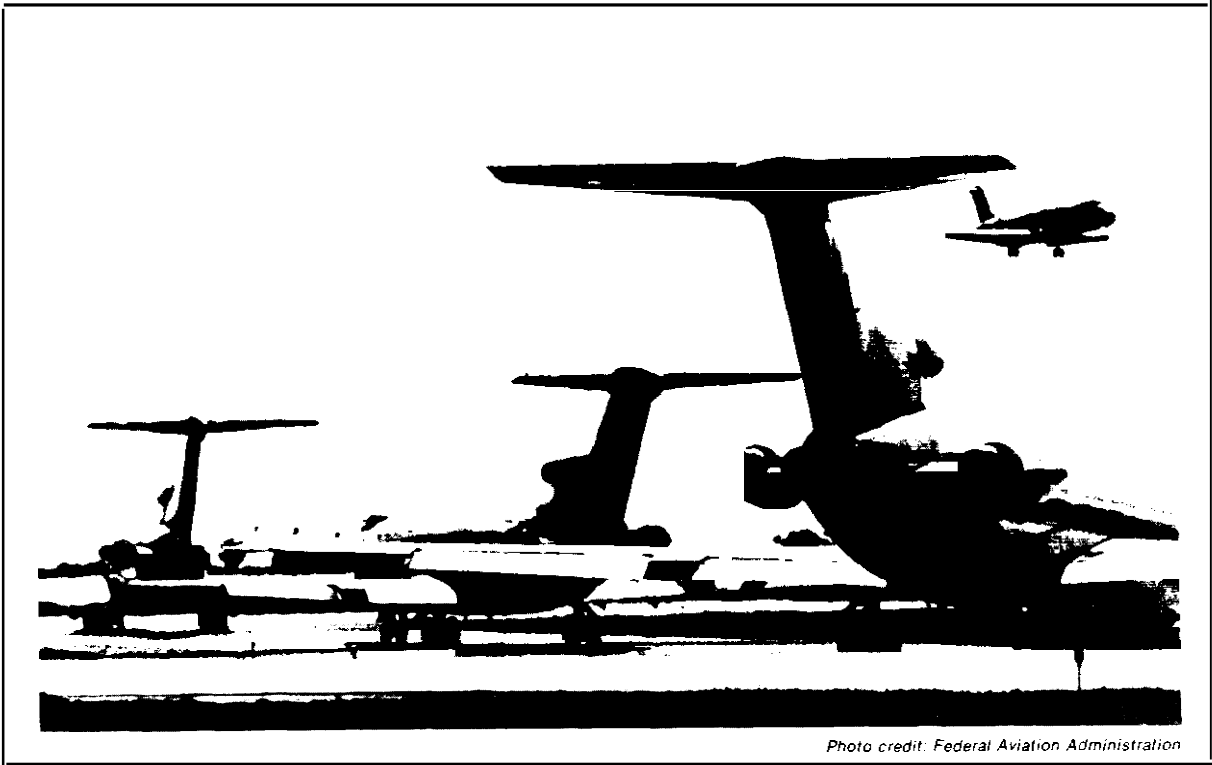


Chapter 10

POLICY CONSIDERATIONS



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POLICY CONSIDERATIONS

POLICY HISTORY

The Air Commerce Act of 1926 marked the beginning of Federal regulation of air traffic and aviation safety. At the time the law was enacted, aviation was an infant industry. There was a widely held view that aviation was hazardous, and some doubted that the airplane would ever have much commercial importance. There were others, however, who recognized that benefits, both commercial and military, might accrue to the Nation if safety could be improved and the manufacture and use of aircraft were fostered and encouraged. Direct subsidy to the aircraft manufacturing and air transportation industries was thought inappropriate, but Congress did empower the Department of Commerce to chart the airways, to maintain navigation facilities, and to act in other ways to promote air commerce. A year before, in the Airmail Act of 1925, Congress had authorized the Post Office Department to contract for domestic mail service, thereby giving impetus to formation of airlines and providing an important source of operating revenue for the new industry.

The 1926 legislation included no provision for Federal involvement in airport development. In the debate leading to passage of the Air Commerce Act, Congress considered but rejected the idea that airports were a matter of Federal interest. It was thought that airport development should be left to local initiative and that Federal policy toward airports and airways should be analogous to that for ports and waterways:

The Federal Government established and maintained lighthouses, dredged channels, and furnished weather forecasts; it left to municipalities, however, the establishment and control of port facilities. It followed, therefore, that while the Government should chart airways, provide airway lights for night flying, maintain emergency fields, and furnish weather reports to pilots, it would leave to municipal authorities the control

of airports. In other words, airways were like channels or harbors; airports were like docks.¹

On this line of reasoning, the 1926 Act contained a specific prohibition against Federal involvement in the construction of airports, thereby establishing the “dock” concept, which remained Federal policy until 1940.² However, when the Civil Aviation Act was passed in 1938, Congress began to reconsider airport policy. The principal purpose of the 1938 Act was to establish a new independent agency, the Civil Aeronautics Administration (CAA), to be responsible for economic regulation of air carriers. There was no authorization of airport aid, but neither was it prohibited. Instead, the act directed the CAA Administrator to survey airport facilities and to make a recommendation to Congress about the advisability of Federal Government participation in airport construction and maintenance. Before this study and recommendation could be acted upon, World War II began in Europe; and Congress, taking the view that development of a strong system of airports was vital to national defense, appropriated \$40 million for construction and improvement of 250 airports.

National defense, or national security, became the major rationale for Federal participation in airport development from that time forward. Federal assistance to airports continued through the war years; and, after the war, Congress appropriated a total of \$500 million over 7 years in the Federal Airport Act of 1946. The 1946 Act was the first legislation to deal specifically with civil airport development, and part of its justification was that a strong system of municipal airports would be of vital importance in a war or other

¹ U. S. Senate, Report to Accompany H.R. 4209, “Department of Transportation and Related Agencies Appropriation Bill, 1982,” Report No. 97-253, p. 10.

² It was perhaps due to the dock analogy that the term “airport” came into common use. Before that time, airports were generally referred to as airfields or aerodromes.

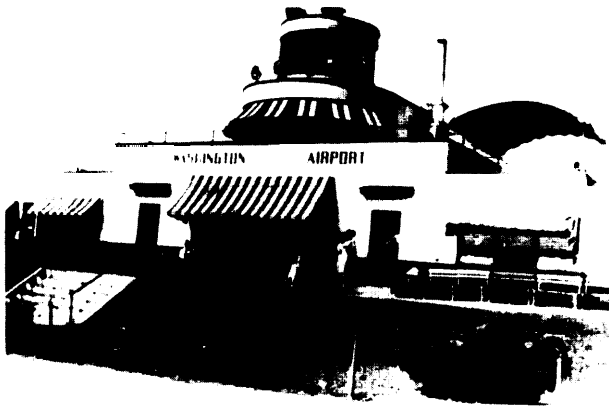


Photo credit: Federal Aviation Administration

Then . . .

national emergency. The act provided capital grants in the form of matching funds to encourage State and municipal initiative in building and improving publicly owned airports. This program of aid, financed from the General Fund, continued until 1969.

During the period 1946-69, Congress took another significant step when it reorganized the Federal Government agencies responsible for regulating air transportation and administering aviation programs. The Federal Aviation Act of 1958 transferred responsibility for the technical aspects of air traffic control (ATC) and aviation safety to the newly created Federal Aviation Agency—later Federal Aviation Administration (FAA) leaving economic regulation to the CAA, which was renamed the Civil Aeronautics Board (CAB). The act contained a statement of policy indicating that Congress retained its traditional view that promotion of safe and efficient civil aviation was in the national interest, and national defense remained a dominant theme. The FAA Administrator was, among other things, charged with:

- the regulation of air commerce in such a manner as to best promote its development and safety and fulfill the requirements of national defense;
- the promotion, encouragement, and development of civil aeronautics; and
- the control of the use of the navigable airspace of the United States and the regulation of both civil and military operations in such

airspace in the interest of the safety and efficiency of both.³

To carry out the responsibilities of managing the airspace, FAA also received authority to approve the siting of airports and to administer Federal funds for airport development.

FAA came into existence at a time of great change in the aviation industry. Traffic growth was placing excessive demands on both the ATC system and airports. By 1958, the major airlines were beginning to replace their aging equipment with jet aircraft, which offered much greater operating efficiency, higher speed, and better service to the traveling public. The advent of jets, however, placed great pressures on the airport system. Because of speed, size, and weight of jet aircraft, runways, taxiways, and aprons had to be redesigned, and passenger terminals had to be modified or rebuilt to handle jet aircraft and the larger volume of passengers per flight. While jets were first used only in a few high-density, long-haul markets, it was apparent after a few years that they would be economical for use throughout the system and that hundreds of airports would have to be upgraded or stand in danger of losing air service.

The expansion and modernization of many airports was paid for by local airport sponsors with help from funds available under the Federal Airport Act. However, the amount of aid available

Federal Aviation Act of 1958, Public Law 85-726, Aug. 23, 1958.

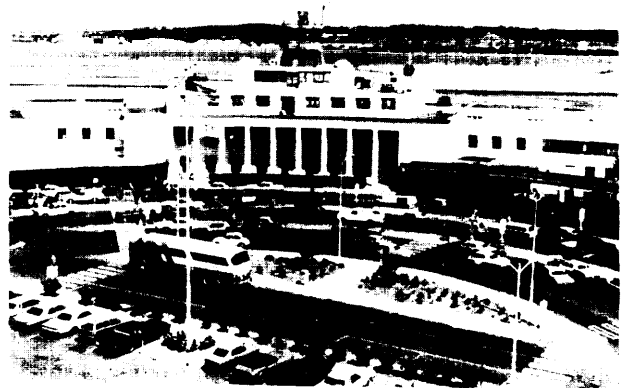


Photo credit: Federal Aviation Administration

. . . and now

under the act was small (about \$75 million per year), and Congress was becoming increasingly uncomfortable with what amounted to direct subsidy of the aviation industry through General Fund appropriations. Congress responded to these concerns with the passage of the Airport and Airway Development Act of 1970 and a companion revenue bill.

