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# THE ILLINOIS PLAN OF AVIATION ENCOURAGEMENT

REED G. LANDIS\*

## I. INTRODUCTION.

A state has two major functions which it may perform in connection with civil aviation. The first and most obvious is regulation of intrastate flying activities and facilities in conformance to the federal regulations. The second is the encouragement and development of the art in order that the citizens of the state involved may have available for their convenient use this most modern transportation tool.

A recent survey shows that 47 of the 48 states have already enacted legislation of some sort or another looking towards the accomplishment of part or all of the first undertaking, i. e., regulation. The same investigation indicated that not over a dozen of those states have started on the second portion of the program and only one of those, Michigan, is actively executing a complete program of positive encouragement.

The advantages and difficulties of regulation have been so well covered in the past as to need no discussion here. Suffice it to say that, in addition to the benefits of regulation from the public safety viewpoint, it does have a very distinct influence on encouragement. As aviation is made more safe, public confidence in its use will increase and there will be an enlarged activity.

An aircraft, to be a safe, effective transportation vehicle, must have a place from which to depart and a place to terminate its flight. Its pilot must be provided with certain information before the flight, and preferably during the trip, as to weather conditions. Along the route flown between the two terminals there should be aids of various sorts for navigation and for safety in case of emergency. All that is true whether the flight be a regularly scheduled one by an airline, an unscheduled taxi flight, a commercial flight by a fixed-base operator, or a trip for pleasure or business by a private owner. When the time comes that an aircraft may undertake a flight between any two points, and find such condi-

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tions as above described, practically available, then and not until then will aviation be able to exert its full influence as a form of transportation, on the scale of living of all citizens, and not until then will the aviation industry, and those citizens gaining their daily bread from it, realize the full benefits from their pioneering, invention, investment, and self-sacrifice.

Positive encouragement of aviation by states may take a number of forms. They can be subdivided into three general headings: (1) Landing Facilities, including airports, landing fields, emergency landing strips; (2) Navigational Facilities, including air markings of towns and routes both for day and night use, obstruction marking in the vicinity of landing areas and along traveled routes; and (3) Weather Service cooperating with the Federal Weather Bureau in the collection of information and the dissemination of reports and forecasts. There are other services and facilities which can be provided, but in general they come under one or another of the above headings and are ancillary to the activities above described.

## II. THE ILLINOIS PLAN.

In Illinois, the Aeronautics Commission has worked out a program of direct encouragement including all of the factors listed. The Commission is convinced that the provision of those facilities and services will not only make available this new form of transportation to all citizens in the State, but that it will very directly stimulate aviation activity and be the means to an increased volume—reducing operating costs to a point where a much larger portion of the population will use aviation. This of course promises aviation operators the opportunity to throw away the red ink so generally being used by bookkeepers, and to put their operations on a sound, profitable basis. When we consider that railroads carried about seven hundred million passengers in the year when airlines reached their present peak of only one-half of one million, it is apparent that there is much room for expansion.

### *Landing Fields:*

The Illinois plan contemplates the provision by the state, in cooperation with minor subdivisions thereof—such as counties and municipalities—of landing fields in all parts of the state, so that at no time will an airman be more than 12½ miles from a prepared landing area, and so that every citizen will be within a

dozen miles at the most of such an area. Because most of these landing areas will be located close to a community, the overwhelming majority of the population of Illinois will be within a few minutes of such a landing field.

The Illinois plan does not contemplate extensive expensive installations. It is premised on the fact that usable land may be leased for a net cost of approximately \$2.50 to \$3.00 an acre, and that approximately 50 acres, properly laid out, will provide safe, usable, landing fields. It is contemplated that the subdivisions of the state will provide the ground on lease, paying the rent as their share of the cost—approximately \$150 to \$200 a year. The sites will be selected by the local authorities in cooperation with the State Commission. When the ground is properly secured on a lease of not less than five, or preferably ten, years in length, including, wherever possible, an option to purchase, the State Commission will put the surface into proper condition, planting a crop of alfalfa or similar self-perpetuating, low vegetation, install the cross or circle, boundary markings, and wind sock, and maintain this surface and markings in usable condition during the life of the lease. It is estimated that not to exceed \$500 will be expended by the State in such initial conditioning, and that \$100 per year per field thereafter will maintain them. In their initial stages these landing fields will not be fully equipped airports with hangars, lights, etc. They will be well marked, useable, landing areas. Each will be so located and laid out and of such size as to be susceptible to development as conditions justify.

The local community may, with the approval of the State Commission, enter into operating contracts for various activities on the airport which will give them an opportunity to reduce their net cost per year. Any such activity which might be developed would be consumptive of gasoline, and if the program were financed by a gasoline tax, such facilities would therefore contribute to their own maintenance cost.

#### *Emergency Landing Strips:*

In the vicinity of the congested areas of Chicago and East St. Louis, the Commission contemplates the provision of certain emergency landing strips of not less than 1800 feet in length and several hundred feet wide, which will be leveled and marked for emergency use only. Such strips will lie under routes used by scheduled operators in approaching the terminals of those communities, and

make possible the shortening of the flights by a good many miles per day, thus working an economy, while enhancing safety, for the scheduled as well as the unscheduled operator flying in such vicinities.

The progress being made in night flying indicates clearly that a substantial increase in this type of activity will soon take place throughout all aviation. After a reasonable number of state fields have been provided, certain of them will undoubtedly require night lighting facilities. The cost of such facilities is being reduced and by the time that portion of the program is reached, it is confidently believed they can be provided.

#### *Air Marking:*

The air marking part of the Illinois program includes the placement of location and direction markings on state highways, roofs, and other points of prominence all over the state. The Commission has already received numerous offers of cooperation in connection with such air markings from several civic groups, Chambers of Commerce, American Legion Posts, and similar public spirited organizations and individuals, and it is convinced that such markings can be placed at very frequent intervals throughout the state at a relatively small expense.

Obstruction marking around airports is included in the airport program, and estimate of cost therefor. There are very few major obstructions, other than in the neighborhood of airports, which must be marked in Illinois. Among those which do exist are high-tension lines, and the State Commission is experimenting now through the cooperation of certain public service companies, with a Neon gas marker, gaining its current by induction and costing a very few dollars initially, and costing practically nothing for current. If this device proves satisfactory, it is planned to provide these markers to operators of high-tension lines for the marking of such lines, first, in the vicinity of airports; secondly, where well-traveled routes cross or parallel high-tension lines; and third, along all high-tension lines. Because high-tension lines almost always run in a direct line between centers, such marking is of value not only from the obstruction viewpoint, but as an aid to navigation.

