

The tenfold increase in general aviation user fees that would have to be imposed to recover fully air traffic control costs occasioned by general aviation would cause a measurable reduction in the amount of general aviation activity (see Chapter VII). This in turn would help diminish airport congestion, delay, and capital requirements. If user fees were recovered through fuel taxes on general aviation, the specific effects of the increase would depend on the relationship of fuel prices to overall flying costs, and on the sensitivity of users to fuel price increases. At present, fuel accounts for about 20 percent of annual general aviation's flying costs. Thus, though a \$1.20 per gallon fuel tax would increase fuel costs by some 85 percent, total flying costs would rise by only about 17 percent. The relatively small contribution that fuel makes to overall flying costs is reflected in the response of general aviation to past fuel price increases. Changes in general aviation activity as a result of higher fuel prices in the past have suggested that each price increase of 10 percent causes a reduction in general aviation activity of only 2 percent to 5 percent. Nevertheless, the 85 percent increase in fuel prices necessary to achieve full recovery of air traffic control costs might reduce general aviation activity by as much as 40 percent--enough to bring about a reduction in airport and airway congestion.



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## CHAPTER VII. AIRPORTS

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*The dominant problem of U. S. airports is congestion: 90 percent of all air passenger volume funnels through just 2 percent (66) of the nation's 3,159 public facilities. Over the 1970-1980 period, the federal share of airport capital costs was 38 percent, or \$15.3 billion. To meet expansion needs as estimated under current policy, federal outlays would have to increase nearly twofold. CBO's analysis concludes that these projected needs may be exaggerated for two reasons. First, the strong financial position of major airports and their relatively easy access to nonfederal capital, reinforced by high bond ratings, suggest that the current rather small federal role could be diminished still further. Second, general aviation, especially small aircraft used for business, is heavily subsidized in the use of airports and accounts for a major share of the traffic clogging those facilities. Federal airport expenditures are now fully recovered by charges to users of commercial airlines (as ticket taxes), while general aviation users pay very little. Thus, general aviation is encouraged to use major airports instead of the numerous satellite ("reliever") airports that could accommodate them. Several measures could help redistribute this traffic among existing facilities and/or raise funds to pay for expansion. Passenger fees for terminal use--now prohibited by federal law--and surcharges for peak-hour landings at large airports might somewhat reduce overall general aviation traffic and/or divert it to reliever airports and to off-peak hours of travel.*

### THE PROBLEMS IN AIRPORTS

The United States has more than 15,000 landing places around the country--more than all other nations combined--of which only 3,159 are publicly owned, open for general use, and equipped with at least one paved and lighted runway. Many large commercial airports are operated by independent public bodies with authority to issue bonds. Of these, more than 2,300 (75 percent) are used exclusively by small "general aviation" aircraft--planes owned by individuals or private corporations for business

use or recreation. Only the remaining 780 airports are served by scheduled airlines or by commuter and air taxi operators. Even at many of these, business jets and other general aviation aircraft often account for a major share of take-offs and landings. Since airline deregulation in 1978, another important factor contributing to congestion has been the tendency of many major air carriers to concentrate operations at certain regional hubs.

The nation's number-one airport problems are congestion and delay, which result in millions of dollars of increased operating costs for airlines and wasted time for travellers. As a cause of inefficiency in aviation activity at major commercial airports, congestion appears to outweigh deferred maintenance. Although deterioration has been cited as a problem at small airports, it has not resulted in unsafe flying conditions. 1/ The economic and environmental consequences of congestion are concentrated at a very few major airports. Just 2 percent of all public airports--the 66 largest--serve almost 90 percent of the nation's passenger traffic (see below). At least 11 of these airports already encounter severe traffic congestion or will soon, and traffic growth could soon cause congestion to spread to other airports. At growth rates projected by the Department of Transportation's Federal Aviation Administration (FAA), 23 commercial service airports will be severely congested by the end of this decade and perhaps as many as 46 will be by the end of the century. 2/

The airport congestion problem has two dimensions: space and time. First, because it is concentrated at a few facilities, it leaves other facilities underused--notably, smaller airports ("relievers") within easy flying distance of major ones. For example, nearby Cleveland's Hopkins International airport, five lesser airports are available within a 21-mile radius to relieve congestion at Hopkins. Second, travel schedules converge at peak periods each day, concentrating most landings and take-offs on short peak periods and leaving much of the day relatively free of congestion. To date, few efforts have been made to correct either of these imbalances.

Airport congestion has already exacted high economic costs. In 1980, the airlines spent an estimated extra \$1 billion in crew time and fuel, wasted more than 700 million gallons of jet fuel, and delayed airline

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1. See General Accounting Office, Runways At Small Airports Are Deteriorating Because of Deferred Maintenance: Action Needed by FAA and the Congress (September 13, 1982).
  2. See Federal Aviation Administration, National Airspace System Plan (December 1981).

passengers by fully 60 million hours. <sup>3/</sup> Unless steps are taken either to increase airport capacity or to improve the use of existing capacity, these costs could double within five to ten years.

