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PROBLEMS OF OUR DOMESTIC AIR TRANSPORTATION

ALREADY we Americans have achieved a progress in air transportation that has no parallel in transportation history. It was only sixteen years ago that our pioneers of air transport first began to raise their eyes toward the skies. Once every twenty-four hours a small, single-engine airliner took off from the Newark Airport which had been reclaimed from the New Jersey marshes—and pointed its nose toward the Pacific coast. It carried some mail and an occasional passenger. Today our national air map reveals a great network of airlines spreading from the Atlantic to the Pacific and from the Canadian to the Mexican border. These lines in normal times fly daily almost twice as many miles as do the combined airlines of Great Britain, France, Germany, Italy and the Netherlands; they transport more passengers and more mail; and in comfort, speed and safety they surpass the airlines of any other nation.

Within the same brief period our adventurous pioneers of air commerce have linked this nation in scheduled air transportation with almost every part of the world. At the time the Civil Aeronautics Board (then called the "Civil Aeronautics Authority") took over the control of air transporta-
tion in 1938 our pioneers of overseas air transport had already linked the United States in regularly scheduled service with almost every country in Central and South America and the Caribbean; with Hawaii, the Philippines, and far-off China. Since 1838, the Board, in a series of decisions, has authorized the expansion of that network. Thus within the past five years we have seen the establishment of the first regularly scheduled service between the United States and Alaska—a route of tremendous importance to our national defense; the establishment of the Trans-Atlantic service to Europe, which marked the conquest by air of the last remaining unconquered ocean; the service between Manila and Singapore in the Pacific; the establishment of a regular scheduled service between the United States and Australasia—a route of more than 8,000 miles of flight over the open sea of the Pacific; the establishment of regular service between the United States and Ireland; and service between the United States and Europe, which links South America with Europe. The very earth itself has shrunk to the measure of the vision of our American pioneers of air transportation.

The achievement thus recorded is an impressive one; and now comes the Civil Aeronautical Board with a prophecy, set forth in a recent decision,¹ that the development of air transportation in the postwar period will be without parallel in the history of transportation.

There are good reasons why this is not a fantastic prophecy. In the first place, the present war has provided a stimulus to aeronautical research and the advancement of the art of flight which has packed into a brief period a technical advance which would have required decades of peace to accomplish. This war has become a gigantic laboratory of experiment and discovery in the field of aviation. The airlines, from necessity, are still using the same types of aircraft which had been in use during the past five years. But those planes are already obsolete; and our domestic and international airlines only wait upon the manufacturing capacity, which will become available at the close of the war, for the modern aircraft that

will enable them to carry the air commerce of this nation and a fair share of the air commerce of the world.

There will also be those expanded airport facilities which have been constructed as a part of the war program and which will be available to civil air transportation at the close of this war.

Then, there will be available to our air transportation of the post-war future, millions of trained aviation personnel who will have graduated from the present war. I am thinking of the pilots, the mechanics, the navigators, the meteorologists and other ground personnel who will be knocking at the door of civil aviation when the time comes to convert this American invention from an instrument of destruction and death to an agency of commerce and of peace.

In this situation we are confronted not only with an opportunity but with a solemn national obligation—an obligation to insure that there shall be places waiting in our economic life for the men of our armed forces when they return. The streets of our cities in the post war period must not be permitted again to resound to the tramp of unemployed millions searching for jobs they cannot find.

And finally there will be millions of Americans who will have become educated to the unique advantages of air transportation; millions whose vision in the past has been limited to the environment of a two-dimensional world but who are rapidly becoming conscious of the three-dimensional transportation of the air age. This war is opening up the air to the man in the street; and millions of Americans are becoming aware for the first time of the unique advantages of aviation and its profound impact upon their lives.

If we Americans are to keep abreast of other great peoples, if we are to preserve our proper place in the forefront of the world's economic and social power, we must be prepared for the age of flight into which we are now moving with lightning speed.