The 1970 Act established the Airport and Airway Trust Fund and levied an airline ticket tax, general aviation (GA) fuel tax, and other user fees to provide revenue. The user-supported Trust Fund ended the need for airports and the ATC system to compete with other national priorities for appropriations from the General Fund. Part of the Trust Fund was used to pay for the modernization of the ATC system, a program which FAA had started in the late 1960s. In addition, the Trust Fund supported the Airport Development Aid Program (ADAP), which provided grants to assist airport operators in funding capital projects. Between 1971 and 1980 the Trust Fund received approximately \$13.8 billion, of which \$4.1 billion was invested in the airport system through ADAP grants.

Passage of the Air Cargo Deregulation Act of 1976 and, more importantly, the Airline Deregulation Act of 1978, signaled an end to the 40-year history of economic regulation of the airline industry. The deregulation of airlines was part of a general trend gaining momentum in the 1970s to reduce Government regulation of private industry. By this time, many observers in Congress and elsewhere had begun to doubt that Federal regulation was encouraging orderly competition and had come to suspect that the regulatory process was imposing unnecessary costs and creating distortions in the marketplace. Even before Congress passed the deregulation acts, CAB itself had conducted a number of experimental reductions of certain types of regulation in order to encourage competition. With the 1978 Act, the market was opened to new firms, and carriers gained much greater freedom to enter or leave markets, to change routes, and to compete on the basis of price. The 1978 Act also called for the “sunset” of the CAB by the end of 1984, with transfer of its few remaining essential functions to other agencies.

Deregulation has had a profound effect on the airport system. Once air carriers were permitted to change routes without CAB approval, they dropped many unprofitable points, confirming the fears of some opponents of deregulation that air service to small communities would suffer. Service to some smaller cities continued under the “Essential Air Service” provisions of the Deregulation Act, which provides subsidies (through 1988) to the last carrier in a market so as to prevent selected cities from losing service altogether. In many cases, small commuter carriers entered the markets abandoned by larger carriers. In addition, the airlines’ new freedom has greatly changed their relationships with airport operators, who can no longer depend on the stability of the earners serving the airport and who must accommodate new entrants.⁴

One of the major issues affecting airport development, especially since the beginning of the jet age, has been aircraft noise. FAA has responsibility for regulating aircraft noise—in the Federal Aviation Regulations Part 36 (1969) and Part 91 (1976)—and for establishing procedures for airspace use. However, the Federal Government has not taken on the task of directly regulating the noise level at a given airport; this is considered the province of the airport operator. The Aviation Safety and Noise Abatement Act, passed by Congress in 1979, was intended to “provide assistance to airport operators to prepare and carry out noise compatibility programs.” It authorizes FAA to help airport operators develop noise abatement programs and makes them eligible for grants under ADAP.

The Airport and Airway Development Act expired in 1980 and Congress did not agree on reauthorizing legislation until passage of the Airport and Airway Improvement Act of 1982. During fiscal years 1981 and 1982 the taxing provisions of the Trust Fund were reduced, and revenues were deposited in the General Fund and the Highway Trust Fund. However, Congress continued

⁴*Air Service to Small Communities* (Washington, DC: U.S. Congress, Office of Technology Assessment, OTA-T-170, February 1982).



Photo credit: Federal Aviation Administration

The continuing problem of noise

to appropriate airport aid—\$450 million for each of the 2 years. At least part of the delay in passing new legislation was due to the debate over “defederalization,” an action which would have made the Nation’s largest airports ineligible for Federal aid on the grounds that they were capable of supporting themselves financially. Defederalization was dropped from the final version of the legislation, but Congress directed the Department of Transportation to study the matter further and to report at a later date.

The 1982 Act reestablished the operation of the Airport and Airway Trust Fund (with a revised schedule of user taxes) and authorized a new capital grant program, called the Airport Improvement Program (AIP). In basic philosophy, AIP is similar to the previous ADAP. The principal changes are in the formula for distribution of airport aid and in the criteria of eligibility. Overall, the Airport and Airway Improvement Act of 1982 authorizes a total of \$4.3 billion in airport aid for fiscal years 1983 through 1987.

ASSESSMENT OF FEDERAL AIRPORT POLICY

In large measure, the system of airports that we have in the United States today owes its existence to Federal policy, whose express purpose has been to foster the development of civil aviation. In the earliest years of civil aviation, the Government’s actions were confined to subsidy of aircraft manufacturers through military purchases and indirect support of aircraft operators by airmail contracts. Since airports were regarded as essentially local enterprises, they did not receive Federal aid. But from the beginning, civil aviation was perceived as an adjunct to military aviation in providing national defense, and in the World War II era this became the rationale for direct Federal Government assistance to civil air-

⁵ For example section 305 of the Federal Aviation Act of 1958, which established the Federal Aviation Administration, states that “the Administrator is *empowered and directed to encourage and foster* the development of civil aeronautics and air commerce in the United States and abroad” (emphasis supplied).

ports. In the years after 1945, the Federal Government took an even more important step in supporting the civil airport system when it turned over to local authorities hundreds of airports that had been built and operated as military installations but were then deemed surplus. This infusion of capital facilities not only expanded the airport network serving commercial aviation, it also encouraged the purchase and use of GA aircraft by assuring ample landing facilities within reach of nearly everyone in the country.

By 1960, this divestiture of military holdings had largely run its course, and the emphasis of Federal policy shifted to upgrading and expansion of major airports to accommodate jet aircraft and to alleviate problems of congestion and delay in airline traffic that were beginning to emerge. Smaller airports were not neglected, however. Between 1960 and 1970, \$510 million—about 20

percent of all Federal expenditures for airport capital improvements—were directed to small communities and to improving the quality of GA facilities. In addition to construction and improvement of runways and airfield facilities, the Federal Government aided general aviation in other ways. The network of Flight Service Stations was expanded, and the number of airports with FAA-operated control towers grew substantially, with nearly all of the additions coming at smaller airports. Safety of civil aviation was an important motivating factor, but so too was the desire to establish and maintain an extensive system of well-equipped airports serving all classes of civil aviation, providing readily available commercial air transportation and operating bases for aircraft used for business purposes and private flying.

The passage of the Airport and Airway Development Act of 1970 institutionalized Federal airport aid by establishing the Airport and Airway Trust Fund, supported by user fees, which provided a dedicated source of revenue for capital improvement. This act not only committed Federal support to the airport system, it also gave the Federal Government a strong, perhaps dominant, voice in how that system would develop. By identifying the kinds of airports eligible for capital grants, by specifying the types of projects that would be supported, and by establishing formulas for Federal, State, and local funding, the Airport Development Aid Program effectively set the pattern of airport development for the 1970s. After a brief period of uncertainty in 1980-82, when Congress allowed the legislative authorization of ADAP to lapse, previous Federal policy on airport development was reaffirmed in September 1982 with passage of the Airport and Airway Improvement Act of 1982, which established the Airport Improvement Program.^b

AIP preserved the general approach to airport aid established under ADAP, with certain revisions to correct what were perceived as imbal-

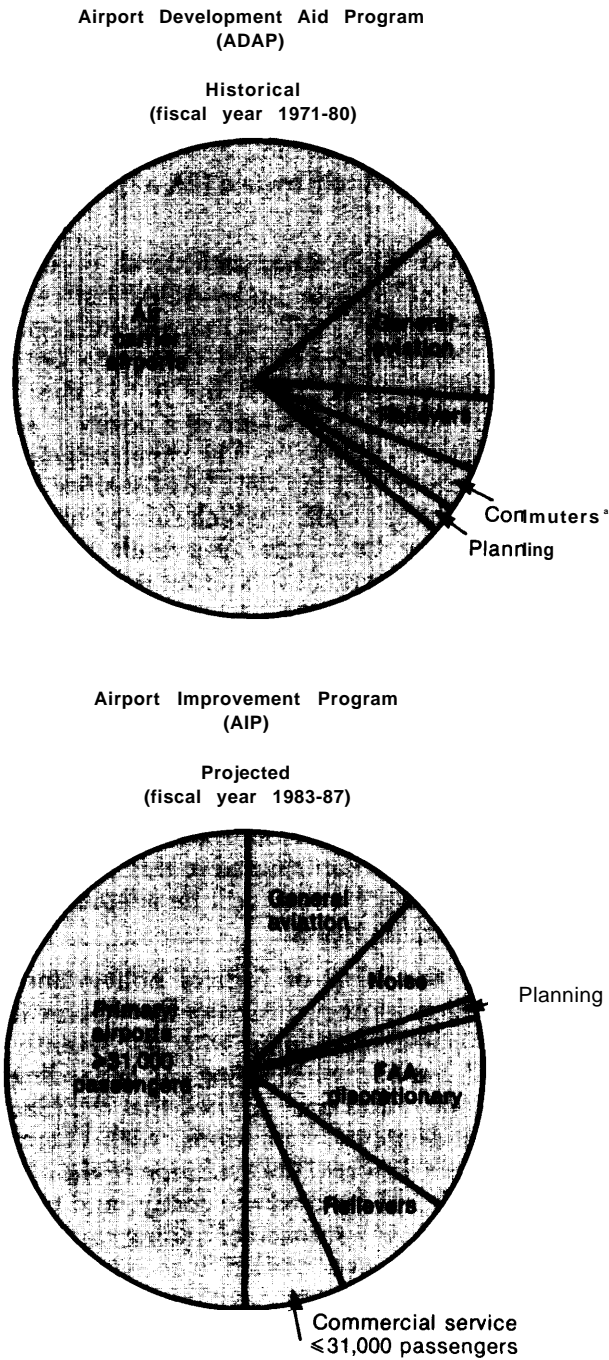
ances in the allocation of funds and to adjust the shares paid into the Trust Fund by various classes of airport and airspace users through ticket and fuel taxes. The principal differences between ADAP and the new AIP are in the proportion of Federal aid to be allocated to air carrier, reliever, and GA airports, the earmarking of 8 percent for noise projects, and extension of Federal aid for the first time to privately owned GA airports (see fig. 24).

