CAA in selecting the municipal airport construction projects which are entitled to Federal Aid.

For the most part the CAA has been engaged in constructing air navigation facilities over routes previously certificated by the Civil Aeronautics Board. Through its control over the construction of air terminal facilities, however, the Civil Aeronautics Administration may be in a position to take the initiative in some instances, by providing air terminal facilities at cities which carriers will desire to have included in their certificated route patterns.

**Summary and Conclusions**

There seems to be general agreement among many students of the subject that the air transportation system of this country has suffered

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³⁰ Civil Aeronautics Board, Annual Report for 1948, p. 9, and p. 17, above.
³¹ Dearing and Owen, op. cit., p. 34. The total number of airports as of December 1, 1948 was 6,009. Of this number only 567 were large enough to accommodate the larger types of aircraft now in service.
³² Airport Planning Series, Civil Aeronautics Administration, 1949. It appears that these studies were completed without any official collaboration with the CAB.
in recent years from over-expansion. Dearing and Owen, in their study of "National Transportation Policy," observed that one of the major objectives of the Civil Aeronautics Act was to prevent the development of excess and duplicate air transportation facilities. It seemed apparent to them "that the Board has not achieved impressive results in this undertaking." 83

The President's Air Policy Commission reported in 1948: "The difficulties in which the air transport industry now finds itself can be traced primarily to over-expansion based on the mistaken assumptions of postwar traffic." 84 Mr. Russell Adams, then a member of the CAB, writing for the JOURNAL OF AIR LAW AND COMMERCE, in the Spring of 1950, acknowledged that the certificated route pattern had been over-expanded. He put the blame however, on the airlines, pointing out that the Board had acted in every instance on application for route extensions, and that the extensions authorized were substantially less than those applied for. 85

It is worth emphasis at this point that the problems of the air lines are not altogether a postwar phenomenon. Studies of air line operations for the pre-war years disclose that subsidy aid was essential for commercial aviation from the time of the first air mail contracts. 86 This fact suggests that the supply of air transportation has been consistently expanded more rapidly than the demand for it.

A number of reasons may be offered to account for the consistent excess in the supply of air transportation.

1. First of all, air transportation was not developed in response to an obvious need. The industry, with Government encouragement, has had to foster the development of a demand for its services, at a time when the basic transportation requirements of the country were being fairly well met by motor and rail facilities. With the exception of a few isolated instances the airlines have not "opened up" new territory as the railroads did. Shippers have never exerted pressures on the CAB as they have on the Interstate Commerce Commission because air transportation has never been so clearly related to their welfare.

2. Although carriers prefer profits to losses, of course, they have not had to bear the risks which attend the expansion of other types of business enterprises. If it appeared to a carrier that his earnings might be improved by extending his service, he could proceed, especially since the enactment of the Civil Aeronautics Act, with the assurance that such expansion could not seriously impair his financial welfare if his hopes for better revenues were not realized.

83 Dearing and Owen, op. cit., p. 200.
85 Adams, Russell B., op. cit., p. 132.
THE AIR ROUTE PROBLEM

This is perhaps the crux of the matter, and there is some reason to suspect that the supply of air transportation will never be appropriately adjusted to the demand for it so long as the subsidy provisions remain. Mr. Joseph J. O'Connell, Jr., formerly Chairman of the CAB, said in an address in New York City on March 23, 1949, "Bankruptcy is, after all, in private enterprise, the principal astringent that we have for washing away uneconomic operations. In the air transportation business, as it is conducted today, this astringent is no stronger than water."

3. The President's Air Policy Commission reported, in 1948, "There is . . . a widespread confusion as to the principles which guide the Civil Aeronautics Board in its route determinations." 87 This confusion is attributable in large part to the fact that the Civil Aeronautics Board is charged with responsibility for "promoting" as well as regulating air commerce. The Board's experience over a period of twelve years warrants some doubt as to whether any single agency of Government can effectively perform simultaneously two functions so clearly divergent.

The problem of the Board is complicated by the administrative environment in which it operates. It is under constant pressure from the air carriers for modifications of policies and routes which will serve their private purposes. Few persons come before the Board, on the other hand, to speak for the public generally. Yet it is the taxpaying public which is obligated to meet whatever costs the Government may incur if the carriers fail to pay their way.

The Board is sometimes required, of course, to rule in favor of some applicants and against others in the matter of route extensions. It is seldom called upon, however, to hear arguments against route extensions per se. It is not surprising therefore that the extension of routes has gone forward, pretty much as the carriers have urged, for the taxpayers, who assume the risk of unwise extensions, have no part in the proceedings. Moreover, as noted above, the policies of the Board are rarely subjected to pressure and criticism from shippers or travelers such as those exerted on the Interstate Commerce Commission in rail and motor cases.

SUGGESTIONS

It is not the purpose of this paper to propose detailed remedies for the economic and administrative issues involved in the Government's promotion and regulation of air transportation. Congressional Committees are currently working on this general problem.88 Two suggestions seem to warrant consideration, however, as possible steps toward a solution within the framework of existing legislation:

1. Decisions of the Civil Aeronautics Board as to whether any

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87 Survival in the Air Age, p. 10.
88 Especially the Senate Committee on Interstate and Foreign Commerce.
route extension is warranted by public convenience and necessity should be subject to review and revision on the basis of experience.

The Board has developed elaborate techniques for appraising in advance the need for air transportation services. It is authorized to certificate routes where the immediate demand will not support the costs of the service to be offered, and to adjust rates of mail pay to cover the difference. It seems logical to assume, however, that after a period of operation and development over any given route the volume of traffic actually generated might become the measure of need for the service, and the risk of continuing operations over the route might be transferred to the carrier.

A period of from two to five years might be established as sufficient time for the need for air transportation to be demonstrated by the actual volume of traffic carried. Subsidy benefits could be paid during such a period with the understanding that they would be withdrawn thereafter, and the carrier could be afforded some option as to whether the service should then be continued.

It is recognized that such a plan would call for careful allocation of a carrier's costs among its several route segments, but it is believed that this problem is not insurmountable. Adoption of such a plan, on the other hand, would ultimately bring about an air route system adapted to the bona fide demand for air travel. The Bill recently introduced by Senator Johnson (S. 1657) offers one approach to this problem. It requires that carriers support their requests for subsidy by identifying the cities which they serve where the cost of the service is not covered by the revenues derived therefrom.

2. In the event, after such a period of development, the carrier elected to discontinue the service, the needs of the Post Office Department and of the Department of National Defense might be more specifically considered with the understanding that these agencies would then be required to stipulate just how much service over the route was necessary for their purposes. Subsidy benefits sufficient to maintain such services could then be paid with more assurance of the public benefit to be derived therefrom than is now the case.

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The Air Route Problem is not the most pressing issue confronting the Federal Government today. It is representative, however, of many situations in which special interests have sought to use the Government as a means for promoting their individual welfare at the expense, sometimes at least, of the general public. It illustrates, too, the problems that may arise when administrative determinations are substituted for market processes. Our efforts to deal with this situation may therefore afford some measure of the ability of democratic government to cope adequately with the complex problems of our time.