AIRPORT and AIRWAY CONGESTION

A Serious Threat to Safety and the Growth of Air Transportation

REVISED

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.

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A Serious Threat to Safety
and
The Growth of Air Transportation

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The mission of the Aerospace Research Center is to engage in research, analyses and advanced studies designed to bring perspective to the issues, problems and policies which affect the industry and, due to its broad involvement in our society, affect the nation itself. The objectives of the Center's studies are to improve understanding of complex subject matter, to contribute to the search for more effective government-industry relationships and to expand knowledge of aerospace capabilities that contribute to the social, technological and economic well being of the nation.

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SUMMARY AND CONCLUSIONS

The problems resulting from the rapidly growing congestion at airports and in the airways are a major concern to the traveling and shipping public, general aviation, Congress, the Federal Aviation Administration, the airlines, airport management, and aircraft and engine manufacturers.

The principal detriments resulting from congestion are:

- Increased airline operating costs due to delays which waste fuel and crew time and disrupt normal operations.
- Constriction of the future growth of air transportation.
- Inconvenience, and loss of much valuable time, to the traveler and shipper.
- The potential to threaten safety in the air.

Congestion problems are increasing rapidly and, in spite of a multitude of warnings, plans and programs to take corrective action have been entirely inadequate. The major congestion problems and their potential solutions are reviewed briefly beginning on page 13 of this report.

The FAA has reported that aircraft congestion in the air around airports cost the air carriers approximately $200 million per year during the early 1970s. The impact of delays is highlighted by a comparison of the estimated cost of delays for just three major U.S. airlines in 1979. Costs for these airlines in that year were $298 million. These delay costs were more than the average annual net after tax profits of $284 million for all U.S. trunk airlines during the ten years prior to 1981. One large U.S. airline reported that its delay costs in 1979 were 7.5 times its delay costs in 1969.

One of the primary sources of funds for development and construction of airport and airway system improvements in the United States has been the Airport and Airway Trust Fund. Much of the available funding from this program, however, has not been allocated and spent to relieve congestion. This has resulted in an uncommitted Trust Fund surplus which reached $3.8 billion as of September 30, 1980.

The Trust Fund was established by the Airport and Airway Development Act of 1970. That Act, as amended through 1976, expired on September 30, 1980. Since then, user taxes have gone into the General Fund rather than the Trust Fund; as a result, the balance in the Trust Fund has been declining. Several bills were introduced in 1980 to continue the airport and airways development program but no agreement was reached between the House and Senate. New legislation was introduced by the Senate, House, and the Administration early in 1981. The Administration's measure (H.R. 2930) calls for diverting a major portion of the Airport and Airway Trust funds to pay for the operations of the Air Traffic Control system. This bill and that proposed by the Senate (S. 508) contain a controversial provision which would remove the largest airports from grant-in-aid funding. The House measure (H.R. 2643) essentially continues the existing program. All bills call for increased funding for facilities and equipment.

CONCLUSIONS

1. We are running out of time in which to solve the airport and airway congestion problems which result in delays, excessive costs, and waste of fuel. Occasional periods of low aviation growth or overriding factors that temporarily reduce congestion, such as the 1981 air controllers' strike, must not be allowed to reduce the sense of urgency behind the need to solve the long-range congestion problems.
2. It is clear from current and serious airport and airway congestion problems and from forecast increases in traffic, that any new airport and airway legislation must provide adequate funds to solve the congestion problems as quickly as possible.
3. Although money has been available from the Airport and Airway Trust Fund to meet a substantial part of the needs, a large uncommitted balance accumulated ($3.8 billion at the end of FY 1980). This was due in large part to lack of an effective national airport and airway system development plan; lack of sufficient appropriations; and the inclusion of the Trust Fund in the unified budget, which results in an incentive to avoid drawing upon the Trust Fund.
4. The uncommitted Trust Fund balance ($2.9 billion forecast at the end of FY 1981), plus new funding, must be