Investment of \$4.1 billion in Federal moneys for airport capital projects under ADAP between 1971 and 1980 and \$7.9 billion more in State and local funds enabled the airport system to keep abreast of construction needs, but not to eliminate the chronic delay problems at a dozen or so major metropolitan airports. The capacity gains achieved at major airports were largely offset by growth in passenger traffic, which rose by about 75 percent during the decade. As a result, the situation at these airports now is about the same as it was in the late 1960s. If FAA forecasts are correct, however, capacity problems may emerge at more airports in the next 10 to 20 years, possibly affecting as many as 60 air carrier airports by the end of the century. There may also be a shortage of facilities for general aviation in major population centers, notably in the Sun Belt States of the South and West. It is therefore appropriate to ask how past policy has contributed to this situation and whether present policy will be adequate to deal with emerging needs.

Certainly, the focus of Federal policy since passage of the Airport and Airway Development Act of 1970, and continuing with the recently enacted AIP, has been on building and expanding airports. Some critics have argued that the bias toward capital-intensive solutions, with liberal Federal aid, has distorted the evolution of the airport system. It has favored the costly, and perhaps self-defeating, approach of adding capacity wherever and whenever needed to accommodate demand. But new capacity inevitably begets new demand, which creates need for more capacity, and so on in an escalating spiral. Limitations on land available for airport expansion or building new airports, steady encroachment of urban development around airports, and community opposition to airport noise make adding capacity an

^b Section 502 of the act finds and declares that "continuation of airport and airway improvement programs and more effective management and utilization of the Nation's airport and airway system are required to meet the current and projected growth of aviation and the requirements of interstate commerce, the Postal Service, and the national defense." 96 Stat. 671, Title V, sec. 502(a)(2).

Figure 24.—Distribution of Airport Aid Funds Under ADAP and AIP



*Fiscal year 1987-80 data only.

SOURCE: J. J. Corbett, "Reflections on the New Airport/Airway Trust Fund Law," *Airport Services Management*, vol. 22, No. 9, September 1982.

increasingly expensive and difficult solution. The alternative urged by critics of present policy is to encourage demand-management techniques that would promote fuller and more efficient use of the infrastructure already in place. These critics would redirect policy away from large capital projects and toward a combination of managerial, operational, and market-oriented approaches to channel new growth to fit within the ample capacity now available in the airport system as a whole.

Another criticism of past and present policy is that it has concentrated almost exclusively on air-side capacity—runways, taxiways, and other such airfield facilities. Most FAA studies of capacity have limited their concern to aircraft delay (or even more narrowly, air carrier delay), and the calculation of benefits has been confined largely to air carrier fuel and labor savings and more efficient aircraft utilization. In part, this may be a methodological limitation. It is considerably more simple and straightforward to calculate aircraft delay costs than to quantify the intangibles of terminal and landside delay —e.g., what is the economic value of convenience or passenger time? On the other hand, FAA has traditionally interpreted aviation policy in such a way that the agency's interest is closely circumscribed about the airfield and aircraft operations, leaving responsibility for other parts of the airport to the site manager or to other agencies of government.

Delays in terminals and on landside access roads are widespread and probably account for more of the increase in passenger travel time than delays in aircraft departures and arrivals. By concentrating on expanding the airside, the Federal Government has placed on airports almost the whole burden of keeping pace with terminal and landside improvements. A broader targeting of Federal funds, it is argued, will be needed to deal with all forms of delay associated with air transportation. An extension of this argument is that Federal policy should broaden its sphere of concern to encompass the airport as part of the overall urban or regional transportation system. Indeed, the new AIP legislation charges FAA with responsibility to develop a National Plan of In-

tegrated Airport Systems, which implies not only integration of planning and development for all airports within a region or the Nation but also integration with other modes of transportation.

Another way in which Federal policy—or at least FAA interpretation of Federal policy—has been faulted is that it has led to an overly broad definition of what constitutes airports of national importance. The last edition of the National Airport System Plan contains 3,159 airports that are eligible for Federal aid. Preliminary indications are that the new National Plan of Integrated Airport Systems now being prepared by FAA will contain even more—3,203 as of the beginning of 1984 and 3,639 by 1995. Most of these airports are small general aviation facilities serving only a relatively few aircraft. While there is a distinction between eligibility for Federal aid and actual receipt, the existence of a trust fund and a Federal policy that seeks to spread aid broadly to all classes of airports has created a very large roster of airports competing for a share of Federal moneys, with each believing that it can and should receive support for capital projects. At the national level, this leads to inflated estimates of “needs,” which exert pressure for more and more Federal outlays in a continuing program of airport building and expansion. A more restrictive definition of the Federal Government’s interest may be necessary to clarify the distinction between those airports that serve a nationwide air transportation function and those that serve purely local and specialized needs that are national only in an aggregate sense.

A somewhat different criticism that *is* partially contradictory to the argument above is that Federal aid has favored air carrier airports while neglecting the needs of other users of the airspace, chiefly those who frequent GA and reliever airports. To some extent, the provisions in AIP to increase that share allocated to general aviation are a response to this criticism. However, this argument is not simply a plea for more aid to general aviation. Rather, it is directed to the larger issue of financial self-sufficiency. Some contend that Federal aid should be targeted toward those airports that do not have adequate revenues or access to debt capital in the private market. The largest airports, which collectively serve almost

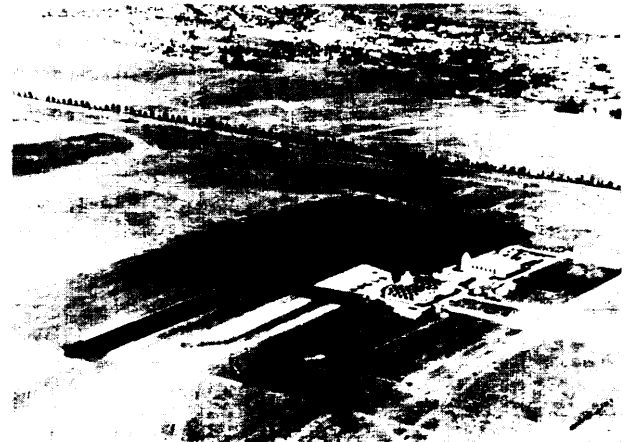


Photo credit: Los Angeles Department of Airports

Mines Field, L.A. Municipal Airport in 1929

90 percent of air travelers, are, *or* could be, virtually self-supporting.⁷ If so, these critics maintain, it is not an appropriate use of Federal moneys (even perhaps moneys from a dedicated trust fund) to help those that can help themselves. This is the argument of those who would defederalize large and medium airports, and it has found favor both among small airport operators (who see it as an opportunity to obtain more Federal aid) and those who seek market-oriented solutions that would reduce the Federal budget.⁸

The defederalization argument, however, also embraces a more fundamental economic concern—economically efficient pricing of airport facilities and services. Economists contend that Federal policy which supports capital improvements by grants from a trust fund and which is predicated on unrestricted airport access for all users on demand, when coupled with local airport practice of residual-cost pricing as a method of setting landing fees, encourages supply-oriented solutions to congestion and delay. The alternative favored by economists is pricing the use of airport facilities according to the marginal cost that

⁷This point is addressed at length in ch. 7.

⁸A market approach attempts to simulate the operation of a largely unregulated market by utilizing the price mechanism to control the quantity demanded. This approach is used by government in a number of areas; e.g., the Federal Government auctions the right to cut timber or to drill for offshore oil. See D. Koran and J. D. Ogur, *Airport Access Problems: Lessons Learned From Slot Regulation by the FAA*, Bureau of Economics Staff Report to the Federal Trade Commission, May 1983.

such use imposes on the airport operator and on others who seek to use the airport at the same time. At the local level, this implies airport use fees based on the cost incurred to provide a given amount of capacity. At the national level, the implication is twofold: 1) Federal aid should be given only to the extent that local resources are insufficient and that it is in the national interest to provide, and 2) local airport authorities should be given the freedom to impose user fees that are consonant with market forces. Thus, they would argue that Federal policy—explicitly by the “first-come, first-served” principle and by prohibition of facility user charges (head taxes) and *implicitly* by its silence on the question of efficient pricing as a means to increase airport revenue—distorts the market in the direction of unnecessary Federal subsidy and capital-intensive approaches to increase supply rather than modulate demand.

This brief critique of past and present Federal policy points to a basic issue. In promoting aviation by providing abundant capacity at low cost to airport and airspace users, has the Federal Government in effect subsidized airlines, general aviation, aircraft manufacturers, and local development? The evidence suggests that the answer is yes. But the more important question is motive, not effect. In the earliest days of aviation, the aim of Federal policy seems to have been to foster a

fledgling industry for reasons of national defense and development of an economically valuable new mode of transportation. Without this support, aviation might have lagged or withered altogether. In the years after World War II, the rationale of civil aviation as a buttress of national defense became less important, and considerations of the national economy and regional development came to predominate. They still do. Aircraft manufacturing and the aviation industry are important contributors to the balance of trade. Available, efficient, and low-cost air travel stimulates all sectors of the economy. An airport is an important economic resource to a community, both in and of itself and because it can be used to leverage additional highly desirable development. In this sense, aviation is a general boon to the economy, and it can be argued that the Federal Government’s policy is amply justified.

On the other hand, aviation is no longer immature, underdeveloped, and struggling. Despite vicissitudes that affect it along with the rest of the economy, aviation is a robust industry that is capable of supporting itself. Is, therefore, a strong Federal presence still required? Perhaps yes, perhaps no. But it is certainly not inappropriate to reexamine the nature of the social and economic contract between the Government and the aviation community to see if mutual interests could be better served in other ways.

ALTERNATIVE FEDERAL AIRPORT POLICIES

While there are many aspects of Federal policy that affect airport system development, there is perhaps none so powerful as that pertaining to funding of capital improvements or expansion of airport facilities. The policy options considered here therefore concentrate on the rationale of the Federal funding program and the amount of capital aid to be provided. Four policy alternatives are presented:⁹

- **Defederalization**— withdrawal of Federal aid for those airports capable of self-support (essentially all large airports and most

dium airports) in the expectation that they will be able to finance their own capital improvements through retained earnings and issue of revenue bonds.