We must now address ourselves to an aviation program more comprehensive than we have had in the past; we must have an even greater vision than we have ever had before. This three-dimensional transportation—an American in-
vention—must now be expanded to the maximum of its usefulness as an aid to human happiness.

One of the major problems facing the airline industry and the Civil Aeronautics Board in the postwar period, relates to the question of competition. Such economic control as was exercised by the Government prior to the enactment of the Civil Aeronautics Act of 1938 was divided between the Post Office Department and the Interstate Commerce Commission. The latter had the power to revise the airmail rates of the carrier, which were initially fixed by the Post Office Department in its airmail contracts. The Post Office Department exercised limited economic powers over the air carriers through its power to enter into contracts for the transportation of airmail. The economic controls thus provided not only were weakened by divided jurisdiction; they were wholly inadequate to protect the air carrier's investment. The air carrier who received economic aid from the Government in the form of an airmail contract had no protection against destructive competition on the part of other non-mail air carriers that might decide to parallel his operations, carrying passengers and property but no mail. When the Civil Aeronautics Authority assumed regulatory control over civil aviation in August 1938, it found the great majority of the airlines operating at a deficit. It was estimated that a majority of all the capital which had been invested in the industry had been lost.

The Civil Aeronautics Act of 1938 undertook to meet this situation by the establishment of a comprehensive policy of economic regulation. The airline operators were to be protected in their investment by a statutory provision requiring every air carrier, as a condition to its right to engage in air transportation, to obtain from the Civil Aeronautics Board a certificate of public convenience and necessity defining the points to be served and the character of the service to be rendered. Those which had been operating between May 14, 1938 and the date of the enactment of the new statute had the right to apply for and receive a "grandfather" certificate upon a proper showing of adequate service rendered: but no new services could be authorized unless they were in accord with

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3 Sec. 401(e) (1), 52 Stat. 987 (1938), 49 U.S.C. par. 481 (e) (1) supp. 1940.
the policy of the new Act. That policy undertook to outlaw destructive competition.

In the realm of private business enterprise the traditional policy in this country has always been the preservation of free and competitive enterprise. Competition has been regarded as an energizing and vital force, offering hospitality to new ideas and keeping open the door to progress. In the field of public service enterprise, on the other hand, public policy has quite generally favored the doctrine of regulated monopoly. Thus, our public utilities—our waterworks, our electric power and gas utilities, our telephones and street railways—have been generally regarded as natural monopolies. This was so because the inherent conditions under which they operated generally make competition economically self-destructive or impracticable. In the field of rail transportation the national policy, prior to 1920, favored free competition. The rail policy since 1920 has been one of limited competition and there has been some evidence of a trend in this field toward the further restriction of competition on the ground that competitive policy is not suitable to rail transportation.

It is important to note that the conditions of natural monopoly which have generally obtained in the various types of public utility enterprise mentioned do not exist in the air transportation industry to render competition either impracticable or uneconomic. The inherent characteristics of air transportation, especially its freedom from the necessity of large fixed property investment, the relatively small amount of capital required in proportion to the volume of the service rendered, and its relatively small fixed costs, make this industry peculiarly adapted to competitive economy.

We do not have to rely upon the reasoning of economic theory to prove the soundness of this conclusion. Its validity is well documented by the experience of our domestic airlines. The competitive spirit here has been largely responsible for the most amazing airline development to be found in any nation. Competition among the airlines of the United States in the comparatively short period of their history has produced improved operating methods, better service and more technical development than has ever been accomplished in the same
length of time in any other field of transportation. It may be fairly said that these preeminent achievements would not have developed to the same degree under a policy of regulated monopoly. It is not surprising, therefore, that Congress with this record of experience before it, should have expressly declared competition to be the national policy in the development of our air transportation. Our national legislature believed that the motivating force which had been largely responsible for the pioneering growth of this new industry should be preserved to insure for it a vigorous and progressive maturity.