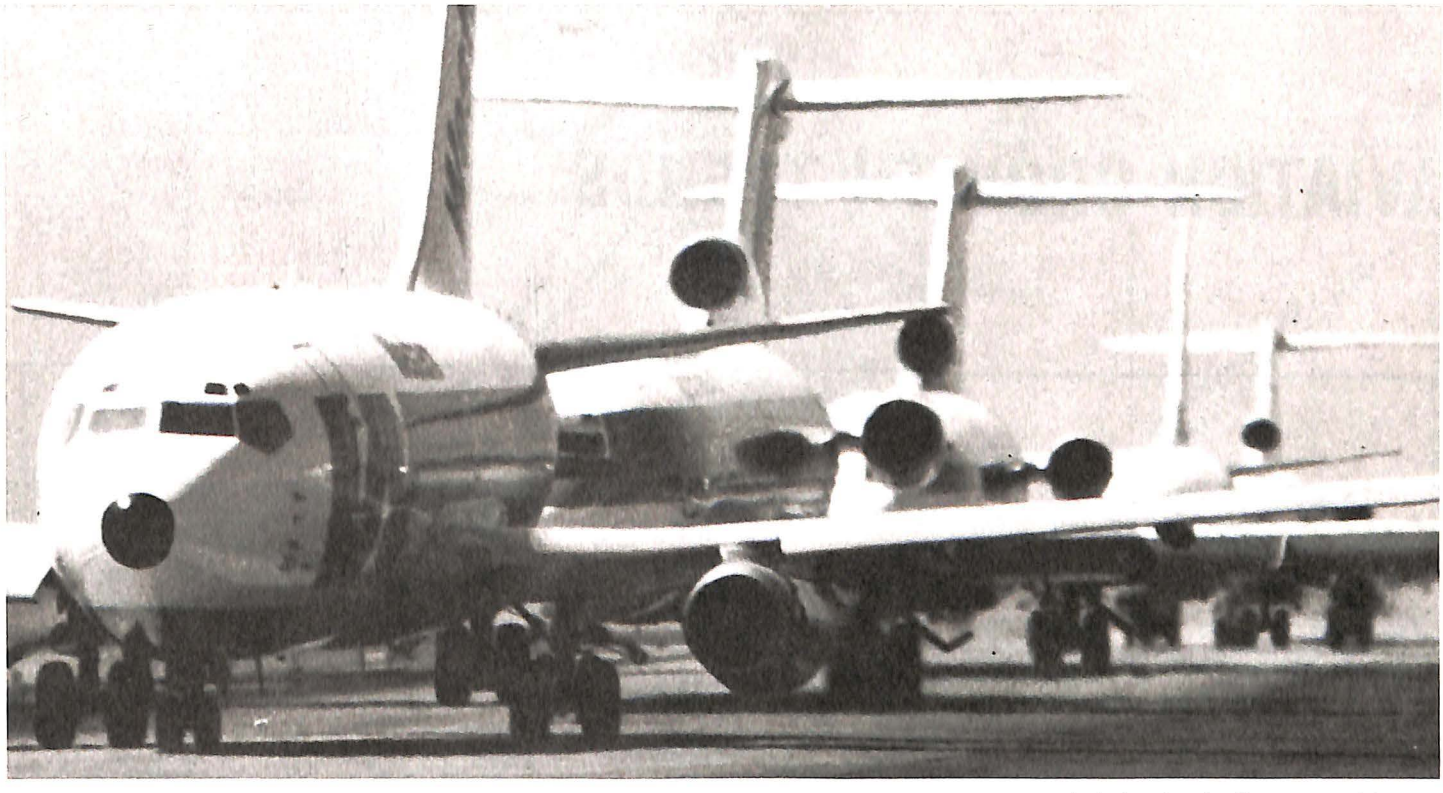


photo: Los Angeles Department of Airports

spent to improve the airports and airways and to relieve congestion. Arbitrary restraints on use of the Trust Fund should be removed. Funding has not kept pace with inflation.

5. The integrity and the original intent of the Airport and Airways Trust Fund, as legislated in 1970, should be maintained. The user tax, the basic source of revenue for aviation needs, should continue to be collected for:
   - airport safety and capacity development (Grants-in-Aid)
   - funding airways and air navigation hardware (F&E)
   - research and development (R&D)

   Appropriate tax levels should be set to meet these needs. Funding of any operational and maintenance (O&M) expenses from the Trust Fund should only be made after these other needs are met (ref. 6).
6. Provisions of the Airport and Airway Development Act of 1970 include the requirement for a National Airport System Plan. Plans have been issued infrequently. A current, viable, comprehensive plan should be developed and updated annually.
7. The Grants-in-Aid Program funding from the Trust Fund has not kept pace with airport development and improvement requirements.
8. The Airport Development Aid Program (ADAP) and planning grant programs should be expanded to cover privately-owned public-use airports which serve as reliever airports.
9. Air Traffic Control (ATC) system developments have not been made fast enough to meet congestion alleviation requirements.
10. New legislation should require that a comprehensive, long-range airport and ATC program plan be established complete with system objectives, solutions to congestion problems, time schedule, funding requirements, and a program for execution. This plan must be dynamic and responsive to changing requirements, technological developments and economics of the overall air transportation industry.
11. Safety can be improved and congestion-caused delay and inefficient flight operations can be alleviated by development and implementation of a time-based Integrated Flow Management system which exploits the capabilities of modern aircraft and flight management systems, and exercises control using airborne four-dimensional (4-D) navigation and guidance.
12. ATC system development to alleviate congestion requires that the Federal Aviation Administration (FAA) be provided with continuity of responsibility and technical competence to see programs through to implementation.
13. The level of R&D funding provided to the FAA is inadequate to support development of a high-technology system such as the ATC system. The annual R&D budget should be increased to approximately $300 million by FY 1983.

AVIATION GROWTH TRENDS

Current airport and airway congestion problems are a result of the generally high rate of growth in commercial and general aviation, combined with inadequate expansion of airport and airway systems capacity.