CURRENT POLICY IN AIRPORTS

In 1946, recognizing that an adequate system of airports was a matter of national concern, the Congress authorized the Federal-Aid Airport

<u>Type of Airport</u>	<u>Number a/</u>	<u>Percent of Commercial Air Travelers</u>
Commercial		
Large	25	70
Medium	41	18
Small <sup>b/</sup>	<u>780</u>	<u>12</u>
Subtotal	780	100
General Aviation		
Reliever	155	No
Other	<u>2,224</u>	data
Subtotal	2,379	
Total	3,159	

- a. Public-use airports with at least one paved and lighted runway.
- b. Includes FAA-certified commuter and air-taxi airports.

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3. Congressional Budget Office on the basis of data in General Accounting Office, Aircraft Delays At Major U. S. Airports Can Be Reduced (September 4, 1979), and Mitre Corporation, Survey of 101 U. S. Airports for New Multiple Approach Concepts (September 1981).

Program. Today, the FAA manages the user-supported Airport and Airway Improvement Program, under which the federal government offers airport authorities matching grants of 50 percent to 94 percent for construction and rehabilitation. Federal capital spending on airports is financed by user fees, chiefly levied as taxes on domestic airline tickets and general aviation fuel. These taxes, which originated in 1933 and 1941, were not formally linked to expenditures until 1970, when the Airport and Airways Revenue Act established the Airport and Airways Trust Fund. This fund is supported mainly by an 8 percent tax on domestic passenger tickets and a 14-cents-per-gallon tax on general aviation jet fuel (12 cents for gasoline). <sup>4/</sup> Collections from user fees are distributed to major airports in the form of matching grants determined by a formula based on passenger volume. Collections are distributed to smaller airports in the form of block grants to states. By 1982, the federal government was spending a yearly total of \$410 million dollars for airport capital improvements. Over the next five years, it plans to double annual capital expenditures, bringing a year's outlays to \$900 million in 1987 (see Table VII-1).

#### Total Investment and Trends in Cost Sharing

Since 1960, cumulative investment in the nation's airports have totaled \$25.1 billion, of which the federal share accounts for \$9 billion, or just above one-third. <sup>5/</sup> These overall data mask wide fluctuations in the year-to-year federal share of total airport investment, however. Between 1973 and 1977, the federal share swung from a post-1970 low of 20 percent to a high of 85 percent (see Figure VII-1). Such swings have resulted from extreme changes in the mix and total volume of airport investment, rather than from shifts in federal outlays, which have remained relatively stable since 1970. Peak investment in 1973, for example, was the result of very large capital outlays by some of the nation's largest commercial service airports, which rely for investment capital on debt financing rather than on the federal government. On the other hand, many small airports, particularly general aviation airports, earn revenues insufficient to cover debt service; these airports tend to rely much more heavily on federal money. In 1977, a year of low overall investment in which much spending probably reflected general aviation airport improvements, the federal share exceeded

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4. The general aviation user fees were increased from 7 cents per gallon under the Airport and Airways Revenue Act of 1970 to 14 cents under the Airport and Airway Improvement Act of 1982.
  5. This excludes tax expenditures stemming from tax-exempt bond sales issued by municipal and airport authorities.

TABLE VII-1. FEDERAL CAPITAL EXPENDITURES ON AIRPORTS  
UNDER CURRENT POLICY (In millions of dollars)

	1982	1983	1984	1985	1986	1987
All Airports <u>a/</u>	402.1	532.5	785.3	886.8	989.6	902.2
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Commercial						
Large	100.0	138.6	204.4	230.8	233.9	234.8
Medium	53.9	74.5	109.9	124.0	125.7	126.2
Small	<u>133.8</u>	<u>185.2</u>	<u>273.1</u>	<u>308.5</u>	<u>312.6</u>	<u>313.8</u>
Total	287.7	398.3	587.4	663.3	672.2	674.8
General Aviation						
Reliever	49.1	72.4	106.8	120.6	122.2	122.7
Other	<u>65.3</u>	<u>61.8</u>	<u>91.1</u>	<u>102.9</u>	<u>104.2</u>	<u>104.7</u>
Total	114.4	134.2	197.9	223.5	226.4	227.4

SOURCE: Congressional Budget Office from data supplied by Airport and Airway Improvement Act of 1982, Surface Transportation Assistance Act of 1982, and Federal Aviation Administration.

NOTE: The categories "large," "medium," and "small" are no longer in use as a basis for distributing federal funds. These designations are used here for convenience only. The distribution of federal funds to airports of different types is not fully specified by law; the figures here are rough estimates, based in part on historical spending patterns. All estimates are preliminary.