The policy thus promulgated, however, is not a policy of destructive or uneconomic competition. The entire statutory scheme reveals the double purpose of Congress to safeguard air transportation against the uneconomic anarchism of unrestrained competition on the one hand and the evil consequences of monopoly on the other. The Civil Aeronautics Board is directed to put into effect a policy of limited and controlled competition. The Civil Aeronautics Board is charged with the duty of putting into effect "competition 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 Board must be governed by this policy in issuing authorizations for

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4 Report of the Federal Aviation Commission, January 1935. Document 15. 74 Cong., 1 sess. 1935. "We have been fully convinced by all that we have seen and heard that the present high quality of American air transport is due in large part to the competitive spirit that has existed throughout its development. There has been little direct point-to-point competition on identical routes, and what has existed has been comparatively unimportant. Of much greater benefit has been the availability of two or more alternative routes, served by different companies, between widely separated centers. Perhaps of even greater importance, however, is the spirit of emulation that exists even between organizations that could not by any conceivable possibility be in direct competition with each other." (Page 61)

5 Section 2 of the Declaration of Policy of the Act declares that in the exercise and performance of its powers and duties the Board shall consider, among other things, as being in the public interest and in accordance with the public convenience and necessity "competition 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 national defense."

6 Acquisition of Western A. E. by United A. L., 1 C.A.A. 739, 749 (1940). Reference to both the legislative history and to the text of the Act demonstrates the Congressional intent to safeguard an industry of vital importance to the commercial and defense interests of the Nation against the evils of monopolistic control on the other.


7 Section 2, 52 Stat. 980 (1938), 49 U.S.C.A. Section 402 (Supp. 1940).
new air services, and in passing upon consolidations and mergers and interlocking relationships between air carriers.

Now the Civil Aeronautics Act has not laid down any fixed rule or formula for determining the exact extent of competition that may be required to accomplish the statutory purpose. Any attempt to do that would have been impracticable. But while no convenient formula is available, nevertheless certain general principles may be regarded as a useful guide to judgment in any particular case.

Competition, to be in the public interest, must be an economic competition; that is, there must be a sufficient traffic potential to support a competing carrier on any route or the competition will not be justified. There are certain ex-

8 It is interesting to note the Board's comment on the Declaration of Policy in one of its earliest decisions, Northwest Air. Duluth-Twin Cities Operation 1 C.A.A. 573, 577 (1940). "The declaration of policy of the Act thus sets out the broad standards which the Authority is to apply to the facts of any given case in determining whether the 'public convenience and necessity' requires the issuance of a certificate authorizing an air carrier to engage in air transportation over a new route. Obviously, in the light of these standards, it was not the congressional intent that the air transportation system of the country should be 'frozen' to its present pattern. On the other hand, it is equally apparent that Congress intended the Authority to exercise a firm control over the expansion of air transportation routes in order to prevent the scramble for routes which might occur under a 'laissez faire' policy. Congress, in defining the problem, 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 un-economic results which characterized the development of other modes of transportation prior to the time of their governmental regulation."

9 In Acquisition of Western A. E. by United A. L., Supra, the Board stated "any merger or other form of acquisition, therefore which, by stifling normal competition or by encouraging destructive competition, would tend to retard or prevent the development of an air transportation system properly adapted to the present and future needs of the Nation must be deemed inconsistent with the public interest." (746)

10 In Pan American—Matson—Inter-Island Contract, 3 C.A.B. 551, (1942) the Board considered whether a contract between Pan American Airways, Inc., Matson Navigation Company and Inter-Island 'Steam Navigation Company, Ltd., filed for approval under Section 412 was adverse to the public interest. In its opinion the Board stated that the question must be resolved in the light of the specific objectives set out in Section 2 of the act as being in the public interest. The contract proposed the creation of a new company to operate between the mainland and Hawaii, which new company would have been under the control of Matson, Inter-Island and Pan American. Certain provisions of the contract limited the new company to a local service between the West Coast and Hawaii and Pan American agreed not to operate more flights between the West Coast and Hawaii than it would between Hawaii and points beyond, unless necessary for adequate through service. The Board pointed out that such apportioning of territory tends to restrain competition, and is adverse to the public interest if it would retard or prevent the development of an air transportation system properly adapted to the present and future needs of the Nation. Pan American would be permitted to participate by joint control in the operations of the newly created company and any competition which might naturally be expected to result between the two operations would therefore be restricted by that fact. The contract was disapproved.
exceptions to this principle. Considerations of national policy affecting the national security, for example, may in a particular case overcome the economic considerations and may justify the establishment of an air service which would not otherwise be supportable. Another exception would arise where the