Total U.S. passenger traffic on international and domestic scheduled flights has increased as shown in Table 1 and in Figure 1 (ref. 1). There has been a similar growth in air cargo traffic, both domestic and international, at U.S. airports (ref. 1). FAA forecasts for the years 1992 and 2000 are shown in Figure 2 and Figure 3. The year 2000 forecast in Figure 2 is from reference 2.

Some of the growth in the number of passengers carried by airlines will continue to be absorbed by a trend to large capacity aircraft. Nonetheless, in the United States, the Air Cargo Deregulation Act of 1977, the Airline Deregulation Act of 1978, and recent Civil Aeronautics Board (CAB) actions have begun to compound the problem as more flights by existing and new carriers are scheduled into medium and large hub airports. Most of the congestion at these airports occurs at peak hours.

These measures of growth in traffic and aircraft operations are indicative of the ever-increasing, heavy load which will be placed on airports and on the airways system. Near-term forecasts may be affected by the 1981 Patco Strike. The FAA forecasts no increase in military IFR (Instrument Flight Rule) traffic over current levels.

According to the International Civil Aviation Organization (ICAO), total world scheduled airline traffic grew continuously during the seventies (ref. 3). The average annual increase in revenue passenger-miles, for example, was 9.6 percent from 1970 to 1979. In 1978 and 1979, year-to-year growth was well above the trend, at 14.4 and 12.0 percent, respectively. World freight behaved similarly: revenue ton-miles increased 9.9 percent annually during the seventies, on average. World international freight was even stronger, at 12.8 percent per year. The result of widespread economic downturn and higher fares (both caused largely by petroleum price hikes) is a current rate of growth well below the long-term trend. Given both stable oil prices and resurgent economic growth, the second half of 1982 should show recovery followed by strong growth in 1983.

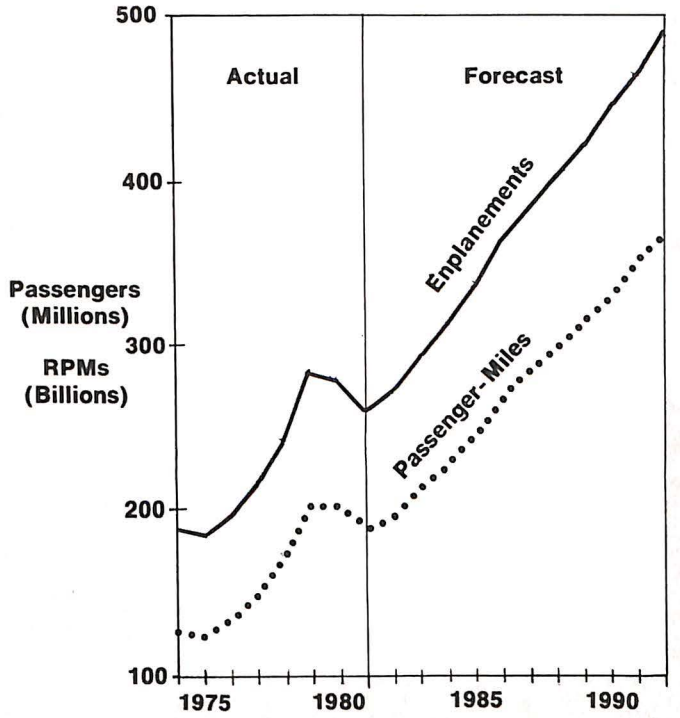
TABLE 1

FAA FORECAST OF U.S. AVIATION GROWTH

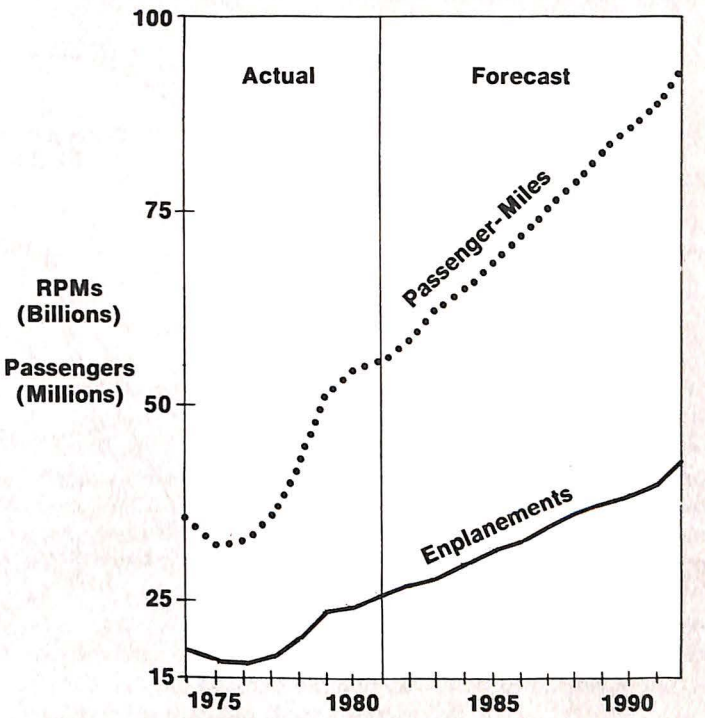
	Historical Annual Growth (1974-1980)	Forecast Annual Growth (1980-1992)
Domestic		
• Revenue Passenger Enplanements	7.4%	4.4%*
• Revenue Passenger-Miles	7.6	5.0*
• Revenue Cargo Enplaned Tons	0.4	6.0
• Revenue Cargo Ton-Miles	2.2	6.7
U.S. International		
• Revenue Passenger Enplanements	5.1	4.8
• Revenue Passenger-Miles	7.9	4.8
• Revenue Cargo Enplaned Tons	5.6	7.7
• Revenue Cargo Ton-Miles	5.4	8.0