- **Selective Federal Aid**—based on a more restrictive definition of Federal interest in airport development, aid only to those airports that provide commercial air service and to a selected set of GA airports whose function is to relieve congestion at commercial service airports in major metropolitan areas.
- **No Federal Aid**—return to the “dock” policy, under which Federal interest in civil aviation would be limited to airways, navigational aids, air traffic control, and safety and no Federal aid would be provided for airport

⁹The first three of these policy alternatives are also examined by CBO in *Financing U.S. Airports in the 1980s*, April 1984.

development on the grounds that such facilities should be built and maintained by the municipalities whose economic interests they serve.

- **State Administration**—transfer to State governments of responsibility for administering a federally funded airport aid program composed of formula grants to commercial service airports based on passenger enplanements and block grants to be distributed on a discretionary basis by State aviation agencies.

In advancing these options, OTA does not contend that present policy is unsatisfactory or that it would be an inappropriate course for future years. The present Airport Improvement Program, tempered by the previous 10 years of experience with ADAP, seeks to provide a balanced and sufficient program of aid that is consistent with the approach to fostering civil aviation that has prevailed since the 1960s. However, as the foregoing policy assessment has brought out, there are some fundamental questions that are worth reexamining.

The rationale of the options presented here is that, if it is desired to redirect Federal airport policy, there are three basic avenues that might be taken. The first, embodied in the defederalization option, is that the primary test to be applied in the distribution of aid to airports is financial self-sufficiency. The second line of departure from present policy is that a more restrictive definition of Federal interest could be applied. Two options of this sort are considered: selective aid only to those airports that serve to make up a national air transportation network and more restrictive still—aid for navigation and air traffic control but not to airports themselves. The third shift of policy, State administration, would not affect the amount and type of airport aid afforded under current policy, but it would place responsibility for distribution of this aid in the hands of State and local agencies instead of the Federal bureaucracy. None of these options would change the present method of support for ATC system modernization or for funding FAA operational and maintenance activities. FAA's regulatory and safety functions related to airport operation would likewise be unaffected.

It should be noted that, while these options are discussed as though they were independent and mutually exclusive choices, this is simply an analytical convenience. A revised Federal airport policy might well combine features of two or more of these options, either in the interest of addressing several perceived shortcomings of present policy or in an attempt to mitigate adverse impacts that might result from adoption of any one option in pure form.

It should also be noted that not all of the concerns about the adequacy of the airport system voiced in this report are explicitly addressed in the policy options. For example, the need for and application of new technology to alleviate airport congestion or to reduce delay do not specifically motivate any of the policy choices. It is assumed that needed technological improvements or procedural changes in air traffic control would be made under all options, whether by FAA or by local airport authorities. However, since the rate of adoption might be influenced by the availability of funds and the priorities of the agency responsible for financing, the effect of funding policy on the adequacy of the airport system is considered as a possible impact in the discussion of each option.

Similarly, the issue of noise is not addressed in any of the policy options. The responsibility and liability of various parties in protecting communities from the adverse effects of airport noise is an important question—perhaps the thorniest facing civil aviation today—but its resolution lies largely outside the realm of topics treated in this report. It is a legal issue that will turn mainly on what the courts determine to be the joint and several responsibilities of airport operators, airspace users, and Federal, State, and local governments in dealing with the problem.

Finally, the matter of local airport managerial practice and pricing policy is not a direct concern shaping any of the policy choices, although some might lead to more economically efficient pricing of airport services. Chapters 2, 5, and 6 have dealt with the importance of the contracts and working arrangements between airport managers and airport users, with the effects of different approaches to pricing the use of facilities, and with

the general issue of economic approaches to managing demand for airport services. These are thought by OTA to be matters of local policy that lie somewhat outside the focus of Federal concern, although it is recognized that the Federal Government has a responsibility to assure that enterprises receiving grants are properly managed. The extent to which Federal policy on financial aid or on administration of the airport aid program might affect local management, pricing, and financing mechanisms is treated as one of the possible effects of each option.

Funding Under Current Policy

In the 5 years from 1978 to 1982, funds from all sources invested in airport improvements averaged \$1.8 billion annually. Of this, about \$1 billion was raised through bond sales, mainly revenue bonds issued by large and medium airports. Federal grants for airports of all sizes amounted to slightly less than \$0.6 billion per year, with State aid making up the remainder (table 53).

While the Federal Government contributed about one-third of the total invested, the share varied considerably in relation to airport size. For large airports, the Federal contribution typically made up a little over 15 percent of all investment; for medium airports, about 25 percent. At small commercial airports, Federal funds made up two-thirds. For GA airports, Federal money was typically 90 percent or more of all investment. In general, the degree of Federal participation in capi-

Table 53.—Sources of Airport investment Funds, 1978-82 (millions, 1982 dollars)

Airport category	Bond sales	Federal aid	Percent Federal aid
Large ^a	\$ 689	\$144	17
Medium ^a	224	75	25
Other commercial service ^a	93	164	66
Reliever	8	63	89
General aviation	6	104	95
All airports	\$1,020	\$570^b	36

^aLarge airports enplane more than 1 percent of all passengers; medium more than 0.25 percent. The other commercial service category includes 210 small primary airports (0.01 to 0.25 percent of annual enplanements) and 279 non-primary airports enplaning at least 2,500 passengers annually.

^bIn addition, States provided about \$200 million per year in aid, primarily for small airports.

SOURCE: Office of Technology Assessment estimates based on CBO data on bond sales and FAA data on Federal airport aid.

tal projects reflected the earning power and borrowing capacity of the airports receiving grants.

Table 54 is an estimate of future demand for airport investment capital over the 10-year period 1984-93. Large and medium airports, which handle about 90 percent of passenger traffic, account for the bulk of the anticipated investment—\$650 million to \$1 billion annually, or roughly the same level as in recent years. An additional investment of \$400 million to \$450 million is expected at small commercial airports. The demand for capital by reliever and GA facilities is estimated to run between \$500 million and \$600 million annually.¹⁷

Also presented in table 54 are currently authorized annual outlays under AIP and estimates of bond sales that could be expected if historic borrowing patterns were to continue. It appears that this combination of public and private financing (which is roughly the same as that over the past few years) would be adequate to cover the projected investments for airports as a whole, but with considerable variation by airport size and class.

In general, these figures suggest that current policy and the funding level authorized in AIP

¹⁷*Financing U.S. Airports in the 1980s* (Washington, DC: Congressional Budget Office, April 1984), p. 81.

Table 54.—Projected Airport Capital Needs and Sources of Funds (millions, 1982 dollars)

Airport category	Annual needs (1984-93) ^a	Annual Federal aid ^b	Bond sales ^c
Large ^d	&50-\$6&1	\$260	\$ 669
Medium ^d	200-350	80	224
Other commercial service ^d	400-450	85	93
Reliever	100-150	60	8
General aviation	400-450	95	6
Other federal aid ^e	—	160	—
All airports	\$1,550-\$2,050	\$800	\$1,020

^aProjections provided by CBO. Low estimates are derived from FAA National Airport System Plan; high estimates are from preliminary unpublished needs analysis for National Plan of Integrated Airport Systems

^bAssumes that AIP outlays and the distribution formula currently authorized through 1987 are continued.

^cBased on average annual sales for 1978-82.

^dLarge airports enplane more than 1 percent of all passengers; medium more than 0.25 percent. The other commercial service category includes 210 small primary airports (0.01 to 0.25 percent of annual enplanements) and 279 non-primary airports enplaning at least 2,500 passengers annually.

^eMade up of \$108 million for discretionary grants, \$64 million for noise projects, and \$8 million for planning.

SOURCE: Office of Technology Assessment, based on CBO and FAA data.

would be adequate to meet airport proposed airport investments over the coming 5 to 10 years. However, this statement is valid only for airports in the aggregate. There are imbalances between projected needs and available resources for certain classes of airports, with some—particularly the small airports—facing a possible shortfall of investment capital and larger airports appearing to enjoy virtual financial self-sufficiency. Thus, there are several options that might be pursued, either to alter the amount of Federal airport aid overall or to adjust the distribution of these grants among various classes of airports. These options are examined below.

Defederalization

The term “defederalization” was coined a few years ago when proposals were raised in Congress to discontinue Federal aid to those airports capable of self-support.¹¹ The airports targeted for defederalization were large and medium airports—those handling more than 1 percent and those handling between 0.25 and 1 percent of annual passenger enplanements, respectively. Advocates of defederalization pointed out that Federal aid has formed one-quarter or less of the capital budget of such airports and that they are, for the most part, capable of supporting themselves financially. They have demonstrated that they can raise pri-

vate funds in the bond market to pay for capital improvements and that they can generate sufficient revenues to cover their operating expenses and debt service.

Withdrawal of Federal aid from these airports was seen by supporters of defederalization as a method of holding the line on Federal airport development expenditures and freeing funds to aid smaller airports and to improve the ATC system. According to one supporter:

we can concentrate limited Federal funds on those airports that are least able to raise revenues on their own and on the development of the airways system, in-flight air traffic control systems, navigational aids, and landing systems.¹²

With the loss of Federal funds, deregulated airports would have to finance capital improvements through retained earnings and debt financing. In many cases, these airports might find it necessary to increase user fees or to float larger or more frequent bond issues.

Effects on the Federal Budget

Assuming that all 71 large and medium airports were no longer to receive Federal aid, Federal outlays for airport development could be cut to about half what they are under current policy. As shown in table 55, average annual Federal

¹¹See, for example, S. 1648, the Airport and Airways System Development Act of 1979, 96th Congress.

¹²Senator Nancy L. Kassebaum in the U.S. Congress, Senate Committee on Finance, “Airport and Airway Tax Measures,” hearings on S. 1047 and S. 1272, July 21, 1981, 97th Congress.