#### *Intermediate Fields:*

In cooperation with the Department of Commerce, certain routes within the State of Illinois, used both for scheduled and

unscheduled operations rather heavily, are to be equipped with intermediate fields and, as funds are available, with night lighting. A portion of the federal airway facilities within the State of Illinois are, or will shortly become, more of an intrastate than interstate character. The Department of Commerce has suggested that the state take over those facilities—which will allow the federal government to improve its purely interstate airways. Certain of those interstate airways crossing Illinois need additional intermediate facilities. This has been considered in laying out the location of the proposed Illinois fields, and in this way, too, interstate commerce will directly benefit from the program. Certain existing intermediate fields now used by federal airways require enlargement or additional equipment. The state will cooperate in this work.

#### *Radio Beacons:*

Radio is playing a rapidly increasing part in aerial navigation. Practically all scheduled operations now depend upon it for safety and this Commission is convinced it will shortly be used by most, if not all, unscheduled operators. This will require the eventual installation of radio beacons to guide aircraft along state airways, of facilities to receive and broadcast weather reports to and from aircraft in flight, and perhaps radio devices to enable aircraft to land safely in weather conditions making visibility impossible. It is believed that ample funds will be available from increased fuel consumption when the need for this service arises.

#### *Weather Reports:*

The Federal Weather Bureau has advised the State Commission that it will be exceedingly helpful to it to secure a more intensive reporting service on air weather conditions within the state, enabling it to make more detailed reports and forecasts, and to route air traffic around local areas of bad weather, thus increasing the efficiency of air carriage. The Illinois plan contemplates the use of the teletypewriter system of the State Police for the collection of such reports and their delivery to the Federal Air Weather Bureau. The same network of teletypewriters will be used for the dissemination of weather reports and forecasts to operators throughout the state in addition to the facilities now available. The cost of this service will vary with the use made of it.

*Summary:*

Such a program completed will make possible the extension of airways in any direction over any part of Illinois for use by scheduled or unscheduled operators.

The entire program has been conceived after careful study of the effect of the national hard road program of the automobile industry. That study was charted and the chart published in the January, 1933, issue of the JOURNAL OF AIR LAW.<sup>1</sup> It indicates very clearly and directly that for each mile of surfaced road provided, not only did the number of automobiles per mile of road increase, but each automobile was used more—in other words, the provision of those facilities increased production of automotive vehicles and increased the use made of them, as well as providing a tremendous source of volume for the gasoline, oil, cement, road machinery, and many other industries and workers.

No one will argue against the necessity for increased volume in aviation. In such an increase lies the only hope for aviation profit. And only in such increase can the public hope to gain the maximum benefits which this new form of transportation holds out for them.

### III. ENDORSEMENT OF THE ILLINOIS PLAN.

That the Illinois plan holds substantial promise of benefits to the aviation industry as a whole and to the citizens of Illinois, is not alone the opinion of the Illinois Aeronautics Commission. Mr. Charles L. Lawrance, when President of the Aeronautical Chamber of Commerce of America, Incorporated, said, in his book "Our National Aviation Program":

"If American aviation is to meet the commercial demands being made on it as a means of high-speed transportation and communication, and if it is to continue as an effective and progressive medium of national defense, it must have assurance of support, broadly defined as follows:

\* \* \* Recognition by the several States of their responsibilities as well as their privileges in the development of commercial aviation, particularly private and business flying, by imposing no unnecessary burdens of taxation or fees, by adopting rules and regulations uniform in principle with those of the Commerce Department, and by supplying such intrastate aids to air navigation as will complement the national airways system now under construction by the Federal Government."<sup>2</sup>

"How soon the 3,750 private planes will be increased depends largely upon advanced engineering and, probably, lower prices, together with un-

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1. 4 JOURNAL OF AIR LAW 16.

2. Charles L. Lawrance, "Our National Aviation Program (published 1932 by the Aeronautical Chamber of Commerce of America), pp. xi-xii.

interrupted development of our Federal airways and the maintenance of aids to navigation. *The States must supplement the federal program with airports, airways, lights and weather data for flying within their boundaries.* It seems clear to me also that private flying will increase only to the degree that patronage of the scheduled transport system increases. As the body of the public intelligently acquainted with the advantages of air travel is enlarged, so will be enlarged the prospective market for the sale of private planes."<sup>3</sup>

"Development of the aerial service market for the industry depends on improved engineering, greater payload efficiency, lower initial and operating costs, and, most emphatically, not only on the maintenance of the Federal airway program but also upon the *provision by the states of aids to navigation for intra-state flying.*"<sup>4</sup>

"It is likewise true that private or intrastate flying will appear as a major factor in social and business life when—and *only when—the several states recognize their opportunities and responsibilities.* What extensive private flying will mean to the aircraft industry as a market and to the interstate air mail and transport system as a feeder, is indicated by the fact that in 1930—a stagnant year—9,500 airplanes in private or charter service mostly within state boundaries, flew, it is estimated, approximately 136,000,000 miles and conveyed 3,000,000 persons. *The opportunity of the states is deliberately to encourage this phase of aeronautics. Their responsibility to do so rests in public obligation. The desired end, I believe, can best be achieved through the application of uniform rules and regulations in harmony with those promulgated by the Federal Government, and in the construction and maintenance of airports and aids to air navigation within state borders.*"

"Little has been done thus far by the States as a group to encourage the development of aviation, even for their own advantage. Legislation governing the operation of aircraft within their borders was enacted by a number of states long before the Air Commerce Act of 1926 went into effect. Today, there is not a state in the Union that does not attempt to regulate or tax aeronautic activity in one way or another. Many have passed enabling acts, making it possible for counties and cities to acquire property and operate airports, but aside from the authorization of such agencies to spend money, the support accorded to aviation by the states has been largely passive. For the most part, they have been content to sit by, watching the Federal Government carry out its development program. *Because of this, aviation has suffered and the States have deprived themselves of a constructive factor in their growth.*"<sup>5</sup>

"It may appear to some that the Aeronautics Branch of the Department of Commerce has been and is doing all that is necessary to foster the growth of aviation. *That is an erroneous impression.* The Aeronautics Branch has done an exceptionally good job thus far, but its activities are definitely limited. It cannot, for example, aid in the construction of terminal landing facilities. It is prohibited by law from doing this. Neither can it be expected to engage in the construction of purely intrastate airways."<sup>6</sup>

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3. *Ibid.*, p. 10.