11 A parallel service is economically sound only where a sufficiently large volume of traffic is available and where a sufficient volume is not available a high mail rate is the almost inevitable result. Acquisition of Western A. E. by United A. L. Supra, 749.

In Caribbean-Atlantic Ajr. P. R. Op., decided June 23, 1942 two applicants sought authorization to engage in air service between various points in Puerto Rico and from various points in Puerto Rico to points in the Virgin Islands. The Board found that the sources of potential traffic were extremely limited and that the difficulties of obtaining an efficient utilization of equipment on such short routes would be greatly accentuated if both applications were approved. In addition the necessity of maintaining two separate organizations with separate overhead expenses would result in a duplication of costs which would place a heavy burden on the United States Government without corresponding benefits. "Consequently it is quite clear that the award of a certificate to each of the applicants would result in operations which would be neither efficient nor economical. In view of the limited sources of traffic there appears to be no need for the establishment of competition.

In Trans-Southern Air, et al. Amarillo-Oklahoma City Op., 2 C.A.B. 250, additional air service between Memphis, Tennessee, and Atlanta, Georgia, was denied where the record showed that the points were presently being served with connecting air service by Delta and Eastern and the existing and prospective passenger traffic between the points was not sufficient to justify the introduction of a new service at the present time and the expenditure of public money necessary to provide such service.

This conclusion receives support in the following remarks of Senator McCarran author of the 1938 act made in the course of the debate on the floor of the Senate prior to the enactment of the Act (Vol. 83, Congressional Record, 75th Congress, 3d Session, pp. 9029-30, May 13, 1938)

"If it could be established to the satisfaction of the Authority which is about to be set up that another line could well be operated from Chicago to Salt Lake City, although that same territory is now served by the United Air Lines, and the demand for service was so great as to support another line, then the Authority could investigate, reach a determination, establish a rule, and could say, 'There is sufficient demand, there is sufficient patronage, and there is sufficient commercial life to sustain the other lines. Therefore we can grant a franchise to another line.' But before that could be done, full and complete hearings would have to be had. So we are trying to set up a nonpolitical agency that will go into matters such as this one I have tried to illustrate, and if the circumstances do not justify another line, say, 'No, you cannot go in; you cannot set up another line, because if you do both lines will fail; both lines will go out of business, and the public that we are looking to primarily will not be served.' That is the object and purpose of this entire bill. It is not to say that any line may be 'frozen' nor that any line may be perpetuated nor that any monopoly over any terrain may be established to the exclusion of the necessity which the public may present."

12 A good example of this is shown in the opinion in American Export Air Trans-Atlantic Service, 2 C.A.B. 16, 33 (1940) where the Board found "our National Defense, in particular, can be benefited by competition between United States air carriers whose interests, patriotic and otherwise, are in the supremacy of this country's aviation. * * * * * * * * * * * *

"It appears that competition by applicant would induce the use of different types of equipment and make use of the facilities of a greater number of our manufacturers, thereby affording the War and Navy Departments valuable data concerning additional types of equipment. It would mean the training of additional American supervisory operations personnel and would provide an incentive to the development of new and different operating techniques."
improvement of a long-haul service required the establishment of a single-company service and where competition necessarily resulted on a segment of the route involved. In such a case the competition would constitute an incidental result of the improvement of a through service.\textsuperscript{13}