*March 6, 1981 update of *FAA Aviation Forecasts, FY 1981-1992.*

FIGURE 1
U.S. SCHEDULED AIRLINE PASSENGER TRAFFIC

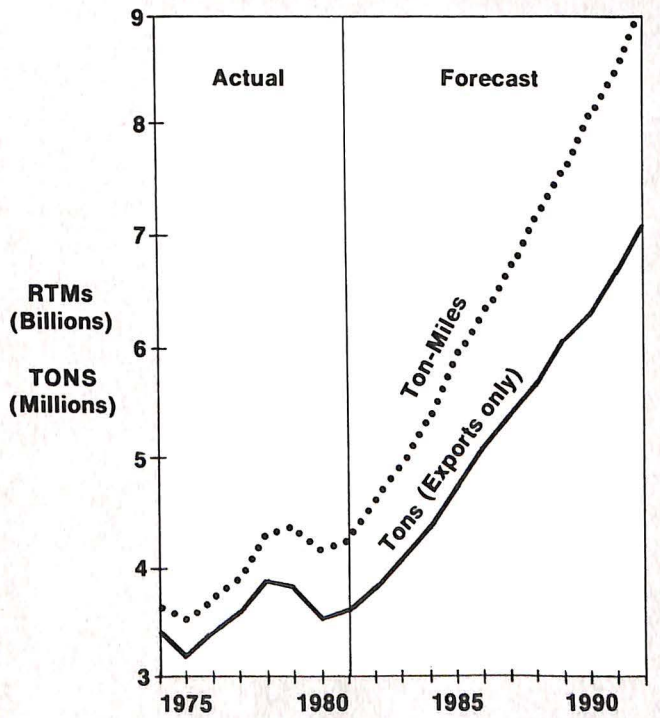


DOMESTIC

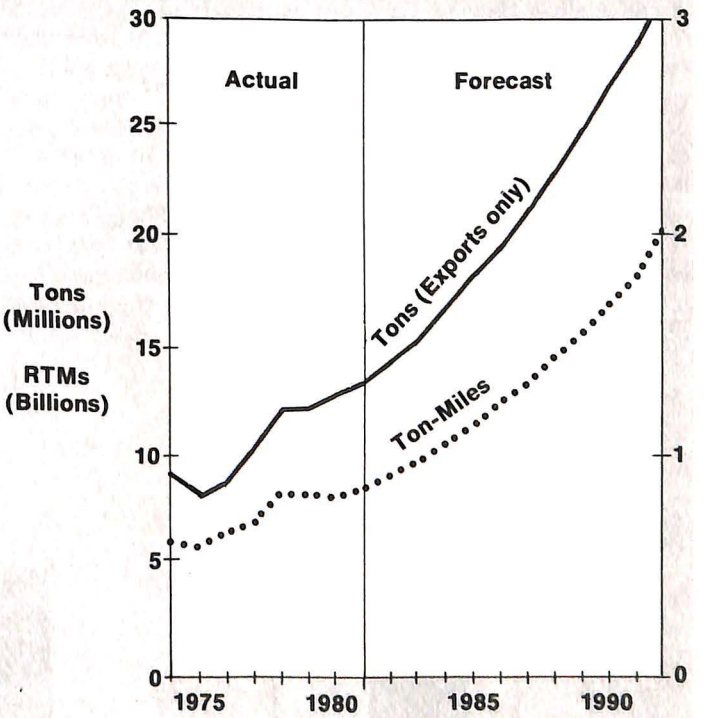


INTERNATIONAL

TOTAL U.S. AIRPORT CARGO TRAFFIC*



Source: FAA (ref. 1) for cargo traffic and March 1981 update of ref. 1 for passenger traffic.



* Freight, Express and Mail; Scheduled and Non-Scheduled; U.S. and foreign flag.