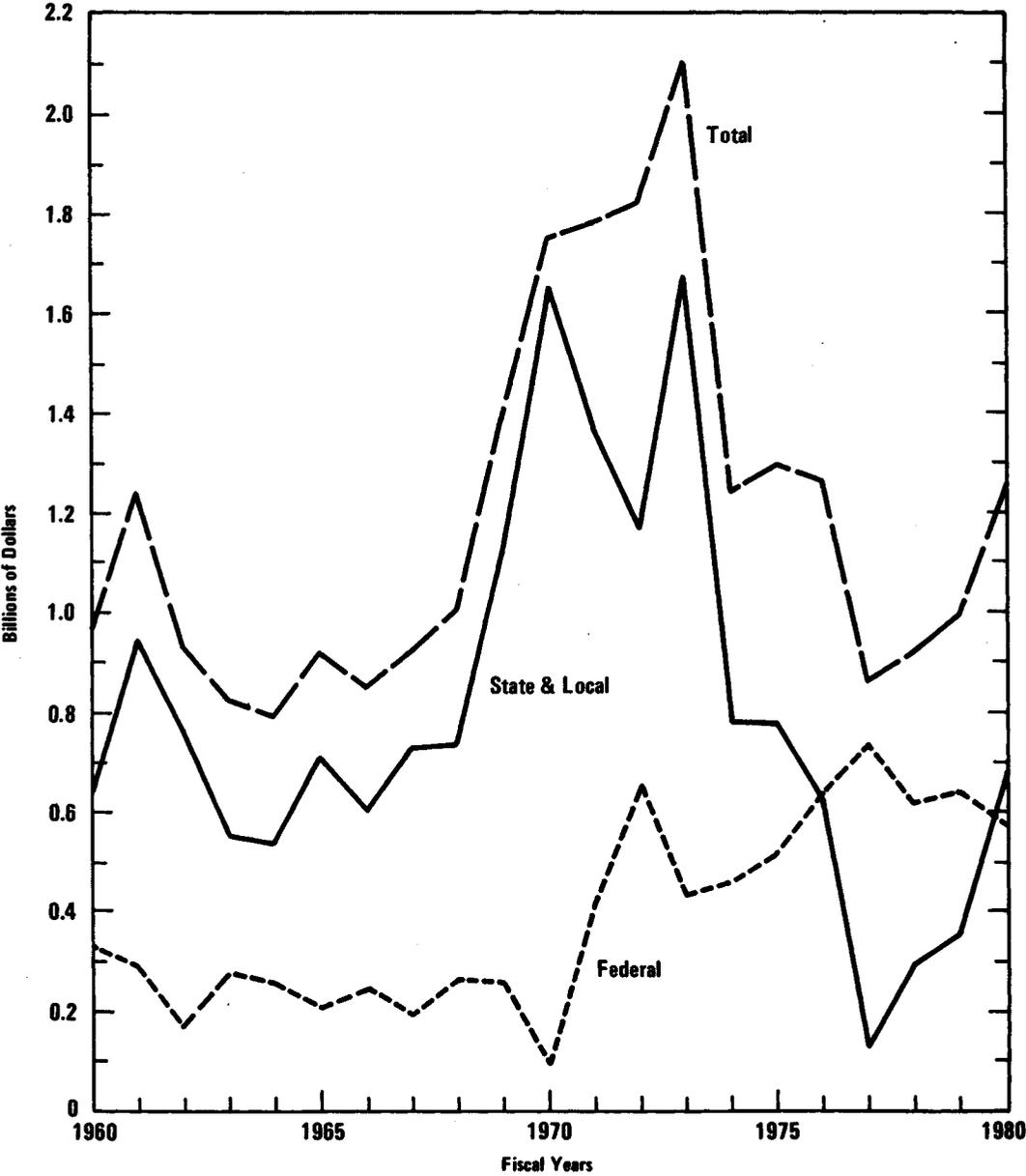
a. Annual budget authority for the years 1983-1987 was \$0.8 billion, \$0.99 billion, \$0.99 billion, \$1.0 billion, and \$1.0 billion.

80 percent. The state share of airport investment has remained fairly stable since 1970, at about 11 percent. 6/

6. From National Association of State Aviation Officials.

Figure VII-1.

The Federal, State, and Local Shares of Public Spending on Airports, 1960-1980



SOURCE: Congressional Budget Office based on data provided by Federal Aviation Administration, and U.S. Department of Commerce, Bureau of the Census.