It would also seem to be a sound principle that since competition in itself provides an incentive to better service and technological progress, there would be a strong, although not conclusive, presumption in favor of providing competition on any route which offered sufficient traffic to support the competing services.\textsuperscript{14} One of the controversial questions arising in this connection is whether direct paralleling competition should be permitted on the same route or whether it should be restricted to airline operations between identical terminals but serving different intermediate points. Direct paralleling competition has been approved in some cases where traffic was found ample\textsuperscript{15} but competing services between identical termi-

\textsuperscript{13} Pennsylvania-Cent. Air., Youngstown—Erie—Buffalo Op. 1 C.A.A., 811 (1940). "Although the inauguration of a stop at Erie would result in a duplication of service now provided by American Airlines between Erie and Buffalo, the flight involved is less than 100 miles, and the record does not indicate any substantial volume of traffic between these points. Moreover, where competitive duplication of service is only incidental to the development of two or more routes which do not parallel one another through the major portion of their lengths, but which converge at some point and thence extend to a common terminal, the establishment of competing services is in some cases in furtherance of the objectives of the Civil Aeronautics Act.”

See also Mid-Cont. Air Twin Cities—St. Louis Operation, 2 C.A.B. 63 (1940).

\textsuperscript{14} Transcontinental & W.A., North-South California Supplemental Opinion, Decided August 13, 1943 (Mimeog.).

\textsuperscript{15} Transcontinental & W. A., North-South California, Supplemental Opinion (Supra). Thus the Board authorized additional service between Los Angeles and San Francisco by TWA on flights originating or destined beyond Albuquerque in order to improve its through transcontinental operations, and also authorized service by Western Air to provide a competitive local service with United.

This finding was upon reconsideration of the original decision which had authorized operated by TWA and denied application of Western Air. In its second opinion the Board found, that properly construed the Act of 1938 requires competition in the area under consideration in two respects “San Francisco being a large metropolitan center with a growing air traffic demand is entitled to the benefits of competition on transcontinental service operating by way of different intermediate points.” The Board expressed the view that the primary accent so far as San Francisco traffic carried by TWA was concerned, should be toward the improvement and development of transcontinental air traffic to and from this large traffic point. In order to provide the benefits of local competition the Board authorized Western Air with the observation that “its fortunes in this area will be wholly dependent upon its ability to develop this local traffic aggressively. This authorization should strengthen Western Air by giving it access to a rich traffic market, thus tending to improve its average traffic potential.”
nals are generally found operating through different intermediate points. Good examples of this type of competition are found in the case of our transcontinental airlines which operate between New York and the West Coast but serve different intermediate cities.

The view has been expressed at times that competition is not justified under the Civil Aeronautics Act unless it can be shown that the existing carrier fails or refuses adequate service, or for some reason is unable to do so. This contention, in my opinion, misconceives the place which the requirement of adequate service occupies in the scheme of the Civil Aeronautics Act. Throughout this statute runs the thread of two fundamental policies—one directed to the achievement of regulatory control over the activities of the airlines, the other directed to the promotional purpose of accomplishing the maximum progress in an industry which is declared to be vitally important to the national interest. The first of these two policies seeks to protect the public users of the transportation service by requiring, among other things, that adequate service shall be rendered. The promotional policy calls, however, for something more than adequate service; it demands an incentive to pioneering and developmental achievement. The Civil Aeronautics Act intends that that incentive shall be supplied by competition. It follows, therefore, that even though an air carrier may be found rendering adequate service on a particular route, that fact would not in itself constitute a bar to the authorization of a competing service.

16 In Eastern A. L. et al, Washington Service, decided May 10, 1943, the Board authorized the establishment of a route proposed by Eastern Airlines between St. Louis and Washington via Kentucky, Indiana and West Virginia intermediate points, which would provide a competitive service between the terminal points with the St. Louis—Dayton—Washington route of TWA which was also authorized. The Board said that “the importance of these two termini from an industrial, economic and transportation standpoint would seem to merit the establishment of competitive services, particularly when such competition will be afforded over divergent routings through different but important industrial areas.”