4. *Ibid.*, p. 11.

5. *Ibid.*, pp. 154-155.

6. *Ibid.*, p. 161.

"The establishment of intrastate air routes that will join and supplement the Federal system is a job for the individual states, *one that should be started immediately*. Some of the State governments have already commenced the work, though this condition is by no means general."<sup>7</sup>

The Illinois plan has been submitted to leaders in aviation in the United States. Among the many score letters received let me quote the following:

A manufacturer of aircraft says,

"Your plan for placing airports throughout the State of Illinois at a distance of not over fifteen miles apart, sounds like a reasonable one and should be readily accepted by all those interested. *If this service could be paid for by the taxation of two cents per gallon on gasoline for aviation fuel, the entire aviation industry should assist you in every way possible to put your plans across.*"<sup>8</sup>

A publisher of an aviation paper writes,

"In my opinion the State of Illinois in its development of landing fields, weather service, air markings and similar aids, coordinated with the Federal program, can do considerable to stimulate aviation in Illinois, particularly from a commercial standpoint. The rapid development of air transportation during the past three years leads many in the industry to believe that with the improvement of general business conditions air transportation, as an industry, will forge steadily ahead. Consequently the State of Illinois must be ready to meet this development, if it is to participate in the growth of the industry."<sup>9</sup>

A salesmanager of a large aircraft manufacturing concern says,

"It is only reasonable to suppose that when more business men take to personal flying and appreciate its time-saving, there will be a greater demand that all first-class mail be handled by airmail and fast automobile, and a fine network of feeder mail planes to the main arteries be set up, and that the business man who cannot afford or does not actually need a personal airplane will be more readily sold on a wider use of the airlines, and believe in more general use of personal airplanes by his more successful or more needful immediate neighbors. We have a feeling adequate airport facilities for personal flying and for small feeder lines can be provided without enormous expense, particularly in the area in which we both reside, and that if the average community could get away from the thoughts of the big municipal airport, concerning which it hears so much, and realize that fifty to seventy-five acres of level ground with no immediate obstructions and without any elaborate monstrous hangars to house fifteen or twenty airplanes, but at the most one small hangar and gasoline

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7. Ibid., p. 163.

8. Hart H. Bowman, Sales Director, Rearwin Airplanes, Inc., Kansas City, Kansas; Letter of February 15, 1933.

9. Harry Schwarzschild, Publisher, "Air Transportation," New York, N. Y.; Letter of January 27, 1933.

and oil facilities, will give them a good start and provide a nucleus for natural expansion, they could become more readily interested."<sup>10</sup>

The editor of an internationally known aviation paper says,

"I understand that there is a possibility of your being able to do some state airway work in Illinois. You may imagine with what enthusiasm I hear the news. *Nothing could be more helpful in promoting aeronautical activity, both in encouraging the inauguration of small feeder lines and in making it possible for private owners to get more use out of their airplanes.* A considerable number of citizens of your state will benefit directly, either through the use that they will make of aviation or through the employment that will be provided by the airway work, and an immensely larger number will benefit indirectly. I feel that this matter is of particular importance in a state like Illinois—of very large extent geographically, thickly settled, having a vast amount of business traffic within its boundaries, and at present possessing only a relatively small mileage of federal airway. *I sincerely hope that I shall have early report that decision has been taken to go ahead with the work,* and to prosecute it vigorously to the point where you will have a really adequate network of state airways."<sup>11</sup>

The president of an aircraft manufacturing concern says,

*"Any effort on the part of the State to help out with airways, airports, or weather stations, will certainly be appreciated by the entire industry, and I am sure will stimulate aviation in your state.* I believe you can be proud that the State of Illinois is taking the lead in a movement that is so much needed, because after all airways, airports, and other facilities will do the same thing to air traffic that good roads did to the automobile traffic."<sup>12</sup>

The vice president of a large manufacturing concern of automotive and aircraft engines, says,

"We feel safe in stating that state-wide provision by the State of Illinois of landing fields and other aids may be expected to stimulate commercial and private flying. \* \* \* *We do not concur with the officials of many states in their decisions to abandon their aeronautical activities completely during these troublesome times. Such action is likely to result in serious injury to private and commercial flying.*"<sup>13</sup>

The president of a corporation operating three airports, schools, special charter service, aircraft dealerships, and repair base services says,

"We believe that the provision by the State of Illinois will aid tremendously in the stimulation of aviation. *There is nothing that we can*

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10. H. R. Perry, Sales Manager, Waco Aircraft Company, Troy, Ohio; Letter of February 3, 1933.

11. Edward P. Warner, Editor, "Aviation," New York, N. Y.; Letter of February 3, 1933.

12. Z. D. Granville, President, Granville Brothers Aircraft, Inc., Springfield, Massachusetts; Letter of January 27th, 1933.

13. Robert Insley, Engineering Vice-President, Continental Aircraft Engine Company, Detroit, Michigan; Letter of January 28th, 1933.

*think of that would be of more service to aviation in general, and particularly to any state adopting that plan."*<sup>14</sup>

A large manufacturer of paints and varnishes used in the aviation industry, which uses aircraft in their business, says,

"It is our belief that every assistance is needed to stimulate all branches of aviation, and that the State should participate in promoting aviation as it has in promoting the automobile industry through the building of highways. *Michigan has been taking active steps in this direction with the establishment of a large number of emergency landing fields, through the northern part of the State, which have already proved a boon to flyers;* and they are now conducting a wide and helpful campaign in air marking all the towns in the State."<sup>15</sup>

A manufacturer of parts used in the manufacture of aircraft and automobiles says,

"It is in our opinion quite reasonable to expect that aviation would be stimulated in Illinois by the coordination of the Federal program and that of the State of Illinois regarding weather service, air marking, and similar aids."<sup>16</sup>

An air transport corporation says,

"We believe that co-operation between the various States in developing additional airways between them to those established by the Federal Government will be a great advantage in the development of aviation in general and be similar to the development of certain highways established through the co-operation of various State Highway Departments. With such a development, it would be possible for Air Transport Companies operating chartered service to carry passengers and express to various points not reached economically by the present Air Transport Companies. We have had some of our ships chartered for such a purpose, wherein representatives of a large industrial concern of Niagara Falls, N. Y., were enabled to cover several points in Pennsylvania, New York, and West Virginia the same day, which it would not have been possible for them to have done if flying over the present scheduled air transportation systems. Again we were unable to carry out an extensive itinerary for these same people because of the lack of landing fields at various points. As to private flying, we believe you will realize it would be undertaken to a much greater extent if it were possible to reach safely many points not now provided with such facilities as you refer to."<sup>17</sup>

The president of a fixed-base company, operating in a gasoline tax state, says,

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14. H. P. Williams, President, Wedell-Williams Air Service Corp., Patterson, Louisiana; Letter of January 26th, 1933.