## Federal Expenditures

Although federal airport spending (in constant dollars) has remained fairly stable since 1970 at about \$600 million a year, investment has diversified. The federal Airport and Airway Improvement Program targets funds to both air carrier airports and 2,224 general aviation facilities. Moreover, it channels capital grants-in-aid to 155 reliever airports. Active efforts to develop reliever airports left from zero to \$35 million between 1970 and 1980 (see Figure VII-2). Federal investment in general aviation airports also grew steadily throughout the 1970s, and under current policies, outlays in real dollars will triple again by 1987 (see Figure VII-2).

## Major Airport Investment Needs Under Current Policy

The growth in general aviation has been a major factor in the assessment of airport investment needs. Since 1970, the number of general aviation aircraft in use grew by 63 percent to 213,200 in 1982, and the number of hours flown increased by 67 percent. At the same time, with the introduction of wide-body jets, the number of commercial aircraft in use actually declined by 7.8 percent, from 2,690 to 2,483. As a result, general aviation traffic now exerts particular pressure on the capacity of major commercial airports, representing well over half of all landings and departures at many major air carrier airports.

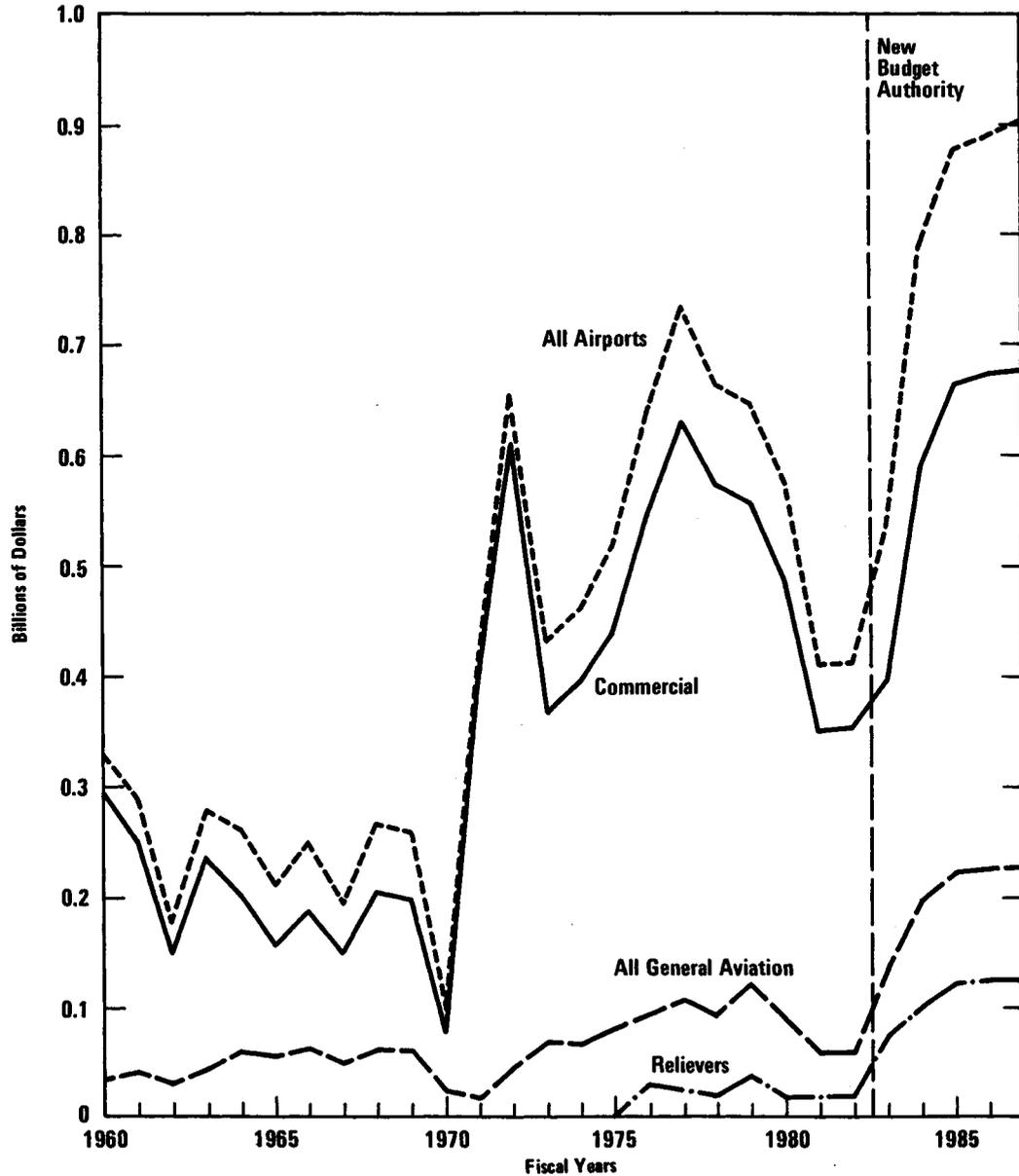
The resulting congestion has led the FAA to project a need for substantial investment in additional airport capacity, upgrading, and maintenance. Together with demand for additional general aviation facilities, annual airport investment needs, according to CBO's preliminary reestimates, will be some \$1.5 billion between 1983 and 1990, of which the federal share would be about \$0.9 billion.<sup>7/</sup> Of this sum, roughly \$1 billion a year would be needed to correct all present and projected deficiencies at air carrier airports; 68 percent of this total would pay for additional capacity (see Table VII-2).