FIGURE 2
1980 FAA FORECAST—GROWTH OF AVIATION IN THE UNITED STATES

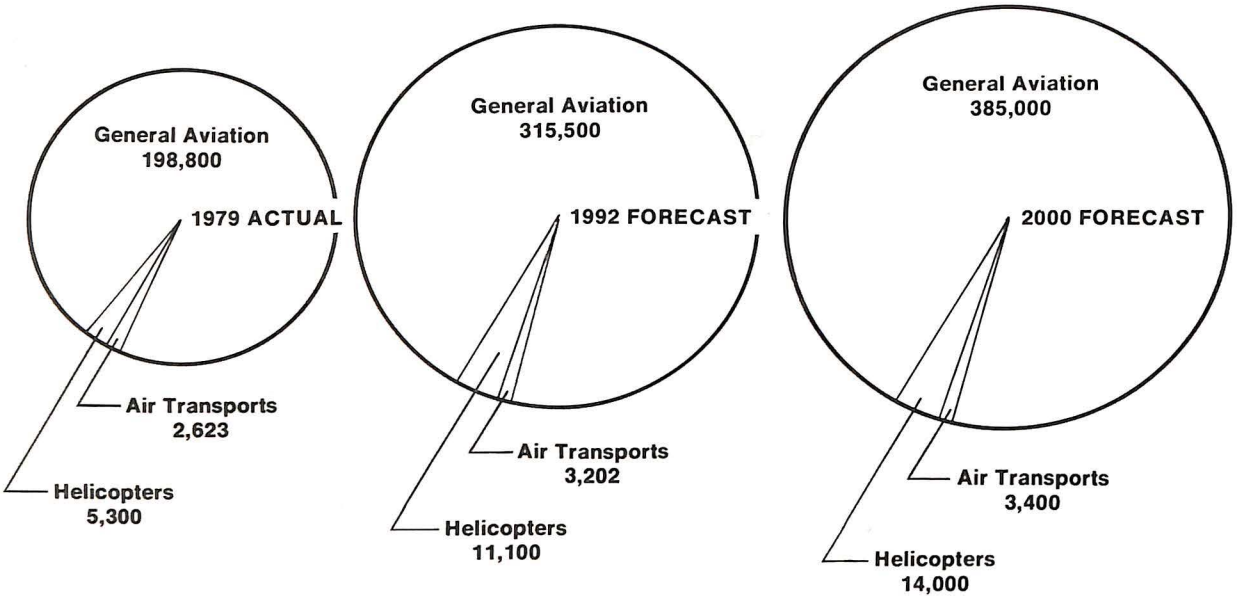
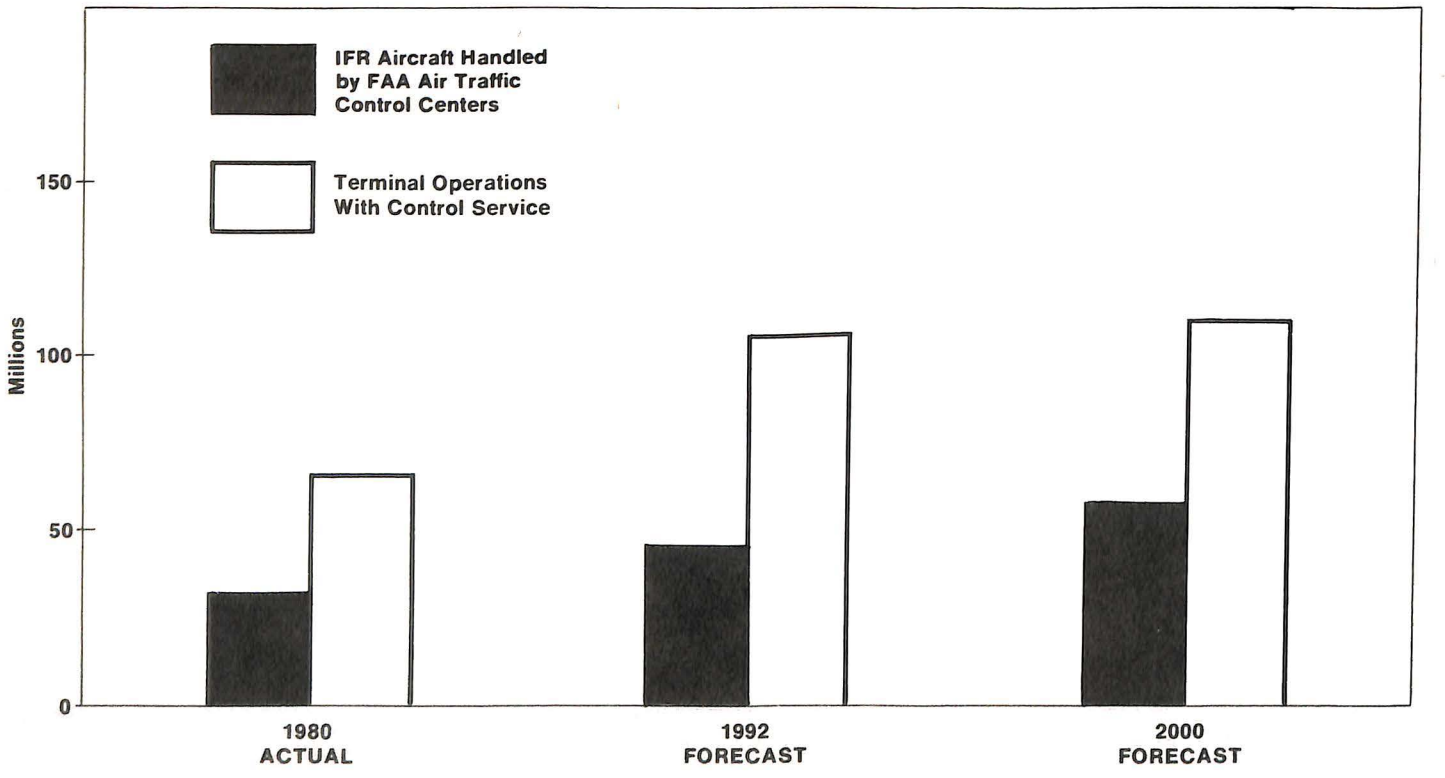