17 Transcontinental & W. A., North-South California (Supra). “In considering the extent to which competition is necessary to assure the sound development of an air transportation system, therefore, its justification does not depend upon the inability or unwillingness of an existing carrier to render adequate service. The carrier’s failure in this regard may evidence a need for competition, but its ability and willingness to furnish a sufficient volume of service does not, of itself, constitute a bar to the authorization of a competitive service. Otherwise, no competition would ever be authorized for there is no limit to the extent to which an existing carrier could expand to meet increased demand. Adequate service is a relative expression which has been construed to mean only that such facilities must be supplied as might be fairly demanded, considering, among other
Closely related to the question of competition is another question the solution of which promises to exert a profound influence upon the development of our domestic air transportation in the post war period. I refer to the problem which arises from the disparity in size and strength which exists between our domestic air carriers. It has been estimated that eighty per cent of the business of carrying passengers, property and mail by air is handled by our four large airlines and that the remaining twelve carriers divide twenty per cent of the total business. It must be conceded that, notwithstanding the fact that the Civil Aeronautics Board since its installation in August 1938 has given to most of the smaller lines authorizations for expansion, there still remains a substantial difference in size and strength between the two groups of carriers on the basis of the volume of their operations. This is primarily due to the fact that the smaller carriers have operated shorter routes and routes which have not had as large a traffic potential as those operated by the larger carriers.

The small business unit in the air transportation industry, like the small business unit in most industries, operates under the burden of certain handicaps in competing with large business units. The smaller air carrier has less mileage over which to spread its overhead costs. It often finds extremely difficult the most efficient and economical utilization of its aircraft equipment. It frequently bears the burden of excessive financing costs. The Securities and Exchange Commission has found that for enterprises of less than one million dollars capital, the cost of common stock flotation amounted to more than 20 per cent of the proceeds of the stock sales whereas the cost was approximately 9 per cent in the case of enterprises of more than ten million dollars capital.

If we are to achieve a balanced competition in our air transportation, our air carriers should be sufficient size and

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things, the size of the place to be served, the extent of the demand for service, the cost of furnishing the service and other facts which would have a bearing upon the question of convenience and cost. (Citing Atlantic Coast Line v. Wharton, 207 U. S. 328 (1907)). This service is but the minimum standard fixed by the Act, but considerations of national policy require much more."

18 Braniff Air. Houston-Memphis-Louisville Route, 2 C.A.B. 353, 386 (1940). "It is of the greatest importance, therefore, to maintain a properly balanced system of air transportation in every section of the country in order to encourage constructive competition. That healthy competition is presumed to be beneficial to the public may be inferred from various Congressional expressions."
strength to enable them to obtain their needed capital on the most economical terms; they must be able to spread their overhead costs over an economical base; they must be in a position to bargain for supplies and services on reasonably even terms with their competitors; and they must be large enough to be able to make the most efficient and economical utilization of their equipment and personnel.

I believe that the sound expansion of our domestic air pattern calls for the most serious consideration of this problem of the smaller carriers and that they should be given the opportunity to increase their size and strength through expansion or through consolidation and merger wherever their plans are economically and geographically sound and in accord with the policy of the Civil Aeronautics Act.

Another major problem of civil aviation of great significance to our national welfare is revealed in more than 200 applications which have recently been filed with the Civil Aeronautics Board looking to the establishment of so called local or feeder and pick-up services. Every State in the Union is involved in these applications. Something of the scope of the proposals presented may be seen from the fact that these pending cases before the Board contemplate air service to 3097 cities of the country which presently are without air transportation, and this does not take into account those applications which plan air transportation on a nation-wide scale described in terms of general area rather than specific points. At the present time the existing airlines operate over 45,000 miles of passenger routes, including routes that extend into Canada. The cases now pending before the Board together with those that are expected soon to be filed already reach a total of more than 300,000 new routes for the domestic service alone.