Besides generating investment needs at air carrier airports, the dramatic growth in general aviation would give rise to an estimated annual investment requirement exceeding \$500 million if the demand for facilities is to be matched by the supply of general aviation airports. Of this total, about one-quarter reflects maintenance, upgrading, and construction of reliever airports. A further one-fifth represents construction of new airports in small communities where no general aviation facilities now exist;

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7. See Federal Aviation Administration, National Airport System Plan, Revised Statistics, 1980-1989, reestimated by CBO.

Figure VII-2.  
**Actual and Projected Federal Capital Spending on Airports  
 by Type of Airport, 1960-1987**



SOURCE: Congressional Budget Office based on data provided by the Federal Aviation Administration.  
 NOTE: Outlay figures for 1983-1987 are based on authorizations in the Airport and Airways Improvement Act of 1982.

TABLE VII-2. ANNUAL AIRPORT CAPITAL NEEDS, 1983-1990  
(In millions of dollars)

	Expanded Capacity	Upgrading	Maintenance	Estimated Total Needs
<b>Commercial Air Carrier</b>				
Large	310	55	68	433
Medium	149	32	18	199
Small <sup>a/</sup>	<u>230</u>	<u>72</u>	<u>80</u>	<u>382</u>
Total	689	159	166	1,014
<b>General Aviation</b>				
Reliever	75	30	15	120
Other	<u>234</u>	<u>90</u>	<u>63</u>	<u>387</u>
Total	309	120	78	507
All Airports	998	279	244	1,521

SOURCE: Congressional Budget Office reestimates of data in Federal Aviation Administration, National Airport System Plan, Revised Statistics, 1980-1990, and National Aviation System Development and Capital Needs for the Decade 1982-1991 (December 1980), and General Accounting Office, Developing A National Airport System: Additional Congressional Guidance Needed (April 17, 1979).

NOTE: Among the projects included are those not now eligible for federal grants. Ineligible projects include certain revenue-producing components of terminal buildings and hangars (such as duty-free shops and airline maintenance services).

- a. Total includes \$144 million for small city airports, and \$283 million for rural airports. The total for large, medium, and small city airports is \$776 million.

these airports would serve primarily private business and recreational planes, and possibly commuter or air taxi operations as well. General aviation investment also includes \$175 million a year--35 percent of the total--for additional airplane "tie-downs" (parking places). Tie-down space is sorely lacking at many general aviation airports.

### EFFICIENCY OF CURRENT AIRPORT PROGRAMS

The FAA's projections of airport needs appear overstated when subjected to three questions:

- o Would the demand for airport facilities remain as high as it is now if users were charged in proportion to the costs they impose?
- o Do all these needs represent facilities of interest to the economy as a whole, or are some of primarily local interest?
- o Might nonfederal financing resources prove sufficient to provide the investment capital needed?

### The Demand for Airport Facilities

Airport project investment lends itself especially well to a test of economic efficiency constructed of user fees and users' willingness to pay them. If general aviation users, who have multiplied dramatically under federal subsidies, had to pay the full costs of the airport investments occasioned by that growth, the demand for such investments would probably decline. (As a measure of the magnitude of this subsidy, recovery of all the costs that general aviation imposes on the airport and airways system would require that the taxes paid by private plane owners increase from the current 12 cents per gallon of gasoline and jet fuel to about \$1.20 per gallon--see Chapter VI.) Accordingly, if investments were tailored to that diminished demand, fewer airport improvements would be necessary. Conversely, if demand did not decline, then the revenues would be available to pay for these investments, and the federal government, as investor, could reasonably conclude that high economic efficiency had been achieved.

The structure of user fees, however, has as important a part to play in relieving congestion as does the level of fees. Even if all users paid their full share of federal airport investments (as commercial airline users now do), the structure of local user fees could still result in excessive demand for airport expansion. This is because air traffic congestion, and thus pressure to expand airport capacity, occurs daily during periods of peak

demand--usually in the morning and in the late afternoon, when most passengers and general aviation users find it convenient to travel. Local user fees, in the form of landing charges, do not reflect the high capital costs of congestion during periods of peak demand. Rather, landing fees are commonly determined on the basis of aircraft weight and do not vary by time of day (see Table VII-3). <sup>8/</sup> Few airports impose special peak-period fees--a practice used in some other modes of travel in the United States and common abroad--since the existing fee structure has been established in long-term contracts between airport and airline managers, and many such contracts prevent airport managers from levying peak-hour charges. The practice followed by the Port Authority of New York and New Jersey, which operates LaGuardia, Kennedy, and Newark airports, is a notable exception. Peak-hour fees at these facilities, instituted in 1968 by quintupling the off-peak charge (from \$5 to \$25) and doubling it again in 1979 (to \$50), resulted in a marked decline in takeoff and landing delays.