15. Thos. B. Colby, Manager Aviation Division, Berry Brothers, Detroit, Michigan; Letter of January 27th, 1933.

16. Perry Williams, Kelsey-Hayes Wheel Corporation, Detroit, Michigan; Letter of January 27th, 1933.

17. F. B. Downing, Aeronautical Transport Corporation, Erie, Pennsylvania; Letter of January 27, 1933.

"Anything done to encourage Aerial Transportation, either commercial or private, could not help but be a boon to Aviation at this time and *your plans unquestionably should be carried forward as rapidly as possible*. Each new means of transportation has brought with it a new layer of wealth and an industrial boom and my slant on the present economical business situation is such as to make me believe that in the development of Aerial Transportation is our possible way out."<sup>18</sup>

A prominent aircraft and engine manufacturer says,

"I feel certain that a comprehensive program, such as you describe, for the State of Illinois will greatly stimulate aviation in that State, particularly with respect to the amateur flyer, who is just learning or about to learn to fly. One of the greatest needs, I believe, for the amateur flyer or, rather, the man who is just learning to fly and who is not yet accustomed or competent to fly long distances, is a greater number of airports located relatively near to each other."<sup>19</sup>

An aircraft motor manufacturer says,

"We feel that any assistance given by the state governments to the Federal programs, should stimulate all types of flying within its boundaries."<sup>20</sup>

One of the largest aeronautical supply houses in the country says,

"In giving this matter serious consideration I believe that will be of great benefit to the State of Illinois and, furthermore, I believe it will be taken up by other states of the Union which will provide employment, nation wide advertising regarding air travel and I really believe it will stimulate business a great deal and *I certainly hope that the State of Illinois leads the way in regard to state provision of aeronautical facilities*."<sup>21</sup>

A manufacturer of magnetos used in automobiles and aircraft writes,

"There is no question that the state-wide provision by your State regarding landing fields, weather service, air marking, etc., coordinated with the Federal program will stimulate aviation travel, private and commercial. *This company will be only too glad to cooperate with you to the extent of its ability*."<sup>22</sup>

One of the best-known aircraft manufacturers in the country says,

"The provision of such aids to aviation in a program coordinated with

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18. Talbert Abrams, President, Abrams Aerial Survey Corporation, Lansing, Michigan; Letter of January 25, 1933.

19. F. E. Bradfield, Szekeley Aircraft and Engine Company, Holland, Michigan; Letter of January 25, 1933.

20. Ralph R. Irwin, Vice-President, The Warner Aircraft Corporation, Detroit, Michigan; Letter of January 25th, 1933.

21. E. A. Johnson, President, Johnson Airplane & Supply Co., Dayton, Ohio; Letter of January 25, 1933.

22. G. E. Steiner, Sec'y & Treas., Scintilla Magneto Co., Inc., Sidney, New York; Letter of January 26, 1933.

that of the Aeronautics Branch of the Department of Commerce, will unquestionably stimulate private and commercial activities. Our own opinion on the matter is that you could best and most economically assist general aviation activity in Illinois by inaugurating a program for the establishment of numerous emergency fields throughout the State, which can be used at very nominal cost by small commercial operators, flying clubs and individuals and by establishing aids to navigation, principally in the form of highway markings plainly visible from the air. *While real estate is cheap the time is ripe for the State to invest in suitable tracts for future development, and the procurement of such Airport sites might well be coordinated into a State-wide program for emergency relief resulting in a great eventual saving to the State, and in the immediate relief of many unemployed people.*"<sup>23</sup>

One of the governors of the Amateur Air Pilots Association says,

"Of course the chief difficulty of promotion work of this type is the problem of coordinating the development of the facilities with the development of the users. In other words it is the old question of which came first, the hen or the egg. It is difficult to provide a string of airports unless you have enough people to use them. On the other hand it is difficult to stimulate very much flying unless you have the facilities for it. The two go hand in hand in the practical application but theoretically it would be better to have the facilities provided to begin with and, where there is a system and funds available to provide the facilities prior to the stimulation of flying, then, of course, this is the best method of procedure but too many times the development of the facilities is dependent upon the enthusiasm created by a large amount of flying activity. *If you are in a position where you can provide the ground facilities prior to stimulating flying activity then you are in an enviable position* and in normal times the flying activity would soon catch up and keep pace. \* \* \* I think that your plan of development of airports at short intervals is very commendable. I believe it is generally conceded that one of the chief causes for a number of unnecessary accidents on our main air lines is the distance between intermediary fields. The pilots have found themselves in difficulty too far from an intermediary field to land safely."<sup>24</sup>

Another large varnish and paint manufacturer, serving the automotive and aircraft industries, says,

"There is no doubt that well equipped airports, air routes that are properly marked, good weather service for all aircraft and other similar aids for aviation are analogous to the improved road conditions for automobile traffic. In other words, you will always find more automobiles in a State in which the highways are kept in good shape and improved than you will in a State wherein there are few improved highways. We are confident that such improved conditions would have a great deal to do with

23. C. P. Warner, Commercial Sales Manager, Fleet Aircraft, Inc., Buffalo, New York; Letter of January 26, 1933.

24. Charles M. Taylor, Governor for Arkansas, United States Amateur Air Pilots Association, Inc., New York, N. Y.; Letter of February 2, 1933.

the increase of interest particularly in private aviation. Commercial aviation is rapidly becoming an integral part of our transportation system and of course improvements such as you have listed would have to do with the establishment of better air service between the more important cities in your State and interstate travel."<sup>25</sup>

A manufacturer of lighting equipment for aircraft and airports says,

"In response to your letter of January 24th, concerning the Illinois state-wide provision for the purpose of supplying or installing weather service, air marking, and similar aids, coordinated with the Federal program, wish to go on record as stating that *we are heartily in favor of the movement*. It is felt that private and commercial aviation will be stimulated very distinctly by such a movement, much in the same manner, and for the same reason, as to such improvements as state roads and many other local state improvements."<sup>26</sup>

A chief executive of one of the largest spark plug companies in the world writes,