FIGURE 3
1980 FAA FORECAST ON TRAFFIC CONTROL OPERATIONS



COST OF DELAYS

Airport and airway congestion-caused delays constitute an airline concern second only to safety. For example, in December 1979, of the combined flight operations of three major U.S. airlines—American, Eastern and United—62 percent incurred airborne delay, 84 percent had taxi-in delay, and 89 percent experienced some degree of delay on taxiing out to the runway.

For the passenger, the cost and inconvenience of delay—due to extra hours in the air, missed connections, and missed business meetings—has become burdensome. For the airlines, airport-airside congestion has significantly increased operating expenses for fuel, crew, and maintenance. A comprehensive study of reported delays incurred during 1979 by the above-mentioned three airlines revealed extra costs amounting to $298 million, at an estimated loss to the traveling public of $315 million* (ref. 5).—See Figure 4.

photo: Los Angeles Department of Airports

Of particular concern is that these delays wasted 245 million gallons of fuel, a resource that at times has been in such short supply that airlines have had to cut back significantly on scheduled flight services (ref. 8).

The impact of delays is highlighted when these 1979 costs to American, Eastern and United—$298 million —are compared to their combined net income for that year of $63 million. Their cost of delays is also seen to be higher than the average annual net profit of $284 million for all U.S. trunk airlines from 1970 to 1980.

The rate of delay cost has been accelerating: Eastern Airlines' delay costs in 1979 were 7.5 times their 1969 delay costs, while their revenues increased by a factor of only 3.2. Furthermore, aircraft delays of 30 or more minutes at 34 major U.S. airports doubled from 1975 to 1979, while total airport operations at these airports increased only moderately (ref. 10).

Extrapolation of the above three-airline delay data to all scheduled U.S. airlines places total delay costs on the order of one billion dollars annually (ref. 11).

*Based on the proposed FAA figure of $17.50 per hour as a standard value of one passenger's time in 1980 dollars; adjusted by the Bureau of Labor Statistics' Index of Hourly Earnings, yielding a 1979 value of $16.00 per hour.