Table 55.—Federal Airport Aid (Defederalization Policy)

Airport category	Number of airports	Average annual expenditures (1985-89) (millions of 1982 dollars)	
		Present policy ^a	Defederalization ^b
Large ^c	24	280	—
Medium ^c	47	80	—
Other commercial service ^c	489	85	120
Reliever	219	80	115
General aviation	2,424	95	130
Other Federal aid	—	180 ^d	75 ^c
Totals	3,203	800	440

^aAssumes that AIP outlays and the distribution formula currently authorized through 1987 are continued.

^bAssumes currently authorized levels of aid plus equal distribution of \$108 million in discretionary grants for airport categories that remain eligible for Federal aid.

^cLarge airports enplane more than 1 percent of all passengers; medium more than 0.25 percent. The other commercial service category includes 210 small primary airports (0.01 to 0.25 percent of annual enplanements) and 279 nonprimary airports enplaning at least 2,500 passengers annually.

^dMade up of \$108 million for discretionary grants, \$64 million for noise projects, and \$8 million for planning.

^eGrants for noise projects and planning at currently authorized levels.

SOURCE: Office of Technology Assessment

outlays for airport development during the period 1985-89 would fall from \$800 million to approximately \$440 million. This could amount to a savings of about \$1.8 billion in Trust Fund expenditures over the 5-year period.

The defederalization option presented here also assumes that funding for small commercial service, reliever, and GA airports would remain at the level authorized under current policy. In addition, these airports might receive a larger share of the \$108 million in discretionary grant moneys than they do now. In table 55 it is assumed these discretionary funds are distributed equally among the three classes of airports that remain eligible for Federal aid, but some other distribution might also be appropriate. Presumably, expenditures for airport noise abatement would remain roughly the same as under present policy, with some funding still available for noise projects at large and medium airports.

If Federal outlays for airport development were cut back to \$440 million per year, it would be possible to reduce the taxes needed to sustain the Airport and Airway Trust Fund. The Congressional Budget Office, on the basis of information from FAA and the Office of the Secretary of the Treasury (Office of Tax Analysis), estimates that receipts from the airline ticket tax will average about \$2.6 billion per year for 1983 through 1987. A reduction of \$360 million in annual airport grants from the Trust Fund is equivalent to roughly one-eighth of this amount—or about 1 percentage point of the 8-percent airline ticket tax.¹³

Effects on Airport Financing

Large and medium airports have been especially successful in funding capital projects through the tax-exempt bond market. On average, large and medium airports raised slightly over \$900 million per year in the bond market between 1978 and 1982. This was supplemented by about \$220 million in Federal aid. If Federal funds were unavailable, it is possible that some improvement projects would not be undertaken, and that the demand for capital would be somewhat smaller than under

current policy. It is more likely, however, these airports would attempt to replace lost Federal funds through larger or more frequent bond sales. While it is difficult to determine how much more the airports would seek to raise, it could be an additional \$100 million to \$200 million annually.

Defederalized airports might find that the cost of borrowing money would increase for two reasons. First, they would be competing more vigorously for larger sums of money. Second, they would have lost the more or less guaranteed infusion of Federal funds and might therefore appear to investors as more risky investments. However, in light of airports' strong financial position and blemish-free record in the bond market, it is unlikely that their ability to raise capital would be greatly affected.

Smaller commercial service airports, which have annual capital needs of about \$400 million to \$450 million, could be expected to raise about \$90 million from bond sales (judging from their performance in 1978-82) and might receive up to \$120 million in Federal grants, depending on how discretionary funds are allocated. This would leave an unfunded need of between roughly \$200 million and \$250 million. It is assumed that GA and reliever airports would receive the same aid as under present policy, plus perhaps as much as an additional \$70 million in discretionary moneys. These airports might be the biggest gainers from a defederalization policy.

Effects on Airport Users

Defederalization would make large and medium airports more dependent on revenue-bond financing. One source of income commonly used to guarantee payment of these bonds is airport use fees charged the airlines. Thus, one effect of defederalization might be to change the balance of power between airlines and airport management in decisions on capital investment. At about half of the large and medium airports, airlines now exercise control of investments through majority-in-interest clauses and other features of airport-airline use agreements, and airport operators have often found that Federal grants were almost the only funds that they could use for projects which the airlines were unwilling to support.

¹³*Improving the Air Traffic Control System: An Assessment of the National Airspace System Plan* (Washington, DC: Congressional Budget Office, August 1983).

If Federal moneys were unavailable, airport operators might have considerably less latitude in managing their capital budgets. On the other hand, defederalization could encourage airport managers to discontinue or weaken majority-interest clauses when airline use agreements come up for renewal. It is difficult at this point to assess which way the balance would shift.

If operators of large and medium airports were to offset the loss of Federal funds by increasing user charges, the general effect of deregulation on users of those airports would be higher fees for landing, leasing of space, and airport services. All classes of users—business aviation, GA, and airlines—might find it more expensive to operate at defederalized airports. For airlines, much of this expense would be passed on to passengers in the form of higher fares.

Some proponents of defederalization argue that defederalized airports should be given the power to levy a passenger facility charge (PFC) or head tax in order to supplement their present revenues. Even if permitted, many airports might not choose to institute a head tax. Others, however, insist that some such mechanism for raising additional funds is necessary if they are to give up Federal assistance. If head taxes were widely adopted, airline passengers would face a second form of increased travel cost.

Serious questions have been raised about the feasibility and advisability of implementing local passenger facility charges.¹⁴ Four issues are of particular concern:

- How and by whom should fees be collected and how could the confusion caused by different rates at different airports be avoided or managed?
- Should diversion of head tax revenues to nonairport uses be prevented?
- How can head taxes be instituted in the face of such obstacles as long-term use agreements that prohibit the establishment of new fees?
- What can be done about airports where the head tax may not be feasible?

If the Federal Government chooses to allow head taxes, guidelines for their application would have to be established. For example, to prevent double charges, it would be necessary to determine whether the tax should be levied on arriving or departing passengers. So, too, would it be necessary to decide whether transferring passengers should be taxed and, if so, whether at the same rate as origin-destination passengers.

The most likely means of collecting a PFC would be through a unit charge collected by the travel agent or other ticket seller in much the same way that the Federal head tax for international departures is now collected.¹⁵ Because the management of airline reservations is highly computerized, it should be possible to work out an automated accounting system for charging the proper fee to each passenger and dispersing revenues to the airports. Such a system would be more complex than the current system of collecting a Federal tax from all passengers, but is certainly within the scope of current technology and practice. The details would have to be worked out carefully to avoid an undue administrative burden on airlines and travel agents.

Another possibility would be a charge assessed against the airline, rather than the passenger, based on airline passenger counts at the airport. This is a common means of collecting passenger facility charges at European airports today, and the Federal international departure tax is now levied on airlines on the basis of passenger counts. A third choice would be to have the airports themselves collect head taxes, but there is evidence that this method of collection would be more costly and less efficient than either of the others.¹⁶

A much more difficult issue is whether Federal guidelines should be established to prevent diversion of airport revenues to other, nonaviation, purposes. While it is quite common in other countries to treat airports as revenue producers for municipal or national governments, it has generally

¹⁴William R. Fromme, *The Airport Passenger Head Tax: Analysis of Its Potential Impact*, final report to the U.S. Department of Transportation, February 1984.

¹⁶For detailed analysis of the practical problems of collection and the options discussed here, see Thompson and Crenshaw, *Airport Passenger Facility Charges*, final report to the U.S. Department of Transportation, February 1984.

not been the custom in the United States to divert aviation taxes to nonaviation uses, and some regard the practice as improper. It was, in fact, the problem of diversion that caused the Federal Government to forbid airports to impose head taxes in 1973. The problem might be solved by Federal legislation requiring that passenger facility charges reflect actual costs and that proceeds be used only for airport purposes.

A few airports have introduced clauses in newly negotiated use agreements that specifically protect management's right to levy a head tax in the event that such charges become legally permissible. However, Airport Operators Council International estimates that at least 20 of the top 70 airports could not impose a PFC because of their existing use agreements. Federal legislation could override these agreements.

Even if the Federal Government grants them the authority, airport operators will have to decide for themselves whether the head tax option is a realistic alternative for financing airport development. Managers of several major airports have stated publicly that they would not impose a PFC even if it were allowed. For those unable or unwilling to use head taxes, the most likely alternative would be to increase landing fees and concession rents.

If all large and medium airports were defederalized, and all elected to replace all lost Federal aid with PFCS, the cost of the average airline ticket would increase by about \$1.50. Since the average ticket now costs about \$100, this would not raise the price of air travel appreciably. If the Federal Government were to reduce the present 8-percent passenger ticket tax by 1 percentage point, the added cost of head taxes would be largely offset.

Effects on Airport System

The defederalization policy could have an effect on demand at large and medium airports. Higher landing fees charged to raise additional revenue might discourage use of these airports by general and business aviation. If so, there could be some decrease in congestion and delay, but the effect would be highly localized and it is difficult



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to gauge what the implication might be for the airport system as a whole.

Because of the unavailability of supplementary Federal aid, additional funds for improvements at large and medium airports would have to be raised privately. The need to rely entirely on debt financing might cause airport operators to defer some projects or to scale them down to essentials. Overall, defederalization could increase the likelihood that only those investments which are truly needed and *economically justified* would be undertaken. The type of investments most likely to be eliminated or drastically reduced would be those that do not generate revenue or provide direct financial benefit to airport users.

Selective Federal Aid

A criticism of present airport funding policy—at least as reflected in the criteria applied by FAA in formulating the National Airport System Plan (NASP)—is that the Federal interest is drawn too broadly and unselectively. At one extreme, about three-quarters of all Federal aid under ADAP went to air carrier airports—many of which appear to be capable of financing investments from airport revenues and borrowing in the private money market. AIP reduces this share to half, but this amount may still be high.