"In our opinion, the cooperation of the State of Illinois with the Federal Department of Commerce program for providing landing fields, weather service, air markings, and similar aids most certainly ought to stimulate both private and commercial flying, particularly in the State of Illinois, *but throughout the country also*, in setting an example to other states and in providing conveniences and facilities for flights through the State of Illinois but between points outside the State."<sup>27</sup>

The operator of one of the most prominent flying services in the country says,

"I am sure that service now being rendered by the state will serve to stimulate flying, not only in Illinois but throughout the country. As I see the situation it is comparable to a like period in the automotive industry. We all know that progress in the motor car field would not have been very rapid, despite the great engineers and executives engaged, had it not been for the nation wide progress made in highway construction. If we expect new blood to enter the flying business we must make it easier to go from place to place by installing numerous air markings which can be interpreted by the layman. Also fields must be so numerous that the private owner, aerial salesman and others can land at the town they desire to visit, instead of twenty to fifty miles away and motoring to their destination. *I am for the work now being done, so here is wishing you more power in pushing it to a successful conclusion.*"<sup>28</sup>

25. G. B. Work, Technical Division, Industrial Sales Department, The Glidden Company, Cleveland, Ohio; Letter of January 26, 1933.

26. E. A. Sipp, Manager Lighting Division, The Pyle-National Company, Chicago, Illinois; Letter of January 26, 1933.

27. Duane Stranahan, Champion Spark Plug Co., Toledo, Ohio; Letter of January 30, 1933.

28. S. C. Huffman, Vermilya-Huffman Flying Service, Cincinnati, Ohio; Letter of January 30th, 1933.

The sales manager of a large manufacturer of aircraft instruments writes,

"We are pleased to say that we cannot help but feel that a state program such as you have mentioned would certainly stimulate aviation in your own state and also assist in its promotion throughout the country. *We hope that it will be possible for your state, as well as many other states, to undertake the projects that you mention.*"<sup>29</sup>

The editor of a famous aviation publication says,

"I believe that provision by any state of facilities you mention would do much to assist the general development of aeronautics in that state. Just as the federal aids have fostered the advancement of aviation, aids sponsored by the states in cooperation with the federal program should prove correspondingly effective in this connection. It would seem that a state aeronautics commission would be in a position to render most effective assistance in guiding the federal program within the state borders, being able to keep closer contact with local conditions and coordinating them with the federal plans. Such a service might reasonably be expected to stimulate private and commercial aviation in Illinois."<sup>30</sup>

Another aircraft manufacturer writes,

"We wish to advise you that the provisions of the State of Illinois for landing fields, weather service, air marking, and similar aids *can be nothing other than a great benefit to commercial aviation*. With the advent of increasing numbers of private owners, it is necessary that they be provided with as many measures of safety as possible, and particularly due to the non-professional flyer, it is essential that this type of flyer be provided with the above-mentioned necessities. We believe that with a reasonable amount of aid in the provision of adequate facilities being given this type of commercial aviation it *will soon develop to be a very decided factor in the transportation of the country.*"<sup>31</sup>

The manufacturer of round-the-world aircraft says,

"In answer to your letter of January 24, regarding weather service, markings, etc., we believe that any move to improve conditions will help stimulate aviation in all its branches."<sup>32</sup>

A world famous pilot, employed by one of the large gasoline companies, states,

"It is my personal opinion that a state wide provision of auxiliary landing fields, weather service, air marking and similar aids to aviation, properly designed to supplement the federal program will undoubtedly

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29. John D. Peace, Jr., Sales Manager, Pioneer Instrument Company, Brooklyn, New York; Letter of January 30th, 1933.

30. George F. McLaughlin, Editor, Aero Digest, New York, N. Y.; Letter of January 30, 1933.

31. L. E. Reisner, Vice-President, Kreider-Reisner Aircraft Co., Inc., Hagerstown, Maryland; Letter of January 29th, 1933.

32. Carl A. Cover, Vice-President, Douglas Aircraft Company, Inc., Santa Monica, California; Letter of January 30, 1933.

stimulate the development of aviation in Illinois. Any developments along this line we shall watch with interest."<sup>33</sup>

The world's largest manufacturer of photographic supplies and equipment, says,

"It is our opinion that a movement of this kind would stimulate and encourage both Commercial and Private aviation."<sup>34</sup>

The general manager of the oldest aeronautical supply house in America says,

"The weather service, air marking, and similar aids working in co-ordination with the federal system, will provide an excellent foundation for the successful and reliable operation of the commercial transportation lines. The growing private market will at the same time be materially assisted, because, as more individuals take to the air, they will find the aerial highways already mapped out for them. This work is fundamentally necessary to the development of private flying. *We take this opportunity of endorsing the State administration in the continuance of the Illinois Aeronautics Commission*, and we hope that in the future they will realize an extensive increase in aeronautic activity within the State."<sup>35</sup>

One of the oldest and most famous pilots writes,

"I would say that based on the experience of the New York State Aviation Commission that has coordinated with the Federal Program in furnishing a State Service covering weather service, air markings, landing fields, etc., which has proved of considerable assistance to local flying that such a system instituted in Illinois would have a similar beneficial effect."<sup>36</sup>

A large manufacturer of electrical supplies says,

"There seems to be no question but what a provision for landing fields, weather service, air marking and other aids of this character will greatly stimulate both commercial and private aviation in any state adopting these improvements."<sup>37</sup>

One of the world's largest manufacturers of electrical supplies writes,

"It is our opinion that provision by the State of Illinois of landing fields, weather service, and other aids to air navigation, could be expected to stimulate both private and commercial aviation in Illinois. We would expect, of course, that such aids would be closely coordinated with the existing federal airway system. We should think that having well equipped

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33. J. H. Doolittle, Shell Petroleum Corporation, St. Louis, Missouri; Letter of February 2, 1933.

34. F. O. Strowger, Manager Contract Sales Division, Eastman Kodak Company, Rochester, New York; Letter of January 31, 1933.