If airports charged higher landing fees during peak periods to reflect the costs of congestion, all users would be encouraged to make use of airport time and space capacity that goes to waste under the current structure of local user fees. Since fees for light planes would increase markedly, many general aviation users would pay increased rates, while others would choose to take advantage of less congested reliever airports. The FAA has estimated that, if peak-hour surcharges were imposed and improvements in air traffic control made (see Chapter VI) simultaneously, some 80 percent of the costs of air carriers delays anticipated at the nation's 25 largest airports over the coming quarter century could be eliminated. <sup>9/</sup> (Again, of course, if travel patterns did not shift as envisioned, increased collections could finance the needed expansion.)

The amount by which the demand for new air carrier facilities might decline is difficult to estimate. Preliminary CBO projections suggest, however, that peak-hour surcharges could significantly delay the need for expansion at air carrier airports. For example, the construction of additional runways might be postponed as long as eight years at Phoenix Sky

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8. To be sure, heavy aircraft, such as large commercial airliners, do cause greater runway wear than do lighter planes, suggesting that weight-based landing fees are a good approximation of the maintenance costs occasioned by each airplane. But this is already reflected in current fees--light planes pay as little as one-twentieth the rates that heavy planes pay, regardless of traffic conditions, as shown in Table VII-3.
  9. See Federal Aviation Administration, "Policy Analysis of the Upgraded Third Generation Air Traffic Control System" (January 1977), p. 71.

TABLE VII-3. LANDING FEES AT FIVE MAJOR U.S. AIRPORTS IN 1978, BY AIRCRAFT TYPE (In dollars)

Aircraft by Type of Use and Passenger Capacity	Atlanta	Los Angeles	La Guardia <u>a/</u>	Washington National	Denver
DC-10-30 (Air carrier-- 240-270 seats)	169	81	669	<u>b/</u>	111
Boeing-727-200 (Air carrier-- 120-140 seats)	63	30	249	47	41
Boeing-737-200 (Air carrier-- 115-120 seats)	43	21	171	33	28
Swearingen Metro (Air taxi-- 19-20 seats)	7	3	27	5	5
Learjet 25B (General aviation-- 8 seats)	6	3	25	5	3

SOURCE: Congressional Budget Office from General Accounting Office, Aircraft Delays at Major U. S. Airports Can Be Reduced (September 1979).

- a. Reflects peak-hour charge imposed at airports run by the Port Authority of New York and New Jersey.

Harbor Airport, up to five years at Memphis International, and three years at San Diego's Lindbergh Airport. As Table VII-4 demonstrates, the length of time of potential postponements in expansions correlates directly with the portion of each airport's use accounted for by general aviation.

TABLE VII-4. SELECTED POTENTIAL AIRPORT EXPANSION POSTPONEMENTS AS A FUNCTION OF GENERAL AVIATION USE

Airport	General Aviation Share of Total Operations (1981)	Estimated Postponements with General Aviation Paying User Fees Set at Full Cost Recovery
Phoenix (Arizona) Sky Harbor	58 percent	8 years
San Diego (California) Lindbergh	31 percent	3 years
San Jose (California) Municipal	84 percent	7 years
Denver (Colorado) Stapleton	21 percent	2 years
Ft. Lauderdale (Florida) International	64 percent	4 years
Nashville (Kentucky) Metropolitan	61 percent	5 years
Detroit (Michigan) Metropolitan	25 percent	5 years
Cleveland (Ohio) Hopkins	37 percent	3 years
Memphis (Tennessee) International	45 percent	5 years

SOURCE: Congressional Budget Office, adapted from Federal Aviation Administration, Analysis of Non-Capital Alternatives for Handling General Aviation Activity at Busy Airports (August 1977).

NOTE: Estimated postponements based on anticipated dates when current airports will be operating at full capacity ("saturation") and assumes reliever airport capacity to be adequate.