At the other extreme, Federal aid is accorded to many small GA airports that do not serve a national transportation function—at least if this function is defined as contributing directly to commercial air travel. The grants that such airports receive are typically small—most are under \$200,000 and many are \$50,000 or less. In the aggregate, they were about 12 to 15 percent of all Federal aid under ADAP and would continue at this level under AIP.¹⁷ The criteria for eligibility applied to GA airports are such that virtually any publicly owned aviation facility in the United States could expect to receive Federal aid.¹⁸ Many are very small, serving a dozen or so based aircraft that are used either for instruction, aerial work, private business purposes, or recreational flying. As a rough estimate, these 2,424 GA airports probably serve less than half of the private and business aircraft in this country.¹⁹

The rationale of the selective aid policy is that much more stringent criteria of eligibility should be applied to airports receiving Federal assistance. Two tests would be applied: 1) Is the airport incapable of obtaining adequate investment capital through its own means? and 2) Does the airport contribute to a national system of commercial air transportation? By these standards, only the 560 commercial service airports²⁰ and the 219 GA airports designated as relievers would receive capital aid, and only to the extent that they were unable to finance investments from their own resources. In effect, the Federal Government, through the Airport and Airway Trust Fund, would become either the lender of last resort or an outright grantor in those cases where repay-

ment seemed impractical and it was in the public interest to sustain the facility as part of the air transportation network. Airports not meeting these criteria (virtually all the 2,424 GA airports in the NASP today) would not be eligible for Federal grants, and it would become the responsibility of State and local governments *and the users of these airports* to provide capital funds. The funds now earmarked in AIP for noise projects and airport planning grants to States (\$64 million and \$8 million per year, respectively) could still be made available for airports of any size or purpose.

In a sense, the selective aid policy would create for airports an analog of the present highway system, with a Federal component (airports of national interest akin to the Interstate Highway System) and a State and local component (smaller airports serving local needs as do State, county, and city roads). The Federal interest would be centered on those airports deemed essential to interstate transportation; State and local interests would be similarly defined. While this distinction is not clear-cut, neither is it in the highway system, and yet it serves as a workable way to differentiate Federal, State, and local responsibilities. Unlike the highway system, however, there would still be a very large number of privately owned airports (over 10,000), about 20 percent of which are open to public use.

Effects on the Federal Budget

This more restricted definition of the Federal role in airport development would considerably reduce the annual expenditures under AIP in 1983-87. Even if the full \$108 million in discretionary funds were to be added to the amount that small commercial service and reliever airports now receive under present policy and if noise and planning grants were unchanged, aid would amount to \$345 million per year, slightly over 40 percent of the presently authorized level (table 56). Small commercial service airports would receive about \$140 million per year (the \$85 million authorized in AIP for this purpose plus perhaps half of the \$108 million now earmarked for discretionary grants). Relievers could receive as much as \$130 million annually (the \$80 million or so now available under AIP and up to \$50 million of discretionary funds). Noise and planning grants would

¹⁷By formula, AIP allots 12 percent of Federal airport aid directly to GA airports in 1983-87. Some of the additional 13.5 percent in discretionary grants may also be awarded to GA airports.

¹⁸By FAA criteria, a GA airport is eligible for inclusion in the NASP if it: 1) is included in an accepted State or regional airport system plan, 2) serves a community more than 30 minutes from another existing or proposed airport in the NASP, 3) has or is forecast to have within 5 years 10 based aircraft (or engines), and 4) has an eligible sponsor willing to undertake ownership and development of the airport.

¹⁹Most of the 65,000 business and executive aircraft and many of the 95,000 privately owned aircraft operated for personal use are based either at commercial service airports or at reliever airports around large metropolitan areas.

²⁰Airports regularly served by at least one airline or commuter carrier and enplaning more than 2,500 passengers annually.

Table 56.—Federal Airport Aid (Selective Aid Policy)

Airport category	Number of airports	Average annual expenditures (1985-89) (millions, 1982 dollars)		
		Present policy ^a	Selective aid ^b	Defederalization ^c
Large ^e	24	280	—	—
Medium ^c	47	80	—	—
Other commercial service ^e	489	85	140	120
Reliever	219	80	130	115
General aviation	2,424	95	—	130
Other Federal aid	—	180 ^d	75 ^e	75 ^e
Totals	3,203	800	345	440

^aAssumes that AIP outlays and the distribution formula currently authorized through 1987 are continued.

^bAssumes currently authorized levels of air plus equal distribution of \$108 million in discretionary grants for airport categories that remain eligible for Federal aid.

^cLarge airports enplane more than 1 percent of all passengers; medium more than 0.25 percent. The other commercial service category includes 210 small primary airports (0.01 to 0.25 percent of annual enplanements) and 279 nonprimary airports enplaning at least 2,500 passengers annually.

^dMade of up \$108 million for discretionary grants, \$64 million for noise projects, and \$8 million for planning grants.

^eGrants for noise projects and planning at currently authorized levels.

SOURCE: Office of Technology Assessment.

presumably remain at the levels presently authorized.

There would be a substantially increased burden on State and local governments, who would find themselves pressured to pick up roughly \$95 million per year in GA airport funding that would no longer be available from the Federal Government. In partial recompense, however, the additional \$55 million in Federal aid for small commercial service airports available under this policy might diminish the need for State outlays in this area.

Further relief to the States might still be necessary, and one way to accomplish this would be to turn back some portion of Trust Fund revenues to the States, at least on an interim basis, to ease their transition to greater funding responsibilities. Another way would be to transform some of the Federal taxes on aviation into State taxes. The aviation fuel tax is such a possibility. The Federal taxes now levied on aviation gasoline and jet fuel are expected to bring in an average of about \$150 million annually through 1987. A one-third reduction in these taxes at the Federal level, with a corresponding increase in State levies would provide about \$50 million more to the States that could be used for airports no longer receiving Federal support. The impact of this action on the Trust Fund would be negligible. It would reduce Trust Fund revenues by about 1.5 percent.²¹

²¹Review of the FAA 1982 National Airspace System Plan (Washington, DC: U.S. Congress, Office of Technology Assessment, OTA-5TI-176, August 1982), pp. 34-35.

Effects on Airport Financing

For large and medium airports, the effects of a selective aid policy would be the same as under a defederalization policy. Large and medium airports no longer eligible for Federal aid would be required to finance capital improvements through a combination of operating revenues and borrowing from private sources. Also as in the case of defederalization, the selective aid policy would not entirely eliminate Federal funds for large and medium airports. If it is assumed that about \$65 million to \$70 million per year would still be set aside for noise-related projects, a substantial share would probably go to large and medium airports as it does now under current policy.

Small commercial service and reliever airports could find their financial situation somewhat eased. If the present \$108 million in discretionary funds were added to the grants they now receive, a larger amount of Federal aid would be available to these airports under selective aid than under either present policy or the defederalization option. If discretionary funds were split evenly, commercial service airports would find the \$85 million now accorded them under present policy increased to as much as \$140 million under selective aid.

Small commercial service and reliever airports might also be in a better position to raise more capital on their own by virtue of their inclusion in a more selectively defined Federal airport system. This action by the Federal Government,

which could be interpreted as a commitment of continued support, might enhance the credit-worthiness of these airports in the eyes of potential investors in bond issues.

General aviation airports excluded from the Federal system under the selective aid policy would have to turn to other sources of capital. Since they are for the most part publicly owned, their first resort would be to their parent municipal or county government and then to their State. If aid could not be obtained from these sources (and perhaps even if it were), GA airports would have to turn to their users to cover some portion of capital investments. Higher landing fees, tie-down charges, and hangar rentals would be the most probable course, both to generate needed capital and to demonstrate to public or private parties that the airport operator is making a best effort to be self-supporting.

In most circumstances, the operator of a GA airport would probably face higher than average borrowing costs. In fact, debt financing would probably be feasible only for the larger GA airports, those with a sufficient number of based aircraft and a high enough level of operations to assure investors that debt could be serviced from revenues. Revenue-bond financing for smaller GA airports would be difficult, and for the very smallest virtually impossible. For such airports, the most likely recourse would be financing through general obligation bonds issued by the municipality or State.

One way to provide assistance to marginally profitable GA airports would be to establish a Federal revolving fund, which would make capital improvement loans available at low interest, or no interest. Some States (e.g., Idaho, Minnesota, and Nebraska) now have such revolving funds for special purposes such as installation of lighting and navigation aids or hangar construction. Setting up a revolving fund at the Federal level would entail a one-time appropriation (perhaps from the current Trust Fund surplus). Thereafter, it would operate at little or no cost to the Federal Government or to Trust Fund contributors except for administrative expense and forgone interest (if money were loaned below the prevailing market rate).

Effects on Airport Users

For major, national, and larger commuter airlines, the effects of the selective aid policy would be like those of defederalization, at least for their activities at large and medium airports. Landing fees and other use charges at these airports would probably rise as managers sought to generate new revenue to offset the loss of Federal funding. In some cases, airlines with a majority in interest at these airports might seek a stronger voice in investment decisions since they would be asked to underwrite a greater share of capital improvements, either directly through participation in the financing or indirectly through higher airport use fees. Small commuter airlines serving a large or medium airport might find it harder to protect their interests since they would generate relatively little revenue for the airport (even though paying higher use fees) and thus could not exert much influence on decisions related to investment or access to facilities. In contrast, commuter airlines would probably find their situation at smaller commercial service airports somewhat improved. The increased amount of Federal funding available for these airports would, over time, raise the quality of facilities and services at these sites, but probably not the cost paid by users in the form of landing fees or rents.

Business and corporate aircraft operators would almost certainly encounter higher use fees at airports not receiving Federal funds—either the large and medium airports expected to be self-supporting or the GA airports excluded from the Federal system. This would be an incentive for business and corporate aircraft to use reliever airports—which are precisely for this purpose—but it could, in turn, cause pressure on reliever airport operators to upgrade their facilities to be more nearly on a par with commercial service airports.

Thus, a somewhat unexpected result of the selective aid policy could be a more marked differentiation among airports and types of users—with air carriers predominating at large and medium commercial service airports and business aviation gravitating to relievers in major metropolitan areas. This stratification might also lead to each class of user paying a share of cost closer to that which they actually impose on their airports of choice.

The other major segment of general aviation—those who operate light aircraft for personal or recreational purposes—would also be likely to incur higher airport use costs under this policy. At “off-system” GA airports, they would have to pay more in order to support these facilities or lose them. This might cause some GA operators to gravitate to nearby relievers or medium and small commercial service airports with capacity to accommodate them. But even at many of these airports, user charges might be higher than they are today. Since this segment of general aviation is quite sensitive to factors of cost and convenience, the longer term result might be a dampening of personal GA. This type of flying probably would not diminish absolutely (unless the costs increased drastically), but the rate of growth might be substantially slower than it has been in the past 20 years.