35. Charles W. Morris, General Manager, Heath Aircraft Corporation, Niles, Michigan; Letter of February 1, 1933.

36. Casey S. Jones, President, Casey Jones School of Aeronautics, Inc., Newark, New Jersey; Letter of January 31, 1933.

37. K. B. Hopkins, Assistant Advertising Manager, Graybar Electric Company, Inc., New York, N. Y.; Letter of January 31, 1933.

and well maintained landing fields at cities and intermediate points not now so equipped would prove a decided incentive for the extension throughout the state of present airline routes and the formation of new ones. We imagine that this should also prove a stimulus to private flying, even though at present this particular branch of flying has not come into very wide usage. It seems to us that such state-wide provision of landing fields, etc., *should result in greater use of company owned airplanes by various business concerns in the state.* If such business concerns were assured of proper landing facilities throughout the state, they could perhaps much better appreciate the value of an airplane in their particular line of business. Our own company has an airplane which is used both for demonstration of our aircraft devices and for transportation. Where it is used for transportation, we are sometimes handicapped by the fact that there is no airport near enough to the points we want to reach such that the time saved will justify the use of the airplane."<sup>38</sup>

Another world famous pilot, employed by a petroleum corporation, says,

"There is no question but that the development of aviation will depend to a great extent upon the degree of utility provided the greatest number of persons. At present the major air trunk lines fall considerably short of their possibilities largely from lack of feeder service or connecting branch lines. All indications are that this development will be logically fostered by the states themselves with the Federal Government coordinating the whole. For many years a recognized leader in the field of transportation, *I believe the State of Illinois, in considering this program of state aids for air travel, is taking a forward step that others will surely follow.*"<sup>39</sup>

The vice-president of an outstanding aircraft motor manufacturer writes,

"It seems obvious that the provision by any State of landing fields, weather service, air markings, etc., coordinated with the federal program could be expected to directly stimulate aviation in that State. It certainly should be of great assistance to private flying, and would undoubtedly be an added safety factor in organized commercial transportation."<sup>40</sup>

An airport operator in Illinois says,

"Am very much pleased to hear of the many things your commission plans to do for aviation in the State of Illinois. *I also think your plan to have a gas tax on aviation gas is a good plan.* That will be at least one way to get money to help build airports also maintain the ones we already have."<sup>41</sup>

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38. J. C. Miller, Aeronautics Sales, Industrial Department, General Electric Company, Schenectady, New York; Letter of February 1st, 1933.

39. James G. Halzlip, Shell Petroleum Corporation, St. Louis, Missouri; Letter of February 2, 1933.

40. C. W. Deeds, Vice-President, The Pratt & Whitney Aircraft Co., Hartford, Connecticut; Letter of February 2, 1933.

41. Herman Hamer, Operator, LaSalle-Peru Airport, LaSalle, Illinois; Letter of January 23rd, 1933.

The operator of a flying service of one of the large eastern airports writes,

"We believe that state cooperation in the establishing of landing fields, air markings and Weather Bureau facilities is of considerable assistance to the advancement of aviation and, undoubtedly, stimulates activities both private and commercial."<sup>42</sup>

A manufacturer of aircraft parachutes says,

*"We wish to commend the Illinois Aeronautics Commission for its work. In our estimation all states could wisely take the same steps. Your work should greatly assist and supplement that of the Department of Commerce. It should stimulate all healthy developments of aeronautics in the State and result in aids and conditions that any pilot or commercial aviation company will welcome."*<sup>43</sup>

The general manager of a large fixed-base operation in the south writes,

"In reply to your letter of February 4th referring to your plan to provide landing fields and other facilities for flying throughout the State, it is in my opinion an excellent move. At this time it may seem a little premature and the expense involved perhaps unjustified, but *I am quite sure that it will be the only way aviation will become the important part of transportation that it should. It is my opinion that in future years your work will have proved its merits.*"<sup>44</sup>

A large manufacturer of aircraft and airport radio equipment says,

"It would seem, however, that any extension or improvement of landing fields and other facilities contributing to the improvement of commercial aviation, would be helpful to the State of Illinois."<sup>45</sup>

The editor of a prominent aviation journal writes,

"There is no doubt whatever that state-wide provision of landing fields, weather service, air marking and similar aids, coordinated with the Federal program might reasonably be expected to stimulate commercial and private aviation in your state. If states of the United States would only bend a little more effort in providing such items as enumerated above, flying would forge ahead more rapidly than it has in the past. Any efforts to encourage the development of aviation should be most heartily encouraged. *I would be willing to do everything in my somewhat limited power to foster such programs.*"<sup>46</sup>

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42. I. H. Derck, Camden Flying Service, Inc., Camden, New Jersey; Letter of February 3rd, 1933.

43. L. G. Schlegel, Manager, Triangle Parachute Co., Cincinnati, Ohio; Letter of February 8, 1933.

44. Bob Bauman, Vice-President and General Manager, Birmingham Air Service, Inc., Birmingham, Alabama; Letter of February 9th, 1933.

45. E. A. Nicholas, Vice-President, R. C. A. Victor Company, Inc., Camden, New Jersey; Letter of February 10, 1933.

46. Michael H. Froelich, Editor, Air Transportation, New York, N. Y.; Letter of February 11, 1933.

One of the world's largest manufacturers of wire, rope, and similar material used in industry generally and in aviation, who, incidentally, use aircraft in their own business, writes,

"Your plan has a great deal of merit and we believe that the improvements suggested in your letter would be of great value to the transport lines and private flying enterprises in the State of Illinois. *We note that you state these improvements could be financed out of a 2c per gallon tax on aviation fuel and that no other tax would be necessary in order to put the plan into effect. On that basis, we heartily endorse the improvement suggested in your letter.*"<sup>47</sup>

A pilot operator of one of the important airports in the Chicago District writes,

"If the operator is to progress and keep his airport in suitable condition, he will be put to quite an expense individually and it is quite unlikely that he will succeed. On the other hand, if by the creation of a State fund accruing from a nominal gas tax he should be benefited in the reception of increased business caused by the aid given aviation activities in general in Illinois, he, the operator, will of course be more financially able to carry on by virtue of this increased business. The numerous aids as outlined to me contemplated by the commission will surely be of invaluable benefit to us all. *And I believe the small amount of tax can be so easily absorbed that no one could logically object in view of the great help to be achieved.* I for one do not seek or expect any form of State subsidy; our business can prosper and grow by its own obvious necessity. *I am heartily in support of this proposed tax and I shall endeavor to convert others who are ignorant as to the advantages to be derived from its inception.* To quote an old platitude, 'It takes money to make money,' meaning that a tax fund judiciously dispensed will help all of us in Illinois to make money."<sup>48</sup>

The president of one of the outstanding aircraft manufacturers in the nation, affiliated with a large airline, writes:

"There is no question but that a state-wide provision for landing fields, weather service, air marking and similar aids coordinated with the Federal program might reasonably be expected to stimulate both private and commercial aviation within that State. These facilities are analogous to highways, and *with their development air transport should progress as has motor transport with the development and increase of highways.*"<sup>49</sup>

The sales manager of an international aerial photographic company says,

"In my opinion it is just as logical to expect a state-wide system of

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47. E. T. Weart, John A. Roebling's Sons Company, Chicago, Illinois; Letter of February 13, 1933.