Because of the importance of the problem here presented, the Civil Aeronautics Board some time ago felt that it would be desirable to institute a nation-wide investigation for the purpose of obtaining all available facts and expert opinion bearing upon the many angles of the local feeder service plans and a public hearing was held, extending over a period of a month, at which hundreds of witnesses from all parts of the nation testified and submitted exhibits. The Board is now analyzing the vast volume of information thus obtained with
a view to determining the various factual and policy questions presented. It is believed that the national public interest requires that the unique benefits of air transportation should be made available to the smaller communities of the nation to the fullest extent possible within the limits of safe and economic operation.

Let me sketch briefly some of the problems facing the Board in this expansion.

There is first the question whether the communities which are involved in plans for a secondary system of air transportation will produce enough traffic to make the proposed services economically feasible. Since many of the applicants admit that mail compensation on a "need", or subsidy, basis will be required to assure the success of the operations, the Board is confronted with the question of determining the extent to which the Government should be committed to support such services through the mail rate. It may be doubted whether the recent hearing produced much dependable evidence on this point. A great deal of this evidence indicated little more than a desire on the part of the witnesses for the local services rather than an economic justification for those services. This question of public convenience and necessity, of course, will have to be determined upon the record which will be developed in support of the application in each case.

The economic justification for the proposed expansion will also be affected in part by the ability of these services to compete with surface transportation. No country in the world has developed a network of local surface transportation comparable to the facilities which are available in the United States. The network of railroads, bus and truck lines which over-spread this country constitute a going system of convenient transportation which may be expected to offer strong competition to local airline operators. The opinion is quite general, however, that a large traffic potential can be developed for local and feeder air services—a view which may be deemed reasonable in the light of the fact that less than one per cent of the travel of the nation has used air transportation in the past.

Another important question involved in the proposed expansion relates to the type of aircraft to be used. It was quite
generally agreed by those who testified in the recent hearing that the most suitable planes for local operation are not now in production, but that planes specially designed for such services are on the drafting boards of the manufacturers. Will the proposed operations require two-engine equipment or will single-engine planes be feasible? Will two pilots be necessary or will a single pilot do? What will be the capacity of the aircraft? Will economical operation call for six, twelve or twenty-four passenger ships? These are some of the questions that will have to be answered in connection with the equipment problem.

The helicopter was the subject of considerable discussion in connection with the development of local services. The manufacturers of this type of equipment concede that the helicopter is in an experimental stage, but they are confident that no serious technical obstacles appear to the construction of a 10 to 14 passenger plane of this type. Mr. Sikorsky estimates that it would require two and a half years to deliver a commercial type of this capacity if the war were to end today.

Still another question deals with the selection of the operator. By whom shall these local and feeder services be operated? The trunk lines believe they are best fitted to perform the services and point out that they have the operating experience and the facilities for servicing the planes and will, therefore, be able to provide the most economical operation. Independent operators frequently propose a combination of services which will include, besides air transportation, charter services, flight training, and sales and mechanical services. The independent applicants contend that they will be able to do a better job in the field of local services than the trunk lines; that the latter will be primarily interested in long distance transportation between the large centers of population, and will be inclined to give the secondary services less consideration.

These are, of course, but a few of the many questions arising in connection with this proposed expansion, the answers to which presently engross the attention of the Civil Aeronautics Board.

* * *
The revolutionary expansion in our air transportation in the post war period will present many problems of great complexity and difficulty. Their solution calls for sound thinking and wise statesmanship. In this connection the lawyers of the nation will have a special interest and a special trust. The public and private law which will guide and control the aviation of the future must develop in a manner best adapted to the advancement of our national progress. "The law, like the traveller," wrote Justice Cardoza "must be ready for the morrow; it must have a principle of growth." If American aviation is to attain its maximum usefulness to our nation and is to become the effective servant of the people it must not only have the aid of the aeronautical engineers to design the aircraft of the future, and the aid of the air transportation pioneers to build the air map of the future; it must also have the assistance of the law pioneers to guide the public law of the future.

Oswald Ryan.

Member, United States Civil Aeronautical Board