Effects on the Airport System

The primary effect of the selective aid policy on the airport system would be to create a more coherently organized system—due in part to a clearer delineation of the Federal interest and a more tightly focused program of support for public air transportation. The airports receiving federally administered funds would be those serving virtually all airline passengers and air cargo movement and those private parties with a strong business or personal interest in operating aircraft. Discretionary use of airports and airways would not be discouraged, but it would be channeled to a “second-tier” network of GA airports. The adequacy and health of the GA airport network would be determined largely by the willingness of discretionary flyers to pay the costs of maintaining and operating facilities provided for their use.

From the combination of more narrowly targeted Federal support, user fees more in line with the cost of providing service, and stratification of airport use by type of aircraft might come certain operational benefits. To the extent that the traffic mix became more homogeneous—especially at large and medium airports—delays due to the disparity of aircraft performance characteristics would be reduced. Adjustment of user fees, if prompted by the motive of recovering cost in pro-

portion to the burden imposed on the airport to provide the type and amount of service demanded, might also help to relieve congestion in several ways. They could provide capital needed for new facilities; they could serve to redistribute demand to offpeak periods; and they could induce diversion of some users to reliever airports or alternative, less congested sites.

The chief negative impact of this policy is its potential effect on general aviation, particularly the portion using airports that would be excluded from the Federal system. The financial condition of many of these airports is weak today, and they might become weaker without Federal support. The loss of adequate and convenient landing sites or the higher cost of using GA facilities could constrain the growth of personal and recreational flying. On the other hand, some of the past growth of this sector has been inspired by Federal programs which provided up to 90 percent of the capital investment at GA airports. To this extent, general aviation is a product of a Federal policy that has subsidized the ownership and operation of aircraft for private purposes. If GA operators prove unwilling to bear a greater share of the costs at the airports they patronize, it may be an indication that their demand for facilities is more induced than real.

No Federal Aid

This option represents a return to the “dock” policy that prevailed in the years before World War II. It postulates that airport owners, principally municipalities or States, would assume full responsibility for capital improvement of airports. The Federal Government would provide no grant funds for this purpose and would concern itself only with support of air navigation—airways and air traffic control, including installation and maintenance of control towers and landing aids at airports.

As described earlier in this chapter, present Federal policy on airport development has evolved gradually over the past 40 years. The original Federal view was that airports, like water ports, should be matters of local concern. Municipalities were expected to build and maintain port or airport facilities because these investments yielded

primarily local or regional economic benefits. The Federal role was to maintain the waterways and airways and to provide navigation systems, thereby serving the national interest of facilitating interstate commerce and contributing indirectly to the well-being of communities linked by the waterway or airway systems.

A return to the dock policy is by no means a suggestion that the current and past policies of directly aiding airports have been a mistake. Direct Federal support has been crucially important to the development of the national airport system. The national defense considerations during World War II and the need for airport modernization at the beginning of the jet era were pressing problems at the time. In retrospect, the decisions to provide Federal funds for airport development constituted sound public policy for

that time since they served the long-term Federal interest of fostering and encouraging the growing air commerce and aircraft manufacturing industries.

It is possible, however, that the goals of these Federal programs have been achieved. An extensive, modern airport infrastructure is now in place. The aircraft manufacturing industry has matured. Public transportation by air is no longer a fledgling industry—it has been the dominant mode of long-distance travel for many years. If the goals of the program of Federal assistance to airports have been achieved, then it might be argued that the program should be terminated and that outlays from the Airport and Airway Trust Fund should be limited to those needed for modernization, operation, and maintenance of the ATC system.

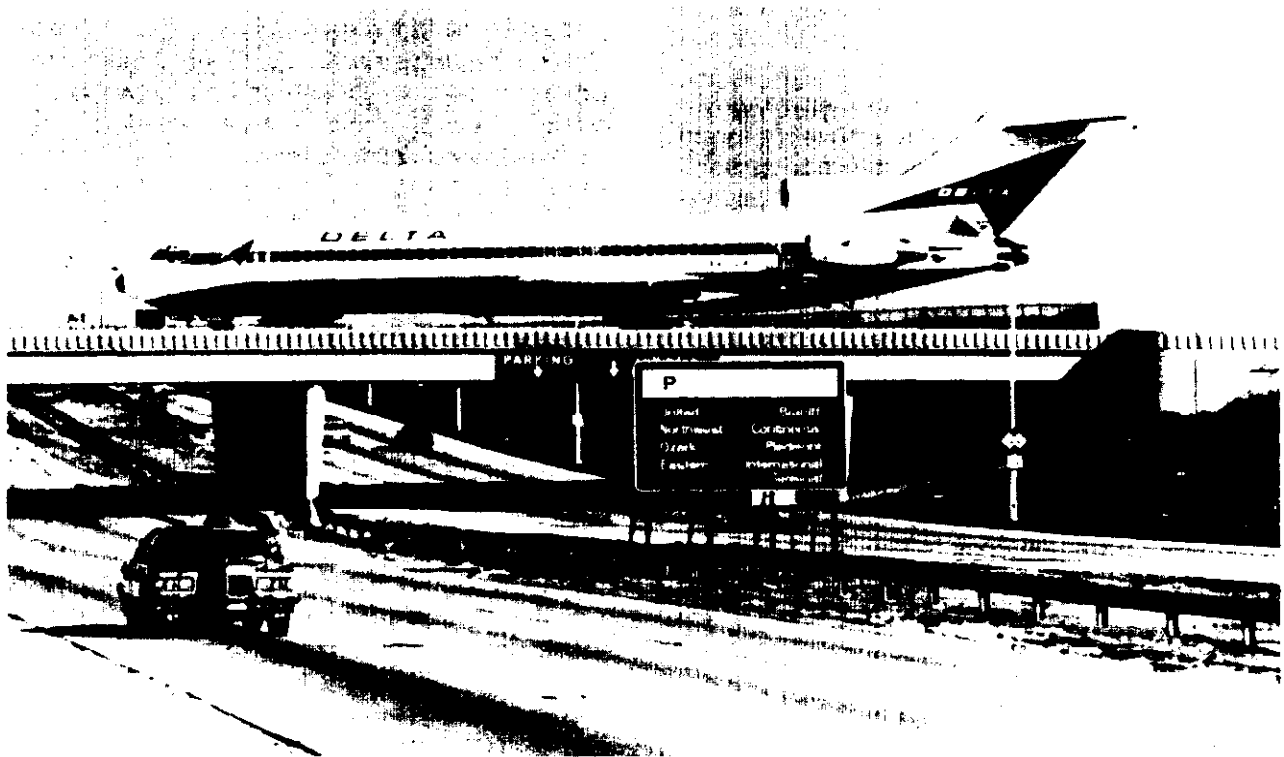


Photo credit: Federal Aviation Administration

Meeting of modes

Effects on Federal Budget

This option would eliminate all Trust Fund expenditures for airports, which amounts to \$800 million per year under present policy. Aviation user taxes could be reduced to the level necessary to cover the capital and operating costs of the airways and ATC system. The passenger ticket tax, for example, could be reduced from 8 to 5.5 percent.

Effects on Airport Financing

Airport sponsors would have the responsibility of raising all funds needed for capital projects. Some improvements would be funded with retained earnings or moneys borrowed from private investors through revenue bonds or other indentures. Airports might have to increase user fees to makeup for lost Federal funds. Some less efficient or low-traffic airports could have difficulty raising capital and might remain unimproved or close altogether.

Another possible source of funding would be State or local authorities. Some States, for example, might elect to provide assistance to airports unable to raise the capital needed for improvements. Local governments might choose to assist their airports as well. Airports provide many benefits to the local economy: they provide jobs and attract industry to a region, in addition to linking the community to the outside world. To the extent that a community wished to preserve these benefits, the local government might choose to allocate local tax revenues to assist the airport, or it might use its general obligation bonding authority to borrow funds for airport use. If the community were unwilling to provide assistance, this might be taken as an indication that the economic benefits of the airport were not worth the cost.

While the return of financing responsibility for airports to State and local government might pose hard choices in some communities, it would not be disastrous in the aggregate. The Federal share of airport expenditures is \$800 million per year, out of the total of \$53.4 billion per year spent by Federal, State and local governments on major in-

frastructure programs.²² Of this annual expenditure, about half (a little over \$25 billion) is spent by States and localities. Even if States and municipalities assumed responsibility for the entire \$800 million formerly provided in Federal grants, their annual capital expenditure would increase by only about 3 percent. In fact, however, State and local governments would probably have to raise not over half this amount since, under current policy, approximately \$400 million of Federal outlays go to large and medium airports which appear capable of raising adequate capital without local or State participation.

Effects on Airport Users

A basic effect of this policy might be to bring the price of airport services more closely into line with the cost of providing those services. Faced with the need to generate investment capital, airports of all sizes would have to increase existing user fees, or perhaps introduce new ones. Air carriers and general aviation, as the primary beneficiaries of airport service would have to pay higher airport use fees, except perhaps in cases where the locality chose to provide some sort of subsidy. With increased dependence on bond financing at air carrier airports, airlines might be expected to underwrite a larger share of airport costs.

Effects on Airport System

This policy—like the selective aid policy described earlier—might also lead to a two-tier airport system composed of roughly 500 commercial service and 200 reliever airports supported by a mixture of private funding and State and local aid and 2,000 to 3,000 GA facilities that would have to rely on the patronage of private owners of based and itinerant aircraft. Some communities might choose to support such GA airports as a matter of local pride or as a spur to local economic development. Those airports not receiv-

²²*Public Works Infrastructure: Policy Considerations for the 1980s* (Washington, DC: Congressional Budget Office, April 1983), p. 9. The CBO analysis projects that, under current policy, Federal, State, and local investment for all public works will total \$53.4 billion per year for the period 1983-90: highways (\$27.2 billion), public transit (\$5.5 billion), wastewater treatment (\$6.6 billion), water resources (\$4.1 billion), municipal water supply (\$7.7 billion), air traffic control (\$0.8 billion), and airports (\$1.5 billion). All figures are in 1982 dollars.

ing community support might face great difficulty surviving on user fees and rents alone, which might be an indication of their marginal economic value to civil aviation.