48. Charles E. Strong, Operator, Harlem Airport, Oak Lawn, Illinois; Letter of February 20, 1933.

49. F. W. Neilson, President, Sikorsky Aviation Corporation (Division of United Air-Craft and Transport Corporation), Bridgeport, Connecticut; Letter of February 20, 1933.

landing fields together with weather service, air markings and similar aids coordinated with the Federal program to stimulate aviation as the State Construction of Highways stimulated the use and consequently the production of motor cars."<sup>50</sup>

The State of Michigan imposed a 3c per gallon gasoline tax on aviation motor fuel in 1929. The monies resulting have gone into an Aeronautic Fund which has been used for the provision of 27 landing fields, 11 beacons, extensive air marking, emergency landing strips, 8 weather reporting stations, and cooperation in night lighting for fields important to night operations which otherwise would have been dark.

Colonel Floyd Evans, Director of the Department of Aeronautics of Michigan, in a letter dated February 9th, 1933, says,

"There has not been a single complaint received in this office from any individual or airline operator against this tax. When there is a semblance of a landing field at every town, city, and railroad stop, flying will become popular; but until that time the use of the airplane will be as limited as the use of a speed boat."

The president of one of the largest aircraft manufacturers in the world writes,

"I have noted with a great deal of interest your proposed state-wide provision for landing fields, weather services, air markings, etc., for Illinois. I wish to express my appreciation of your efforts in such a valuable work, and to compliment you upon your vision in the type of assistance which is so much needed for the development of safe air travel, in the furtherance of the day when many tons of cargo will be travelling through the night between the important centers of the United States, due to the experienced airmen of vision who are urging the necessity for aircraft upon the various states."<sup>51</sup>

A major executive of a large aircraft manufacturer, affiliated with a great airline system, says,

"Every manufacturer, pilot, airport manager and in fact most every one connected with the aviation industry is well aware of the fact that States having Aeronautical Commissions, and who work in coordination with the Federal Aviation branch of the Department of Commerce, do stimulate aviation activity, both private and commercial. It is not reasonable to expect the Federal Aviation Commission to assist in the marking of towns or to promote local activity. The Federal Commission has neither the money nor the men to do this job properly. Likewise it's the state's lot to encourage the building of airports off main transcontinental air lines and in this way bring to the small town a nation wide feeder system of air

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50. C. A. Harrison, Sales Manager, Fairchild Aerial Camera Corporation, Woodside, Long Island; Letter of February 20th, 1933.

51. Glenn L. Martin, The Glenn L. Martin Co., Baltimore, Letter of February 14, 1933.

lines connecting with the coast to coast lines. We are of the opinion that State Aeronautical Commissions should be coordinated with the Federal Commission and use the Federal system of granting licenses to aircraft and airmen. The enforcement of intrastate flying is in the hands of State Commissions and this is a job of work that can only be handled by the various state Commissions as the Federal Commission can only govern interstate operations. There is a very definite need for State Aeronautical bodies at this time."<sup>52</sup>

A large manufacturer, intimately connected with airway construction and maintenance since their beginning, says,

"The rapid strides made by air transportation during these trying financial times indicate very definitely to those within the industry and to those but casually interested that this method of transportation is here to stay and to carve a definite niche in our civilization. Furthermore, it is particularly evident to those within the industry that this transportation cannot progress beyond the airway and air terminal facilities provided for it. For that reason we sincerely hope that you will be successful in providing such facilities supplemental to those aids already established by the Federal Government in the State of Illinois."<sup>53</sup>

One of the industrial giants of the world says,

"Public faith in air transportation is largely measured by its opinions as to the safety of flying. Well lighted, adequately located airports, well marked airways and other safety promoting services will contribute much to an increased public confidence and mental comfort, in the same degree that public fear of cross-country travel by automobile has been eliminated by the knowledge that good roads, well supplied with service repair stations, are broadly available. Public opinion of the dangers of flying, real or fancied, constitutes at the present time one of the inviting features of air travel for those who fly because of the "thrills" it offers. Obviously, air transportation will not become a truly commercial reality, or a private user's necessity, until flying is divorced from this mental concept of the general public.

"We are pleased to have had the privilege of contributing our opinions in this matter and believe that your plan, looking especially to the future response and stimulation that will result, is inherently sound and commendable."<sup>54</sup>

An Illinois doctor, owning and flying his own airplane, says,

"I believe one of the best hopes we have to get more airplanes in the air is reduced operating costs. I see no way of accomplishing this except by using our present airplanes more than we do now.

"Because I feel sure the provision of landing fields and air markings

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52. Frank X. Mara, Stinson Aircraft Corporation, Wayne, Michigan, Letter of January 31st, 1933.

53. C. Simpson, American Gas Accumulator Company, Elizabeth, New Jersey, Letter of March 8, 1933.

54. A. P. Schrader, Assistant to Sales Manager, Transportation Department, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., Letter of February 28, 1933.

and the other parts of your Illinois Plan of encouragement will cause aircraft to be used more and thereby reduce the cost, I am in favor of the plan, including the gasoline tax.

"I think that the increased volume should very soon be enough to absorb the cost of the gasoline tax and pay us an extra profit."<sup>55</sup>

Another Illinois pilot and plane owner says,

"As the owner of an Illinois airplane, I have gone over your program for encouragement via a State gasoline tax on aviation fuel. I believe that it will benefit aviation more than it will cost aviation, and that it probably is the best way for us to make a profitable, worthwhile business."<sup>56</sup>

The operator of one of Chicago's airports has this to say,

"There is no doubt that we all need more volume in aviation, and I believe that the provision of landing fields, air marking, weather service, and other facilities included in your encouragement program will create that volume for all commercial operators and in addition make it possible for private owners to use their airplanes more. This will of course reduce the cost per mile of operating an airplane and should do so even more than the cost of the tax involved.