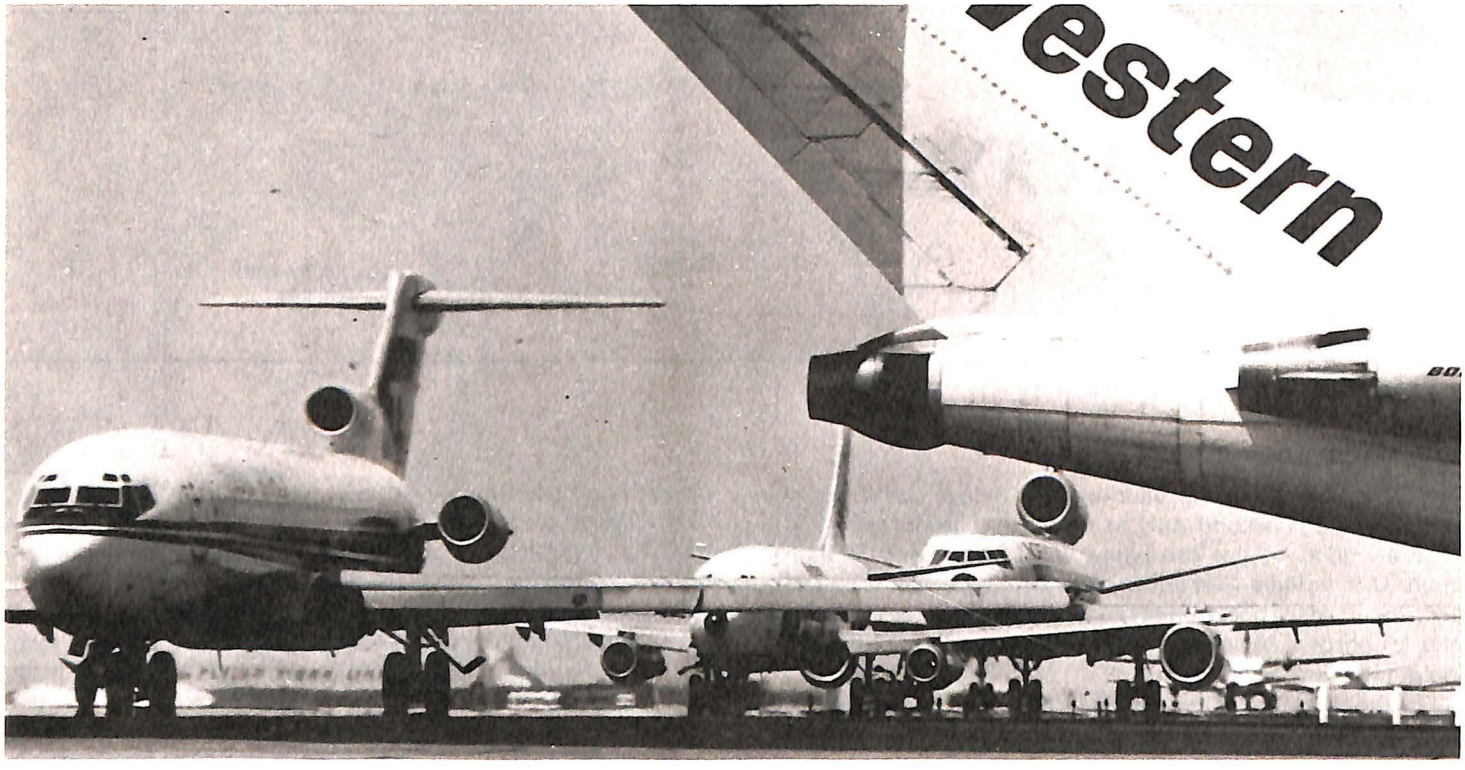
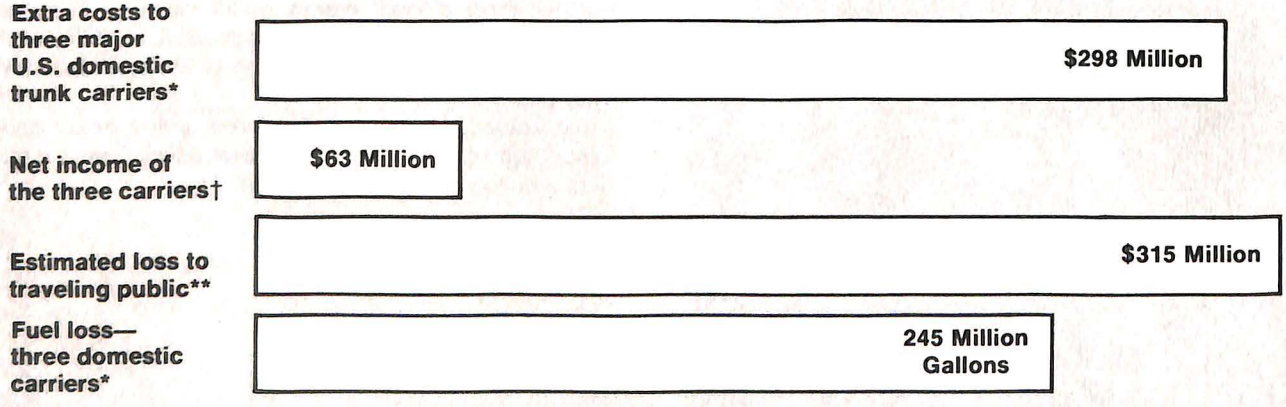


FIGURE 4
COST OF AIRLINE DELAYS
1979



*Based on a study of reported delays by American, Eastern and United Airlines.

†Net after-tax income per CAB Form 41. Note that these carriers suffered an operating loss of $120 million in 1979.

**See footnote on previous page re FAA figure on standard value for one passenger's time.

CONGESTION PROBLEMS —AND SOLUTIONS

Airport and airway congestion problems involve:

- Landside at Airports (defined as everything up to the passenger departure gates).
- Airside at Airports (airfield and terminal airspace).
- Enroute Air Traffic Control.

Landside at Airports

The principal landside congestion problems at airports are:

- Ground Access
  —Inadequate roadways for auto, bus and truck traffic on and around the airports.
  —Inadequate public transportation.
- Insufficient parking on or near the airport.
- Inadequate terminal buildings for handling passengers and cargo.
- Inadequate ticketing facilities.
- Inadequate baggage claim facilities.

At many airports, including the medium and large hubs, access problems have rapidly increased. At these hubs, the landside delay problem is created by some or all of the above deficiencies. The congestion in and around the airport terminals wastes ground transportation fuel and erodes the overall efficiency of the air transportation system.

Los Angeles International is a good example of an airport with ground access and parking congestion problems; La Guardia is an example of terminal building and apron/gate congestion.

Airside at Airports (Airfield & Terminal Airspace)

The most critical airside congestion problems at the medium and large hubs exist on the airfield and in the terminal airspace, with lesser problems occurring in transition airspace. These congestion problems are very expensive to the airlines, to passengers, and to shippers. They waste fuel and can, ultimately, affect aviation safety.

photo: Los Angeles Department of Airports

Causes of peak hour congestion and saturation that relate to Air Traffic Control include:

- Inability to achieve uniform and closer safe spacing between succeeding aircraft, regardless of weather, so that available runways can be fed continuously to maximum capacity.
- Inability of the existing number of runways to handle the demand.
- Limiting effect of wake vortices on reduction of spacing between aircraft.
- Limiting effect of noise restrictions which force aircraft to fly patterns that are wasteful of airspace and fuel.
- Inability of many flights to land under instrument weather conditions due to lack of landing aids or required airplane equipment.