### National Significance of Airport Needs

Not all the airport needs reported in Table VII-2 necessarily represent investments that would contribute to a nationwide system of interconnected air routes. Of the 780 air carrier airports, only 66 are needed to serve the bulk of all commercial airline traffic. And of the 2,379 facilities serving general aviation, only the 155 reliever airports are needed to help reduce congestion at major air carrier facilities. The remaining 2,224 general aviation airports in the National Airport System Plan serve needs that are primarily local. A general aviation airport qualifies as having "national significance"--the criterion for inclusion in the federal plan and eligibility for aid--if it is publicly owned, accommodates a certain minimum aircraft load, and serves a community located 30 minutes or more in flying time from another existing or proposed airport in the plan. <sup>10/</sup> This definition does not take account of the nature of traffic served, and it allows the inclusion of a major share of the nation's public-use general aviation airports. Altogether, investments in the 2,224 general aviation airports of primarily local interest account for \$387 million (or more than three-fourths) of the \$506 million annual investment needs the FAA projects. This implies that a significant portion of the federal investment in general aviation airports would be eliminated under a more restrictive definition of "national significance."

### Financial Self-Sufficiency

Financial condition can be an important determinant of need for federal aid. Airports differ markedly from one another in their need for federal aid to finance capital improvements. As a rule, larger air carrier airports are in better financial shape than smaller ones. Though they do not have the financial standing to obtain credit or carry sizable debts, nonetheless general aviation airports appear to have considerable unused revenue-raising potential from users rather than debt markets.

Large Air Carrier Airports. More than half the total annual estimated airport needs--up to \$776 million a year--occur at air carrier airports that appear able to finance themselves; in the past, these facilities have relied on federal aid only to a small degree. Direct federal funds now appear to account for 20 percent or less of total investment monies at large

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10. The minimum load capacity stipulated by the FAA is based not on number of aircraft but on number of engines, and the minimum standard is ten engines. The standard thus allows ten single-engine planes (usually 2-4-seaters), five twin-engine planes (4-8-seaters), and so forth. These standards are currently under review by the FAA.

airports, the balance being drawn primarily from the issuance of tax-exempt revenue bonds, retained earnings, and other nonfederal sources. <sup>11/</sup> By contrast, the revenue generated at many public-use airports is insufficient to make any payments toward capital investments.

In general, the larger air carrier airports appear able to meet their debt service requirements from operating income from such sources as landing fees, terminal concessions, and parking revenues. <sup>12/</sup> This is because airport costs represent only a very small share of total airline operating expenses, giving airport managers considerable leverage to increase fees in order to finance capital improvements. Thus all large and medium-sized airports carry bond ratings graded in the Baa to Aaa category, meaning that they are regarded as good investments with little speculative risk.

Despite the traditional financial well-being and favorable position of major airports in the tax-exempt bond market, airport managers must compete in financial markets in which uncertainty about interest rates and demand for tax-exempt bonds are high. <sup>13/</sup> Against these odds, airport managers nonetheless are finding ways to maintain access to private investment. Three such strategies stand out: use of taxpayer credit, improved bond marketability through "creative finance," and improved flexibility for timing the issuance of long-term debt. Short-term trends indicate some success with these strategies at many large airports. Although ten airport revenue bonds were issued in 1981--two fewer than in 1980--the dollar volume increased a significant 63.7 percent, from some \$339 million in 1980 to \$555 million in 1981. It is noteworthy that the volume of bond sales in 1981 was roughly equivalent to projected annual needs at large and medium-sized airports, as reported in Table VII-2, indicating that the airport bond market is fully capable of supporting a large expansion program.

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11. These estimates are preliminary. Further analysis is being conducted for forthcoming CBO study on airport financing.
  12. See Federal Aviation Administration, Investment Needs and Self-Financing Capabilities: U. S. Airports, Fiscal Years 1981-1990 (July 1978), and The Airport Passenger Head Tax, Analysis of its Potential Impact (July 1974).
  13. See Roger H. Bates, Airport Financing: Whither (or Wither) the Market, 1982 Airport Operators Council International Economic Speciality Conference, Sacramento, California (March 31, 1982).

Longer-term trends are more difficult to gauge. On the one hand, two important developments--federal deregulation and rising fuel costs--seem to have had little negative impact on most large airports' finances. Analysis indicates continued growth in net revenues and maintenance of generally adequate coverage of debt service on airport revenue bonds. Some airports, usually medium-sized and large ones, have actually benefited from deregulation and the resulting ease of access to travel markets for certain carriers. On the other hand, airline deregulation might actually increase borrowing costs at certain airports, diminishing access to private capital. This is because deregulation released airlines from all obligations to serve any particular airports. In response, bond-rating agencies (Standard and Poor's and Moody's) have started rating the creditworthiness of airports on the strength of local economic bases, not simply on the basis of use by financially stable airlines. The rating agencies reason that, if one airline withdraws service, a strong local economy would simply attract other airlines to pick up the travel business. Conversely, airports in parts of the country that are in relatively weaker economic shape might now represent more speculative investments than they did before deregulation. 14/

Regulatory barriers to increasing rates and charges could also hamper the ability of air carrier airports to take full financial responsibility for all needed development, even at the financially strongest air carrier airports. Airport managers have little control over the structure and level of charges. For example, the "head tax"--a charge to each passenger for use of terminal facilities--was banned by the Congress in 1973, in part because some cities were diverting airport revenues to help finance other unrelated investments. 15/ Revenues from other major sources are established in binding leases and contracts for specified periods of time, sometimes longer than 20 years. Only as leases and contracts expire do opportunities to raise rates and charges arise. For concession contracts, the extent of the opportunity depends on market forces. Concessionaires bid on concession contracts, and airport managers are not in a position to demand any specific level of revenue.