Because it would create a situation where airports might have to compete on the basis of price, this policy could also lead to a “free market” in airports, with cities vying for business and users shopping for the best price and service. Airports have already begun to compete for air carrier service since airline deregulation, and the end of Federal funding for airports might lead to an intensification of this trend.

The effects of this policy would probably vary greatly by region. The greatest possibility of negative impact would be in sparsely populated States, where there is not a sufficient base of aviation activity to support many low-volume airports.

State Administration

The essential feature of this policy is that it would change the way in which the airport funding program is administered. It differs from present policy in that responsibility for distribution of Trust Fund moneys and for management of grant applications and awards would be transferred from the national to the State level. State aviation agencies or departments of transportation would, in effect, replace FAA as the administrator of airport aid.

The Federal Government would not need to divorce itself entirely from airport capital assistance. For reasons of efficiency and national uniformity, the Federal Government could continue to collect the present taxes that support the Airport and Airway Trust Fund, and the congressional process of authorization and appropriation of Trust Fund outlays for airports would remain unchanged. However, administration of grants and exercise of discretionary authority in distributing that part of the Trust Fund now allotted to airports would no *longer* be carried out by a central Federal agency. Instead, these responsibilities would devolve to the States, much as they now do in the administration of the Highway Trust Fund.

There are several ways to implement such a policy, and that outlined here is intended only as an

illustration of the concept, not a specific formulation of how a State-administered program should work. In spirit, this policy is an application of New Federalism, a concept whose stated purpose is to “restore the balance of responsibilities within the Federal system and to reduce decision, management, and fiscal overload on the Federal Government.”²³ Simply stated, it would place greater authority at the State level for decisionmaking on the delivery of capital funds. This policy option is prompted by three criticisms of the way in which the Federal airport program is now administered. First, the present program is encumbered by a growing number of categorical grants, conditions, and regulations. Second, a central Federal bureaucracy is not always responsive to local needs and circumstances; and the interests of aid recipients might be better served by State governments, which are closer to these concerns, more accessible, and capable of acting more promptly. Third, the present division of responsibility between Federal and State agencies results in neither being able to deal with airport planning, development, and funding problems as a whole.

In the illustrative example presented here, Trust Fund outlays for airports would remain at the level now authorized under AIP—an average of \$800 million per year. Half of this sum would be distributed directly to individual commercial service airports as pass-through grants based on passenger enplanements. The other half would be distributed to the States in the form of block grants based on various indicators of aviation activity (number of airports, aircraft registrations, fuel sold, area, population, and the like). State aviation agencies or transportation departments would have full discretionary authority to allocate this half of Trust Fund outlays among airports in the State.

The Federal Government might choose to retain some authority to set capability standards for State agencies and to draw guidelines for the States in determining eligibility for award, purpose of expenditure, and degree of local participation; but this is not an essential feature of the

²³Executive Office of the President, “White House State of the Union Fact Sheet,” Washington, DC, Jan. 20, 1982, p. 17.

policy. The Federal Government would retain all functions related to safety, operational procedures, and airport certification. All ATC facilities (including those at airports) would continue to be installed and operated by FW.

Effects on the Federal Budget

This policy option would have no effect on the Federal budget since it would amount to a transfer (or revenue turnback) of Trust Fund tax revenues to the States. It would result in no financial gain or loss either at the Federal level or for the States individually and collectively.

Since Congress would still exercise control over Trust Fund outlays through its authorization and appropriation powers, the amount could be adjusted to any level deemed appropriate. Because of the responsibility vested in the States, the congressional process might be amended to include periodic consultation with the States about the magnitude of needs and the most pressing priorities. FAA might play a role in this, acting either as a clearinghouse for State assessments of their needs or as an independent advisor on the condition of the airport system nationwide and on the total capital investment required over any given period.

Effects on Airport Financing

Although the total funding for airports would not change from that available under present pol-

icy, the distribution of grants by class of airport would probably be somewhat different. Table 57 shows the breakdown that would occur if commercial service airports received half of annual Trust Fund outlays prorated by an enplanement formula and if the other half were distributed in equal parts to small commercial service, reliever, and GA airports. The distribution of the discretionary half could vary considerably from State to State. The equal three-way split shown in Table 57 is an approximation of how States in the aggregate might choose to act, based on the way that they have historically supported various classes of airports.

For commercial service airports, especially large and medium airports, the principal effect of this policy would be an assured and essentially predictable source of income that would be entirely under the control of the airport manager. The total amount available to large and medium airports might be slightly less than it is under present policy since it would be strictly limited to enplanement allotments. (These airports receive about the same enplanement money today plus a share of discretionary FAA grants for noise projects and other purposes.) Small commercial service airports, on the other hand, would probably receive more than they do under present policy. In addition to annual enplanement distributions amounting to about \$45 million, these airports might receive about one-third of State discretionary awards (\$133 million). This total of \$178

Table 57.—Federal Airport Aid (State Administration Policy)

Airport category	Number of airports	Average annual expenditures (1985-89) (millions, 1982 dollars)				
		Present policy ^a	State administration		Selective aid ^d	Defederalization ^d
			Enplanement ^b	Block grant ^c		
Large ^e	24	280	280	—	—	—
Medium ^e	47	80	75	—	—	—
Other commercial service ^e . . .	489	85	45	133	140	120
Reliever	219	80	—	133	130	115
General aviation	2,424	95	—	133	—	130
Other aid	—	180 ^f	—	—	75 ^g	75 ^g
Totals	3,203	800	800	345	345	440

^aAssumes that AIP outlays and the distribution formula currently authorized through 1987 are continued.

^bAssumes that half the current level of aid would go to large, medium, and other commercial service airports based on enplanements, with large airports receiving 70 percent, medium 20 percent, and other commercial service 10 percent.

^cAssumes that States will distribute block grants about equally among the other commercial service, reliever, and general aviation categories.

^dAssumes currently authorized levels of aid plus equal distribution of \$108 million in discretionary grants for airport categories that remain eligible for Federal aid.

^eLarge airports enplane more than 1 percent of all passengers; medium more than 0.25 percent. The other commercial service category includes 210 small primary airports (0.01 to 0.25 percent of annual enplanements) and 279 nonprimary airports enplaning at least 2,500 passengers annually.

^fMade up of \$108 million for discretionary grants, \$64 million for noise projects, and \$8 million for planning.

^gGrants for noise projects and planning at currently authorized levels.

SOURCE: Office of Technology Assessment.

million per year under the State administration policy would be double the \$85 million allocated to them by the present AIP distribution formula.²⁴

Reliever and GA airports would also be likely to receive more funding under the State administration policy than they do today. This is somewhat conjectural, however, since there is no way to predict how States might choose to allocate discretionary funds. Distribution of \$133 million per year to each of these two classes of airports assumed for illustrative purposes is by no means assured. Still, it seems reasonable to conclude that GA airports, at least, would fare better under State administration. State agencies have historically shown strong interest in GA airports, and more than half of all State-supplied airport funds typically go to such small facilities.

This policy might benefit general aviation airports in another way. At present, there are about 1,000 more airports in the aggregate of all State Airport System Plans than there are in the National Airport System Plan.²⁵ It seems likely that an airport program administered by the States would include all publicly owned airports within their boundaries and that the 1,000 or so not now eligible for Federal assistance would receive some part of State discretionary grants.

State administration might also have two favorable effects on all types of airports. First, availability of a substantial sum of money under State agency control might make it easier for some airports to obtain aid since they would have to compete for funds only with other airports in the State and not those in a region or the country as a whole. Second, grant applications and funding awards might be processed more promptly under a State-administered program than they are by FAA, which has jurisdiction over the entire country. State agencies and local airport authorities often complain about delays in securing FAA ap-

proval or in obtaining funds after grants are approved. By distributing these FAA functions to State agencies, this policy could afford airport operators more ready access to funding authorities, quicker administrative action, and less delay in the delivery of funds after the decision has been made.

Effects on Airport Users

For the users of airports now eligible for Federal grants, there would probably be little or no change under the State administration policy. At large and medium commercial service airports, the funds available for capacity-related improvements would be about the same as under present policy. Users of reliever and small GA airports could find these facilities improved due to the greater amount that might be awarded under State-agency administration. Overall, this policy would be unlikely to affect airport congestion and delay, except insofar as increased funding for reliever airports could hasten the expansion or upgrading of these facilities.

Effects on the Airport System

As postulated here, State administration would not alter the amount of funding available for airport development, but it would radically shift the present balance by allotting funds in roughly equal amounts among the five classes of airports. This would be achieved by reducing slightly the share for large and medium airports (compared to the present AIP formula) and reallocating these funds to the other three classes, along with that portion of Trust Fund outlays now reserved for FAA discretionary grants. In effect, this policy would devote half of annual Trust Fund outlays to airports serving airline passengers and the other half to those serving general aviation (with some degree of overlap of these two functions at many commercial service airports). Thus, this policy reflects the view that air transportation is of two kinds, with each entitled to more or less equal Trust Fund support. On one hand, there are common carriers providing public air transportation. On the other, there are those who use the airspace and airport system for private business and personal purposes that may also provide public benefit. By providing aid in an evenhanded way, this policy affirms the importance of both to interstate commerce and the public welfare.

²⁴Primary commercial service airports enplaning between 0.25 and 0.01 percent of total annual passengers are collectively entitled to about \$45 million under the current AIP authorization. Nonprimary commercial service airports (those with less than 0.01 percent but at least 2,500 passengers annually) are allotted 5.5 percent of Trust Fund outlays, which amounts to \$45 million per year under present authorizations for 1983-87.

²⁵In 1982, the State Aviation System Plans contained a total of 4,634 airports; the NASP had 3,599. *NASAO Databank 1983* (Washington, DC, National Association of State Aviation Officials, March 1983).