"On the basis of that belief, I endorse your proposal, primarily because I believe it will help me to make more money, and to operate a safer and sounder business."<sup>57</sup>

From far-off Montana comes this statement, after observing the gasoline tax in Idaho,

"My first reaction in coming to Idaho was that of being opposed to the Idaho methods of taxing aviation gasoline and licensing aircraft. After having flown over the greater part of the State and viewing the work of your department I wish to state that I am heartily in accord with your program and wish my own state, Montana, would adopt a similar program."<sup>58</sup>

A well-known and respected sales executive of one of the outstanding motor manufacturers of the world, writes,

"We feel safe in saying that any aids that the State could give in the matter of establishing landing fields, weather service, and air marking in co-ordination with the Federal program, would most certainly stimulate private and commercial aviation to an appreciable extent in those states which have the foresight to foster as much as possible, our fast growing industry. Such action will not only open the eyes of your own citizens but it will be the cause of many transient flyers to plot their course over those sections where they know good fields, weather information and service are available. Further, air markings no matter whether one is piloting himself or traveling as a passenger are welcome signs that inform one (the air traveller especially who is probably reading a magazine a good part of the

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55. Dr. Sidney W. Raymond, Letter of February 23, 1933.

56. Robert McCallum, Letter of February 23, 1933.

57. Roy C. Wilson, Operator, Wilson Airport, Fairview, Illinois, Letter of February 23, 1933.

58. R. R. Johnson, Johnson Flying Service, Missoula, Montana.

time) where he is, and really this is good publicity for the community that is proud of its appearance. Markings on the highways as practiced in many states are, as you know, a great aid to pilots but perhaps do not mean so much to the passenger. More power to you for the procurement of better and better facilities all over your state."<sup>59</sup>

#### IV. FINANCING THE ILLINOIS PLAN.

Obviously, there is hearty accord as to the benefits accruing from the provision of aeronautical facilities and services. The difficulty that arises is as to the manner of financing the cost. Funds can be provided only through private initiative or by government. In this instance, private initiative cannot effectively execute the program and, probably, cannot execute it at all. If the benefits of the plan are to be made available, they can be realized only by governmental expenditure. The federal government cannot undertake the program—due to budgetary conditions and because of possible constitutional limitations. It remains, then, for the state to assume the responsibility.

The state government may secure the necessary money either from general funds or through some special form of taxation. The proposed Illinois plan would place the financial burden on both sources of income. Thus, the state government is asked to finance the safety and general regulatory work of the Commission from general funds, and to finance the cost of the facilities jointly with local communities—through the general funds established by the municipalities and a state aviation fund provided by a two-cent tax on aircraft motor fuel. Without considering the probability that counties and municipalities will be able, generally, to reduce their share of such cost—by airport operation, it is apparent that the citizens of any community will be asked to pay but a few cents apiece each year for the opportunity of having this new form of transportation available. Undoubtedly, the plan is a good one from their point of view, and several communities have indicated their desire to proceed as soon as it is enacted into law.

The proposed gasoline tax will be paid by three general groups, or their customers. Those groups are, (1) airlines—operating regularly scheduled transportation services, (2) fixed-base operators—maintaining sightseeing, instruction, special charter, advertising, crop dusting, photographic, barnstorming and similar non-

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59. Kenneth J. Boedecker, Assistant Director of Sales and Service, Wright Aeronautical Corporation, Paterson, New Jersey, letter of March 14, 1933.

scheduled operations and, (3) the private owner—using his aircraft for pleasure and/or business.

Under present economic conditions the airline operators use approximately 70% of the fuel consumed in aviation where the fueling is done in Illinois. Under present conditions then the first group (scheduled operators) would pay 70% of the tax. While no detailed figures are available, it is believed that the second group (fixed-base commercial operators) would probably pay half of the balance—leaving 10% to 15% of the tax to be paid by private owners. It is the opinion of our Commission that this is a temporary and artificial distribution of those percentages. We believe that, in normal business conditions with the present development of aviation, the scheduled operators would pay approximately 50% of the tax with the remaining 50% split 20% for fixed base operators and 30% for private owners. We further believe that, as the art progresses, the private owner operation (and hence his percentage of the tax collection) will substantially increase. The same should be true of fixed-base operators, thus lessening the percentage of total collections paid by scheduled operators.

The vice-president of one of the outstanding air line operators said early last December,

"It has been found expedient in most states to raise the funds necessary for aeronautical development by means of a gasoline tax. If the gasoline tax is the answer to the question and it seems to be at the present time, then \* \* \* funds thus accumulated should \* \* \* be set aside \* \* \* for the development of aviation within the State."<sup>60</sup>

A number of the aviation executives and pilots, both in Illinois and in states where aviation fuel taxes are now collected, approve both the plan and the tax in their quoted letters. There is not the unanimous voice in *opposition* to the *tax* plan, even in Illinois, that is raised in *favor* of the *provision of the facilities and services*.

The completion of the program as outlined would materially benefit the public and the entire aviation industry. Citizens would have this new form of transportation at their front doors instead of over the chimney pot. *Airline operators* would have more (and more useable) intermediate fields; location, obstruction, and directional markings; weather reporting services; and the stimulated volume of business which history proves comes from the provision

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60. P. A. Wright, Vice-President, Trans-American Airlines Corporation. Address delivered before National Association of State Aviation Officials at Annual Meeting, Nashville, Tennessee, December 2, 1932. The complete address is printed in this issue of the JOURNAL, starting on page 212.

of such facilities. *Fixed-base operators* would have additional places to go, new opportunities for special charter, barnstorming, instruction, advertising, and other types of industrial flying. *Private owners* could use their aircraft more safely and more generally for business and pleasure. *Manufacturers* of aircraft, motors and equipment would have an enlarged market. *Unemployed pilots* and *mechanics* would have a chance to get work. This would all be made possible by the collection of a small tax, related directly to the use made of aircraft.

A very substantial percentage of aircraft costs are in fixed annual charges such as hangar rent, insurance, obsolescence and overhead. Any increase in the use made of an aircraft would spread those fixed annual charges and reduce the cost of operating per mile. Similarly, any increase in the pay load of an aircraft now operating at or near its maximum hours per year would improve the ratio between gross income and operating cost. Aircraft costs and pay load volumes are such that but relatively insignificant increases in use or load would absorb the proposed gasoline tax. It is not unreasonable to anticipate sufficient improvement to more than absorb the tax.

Certain proponents of the plan object to its advancement at the present time. They wish to await business recovery. The plan offered in this paper is premised not only on public benefit, but on *direct, profitable volume increases for operators*. The development of such operating benefits would aid the aviation industry to grow more rapidly. That would react throughout all industry, and would be a genuine contribution towards general prosperity.

The industry generally approves the plan for the facilities and services. The tax on aircraft motor fuel is the only way to complete it. Such a tax will be readily absorbed by resulting increased volume and has support from a distinct part of the aviation industry. It is good business for the aviation industry and it holds real promise for all citizens of the state. Now is the time to put it into effect.