Despite these obstacles, the financial needs at large air carrier airports need not be equated with requirements for federal aid. Although regulatory barriers to the application of certain user fees could prevent some airports

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14. For example, the bankruptcy of Braniff Airways in 1982 had no impact on the bond ratings of Dallas-Fort Worth International Airport; ratings held firm presumably on the growing strength of southwestern economies.

15. Under the Airport Development Acceleration Act of 1973.

from financing all planned development, airlines might be willing to renegotiate contracts if the advantages seemed worthwhile. Exceptions to these conclusions might apply in the case of airports located in declining regions or those experiencing unforeseen financial difficulties.

Small Air Carrier Airports. Though most large air carrier airports appear financially able to meet their own capital needs, the smallest air carrier airports cannot. Changes in the bond rating process reviewed above make small airports in thin travel markets even greater credit risks than they used to be before airline deregulation. And any action by such airports to raise landing fees to finance airport improvements could lead the airlines to withdraw service. Of course, unwillingness to pay on the part of airline managers could signal that the proposed improvements are not economically attractive. But many of these smaller airports serve small rural communities, and reductions in airline service could hasten those areas' economic decline. Federal assistance might thus be justified as a means of preserving regional balance. Though the precise number of air carrier airports in this position is difficult to estimate, they probably account for \$150 million to \$240 million of the improvement needs--10 percent to 16 percent of total needs displayed in Table VII-2.

General Aviation Airports. General aviation airports--with their low landing fees and tie-down charges--offer the greatest opportunity to move toward self-financing of capital improvements. Many of these airports, though publicly owned, are operated and managed by private operators who charge for their services and remit a portion of their revenues to the airport owners. Although general aviation users have cause not to welcome landing fees, many of the airports they use could substitute such local fees for federal grant assistance.

Exceptions might apply in the case of general aviation reliever airports, especially those that present direct competition to major commercial airports. Major airports attract general aviation business by offering services superior to those available at most reliever facilities (better runway lighting and landing aids, for example), while charging users less than their associated costs, especially during peak periods. This attraction shrinks the revenue base of reliever airports, diminishing their ability to compete by improving service; it also adds pressure to expand runway capacity at commercial airports, even though capacity already exists at nearby reliever facilities. Although charging higher fees at commercial airports would be the most direct means of correcting this imbalance, to the extent that federally subsidized development at reliever airports encouraged

general aviation users to switch, there might be an economic advantage in offering such subsidies. 16/

### FEDERAL STRATEGIES TO IMPROVE AIRPORT INVESTMENT

Under current policy, total federal grant monies to airports would average \$800 million a year between 1983 and 1987. Although the FAA projects that revenues from user fees would suffice to cover the full costs of all these federal expenditures, general aviation users would be heavily subsidized by commercial airline passengers. As a group, general aviation users would pay less than one-fifth of their allocated share of federal airport costs. Currently authorized grants for airport development would cover roughly half the nation's annual air carrier and general aviation airport investment needs as estimated by the FAA. The 66 largest air carrier airports--those handling nearly all commercial passenger traffic--appear financially able to meet at least the remaining 50 percent of their annual capital needs, which are estimated to total \$200 million; without federal assistance, these airports could probably self-finance a great deal more development than they now do. Thus there is no compelling evidence that finances would stand as a barrier to airport development under current policy. (Other barriers might still exist, of course. In many cases, for example, land suitable for airport development may not be available.) Nevertheless, the inefficiencies inherent in current policy--notably, the heavy subsidization of general aviation--suggest consideration of other strategies.

#### Eliminate Federal Assistance and Permit Greater Application of User Fees

One strategy for shifting federal airport policy would entail withdrawing federal airport grants, enabling air carrier airports to charge for use of passenger facilities (that is, reinstating head taxes), and allowing imposition of peak-hour surcharges.

Budgetary Implications. This course would eliminate the federal government's direct financial role in airport development, saving the government the full \$800 million it is projected to spend each year until 1987. Offsetting this gain, however, federal tax expenditures through the

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16. In economic jargon, this is equivalent to "second-best" pricing as a means of offsetting a market externality; see S. Glaister, "Generalized Consumer Surplus and Public Transport Pricing," The Economic Journal (December 1974).