Chicago O'Hare is one major airport where runway congestion is a limiting factor.

Weather, of course, is also a contributing factor to congestion problems.

The number of instrument operations at airports with FAA Air Traffic Control service is expected to increase from 30 million in 1979 to 44 million in 1992, according to an FAA projection. Such growth could produce intolerable delays. Saturation has already been reached at peak hours at some major hub airports such as Chicago, Atlanta, J. F. Kennedy, La Guardia, Washington National, San Francisco, and Los Angeles; the FAA forecasts increased delays at several additional major airports.

The following shows examples of IFR (Instrument Flight Rule) demand versus IFR capacity for five large hub airports (ref. 12):

IFR PEAK HOUR DEMAND-CAPACITY

	Demand	Capacity
Atlanta	137	107
Denver	99	63
J. F. Kennedy	88	53
La Guardia	77	60
San Francisco	72	53

The same FAA report which included these data notes that delays now reach one hour or more per aircraft operation in IFR peaks at these airports.

Any improvements which are made to reduce airside congestion at hub airports could increase the landside congestion problem; the efficient development of an airport system requires planning to balance the airside and landside capacity.

Other causes of congestion applicable to airports of any size can include:

- Insufficient gate positions.
- Inadequate snow and ice removal equipment.
- Insufficient landing and terminal area traffic control aids and equipment.
- Lack of airport surface traffic control system equipment (for ground and air vehicles).

Enroute Air Traffic Control

According to Walter A. Jensen, Vice President, Operations and Engineering, Air Transport Association of America (ref. 4), the present traffic control system handles, with few exceptions, the current volume of traffic without excessive delays. Jensen notes, however, the following problems:

- The enroute system is manpower-intensive. Automation is not being used to its full potential to assist controllers in conflict prediction, flow control, and decision-making.
- The enroute system is wasteful of fuel. It forces aircraft to use less than optimum altitudes and sometimes to use other than optimum speeds.
- Overload in the communications part of the system.

Expansion of the capacity of the current enroute system will be more costly in terms of manpower than a more fully automated system.

If the FAA projections for growth in the number of aircraft handled by air route traffic control centers (page 10) are realized, some of the higher density sectors will be strained to the point of excessive enroute delays. Aircraft operations at less fuel-efficient altitudes will be further increased (ref. 4).

As the bottleneck at the terminal area is improved, the enroute air traffic control system will also have to be improved to maintain compatibility.

SOLUTIONS

Landside at Airports

Most of the solutions to landside airport problems are fairly obvious but the problems of implementing them are sometimes difficult. Implementation involves not only the problems of financing but usually also involves combinations of political problems and government regulations—federal, state, and local.

The FAA was required by the Airport and Airway Development Act of 1970 (as amended) to prepare a 10-year National Airport System Plan (NASP) for the development of public airports in the United States. The FAA's program, however, has not solved the nation's airport congestion problems.

The airport-landside congestion problems are different at each airport and the solutions may include one or more of the following:

- Add terminal buildings and/or expand existing terminal buildings.
- Add or expand ground vehicle parking facilities.
- Improve access roadways to the airports for ground vehicles, and improve roadways and traffic efficiency on the airports.
- Install fixed guideway access systems to airports (subways, monorail, rail).
- Add or improve gate positions, baggage handling facilities and ticketing facilities and procedures.
- Purchase and/or modify neighboring real estate ("land banking") to prevent airport closure due to environ-

photo: Los Angeles Department of Airports

mental or safety reasons, or restricted operations due to curfews (ref. 4).

- Develop approaches to control unreasonable environmental restrictions.

Airside at Airports (Airfield and Terminal Airspace)

Solutions to airside congestion are heavily dependent on financial support from the Airport and Airways Trust Fund for grants-in-aid for airports, the FAA Airway Facilities and Equipment Program, and FAA Research and Development.

Solutions to congestion (depending on the particular problems of a given airport or community) include:

- Expand existing air carrier and general aviation reliever airports.
  - —Add high-speed exits and establish procedures for their use.
  - —Add runways.
  - —Lengthen and/or strengthen existing runways and taxiways to allow use of larger capacity aircraft and to expand capacity of reliever airports.
- Add new air carrier airports.
- Add new general aviation reliever airports to divert general aviation traffic from congested air carrier airports.
- Add or improve approach and landing aids at airports where needed, including Category I, II and III capability, and upgrade existing public and private airports to serve a reliever function.
- Increase FAA R&D substantially to allow timely development of:
  - —An Integrated National Flow Management system to insure that the maximum amount of delay time is taken on the ground.
  - —An Integrated Terminal Flow Management system which exploits the capabilities of modern aircraft and flight management systems and uses 4-D navigation and guidance for control in terminal area metering and spacing to provide fuel-efficient precise spacing control.
  - —Ground and airborne solutions to the wake vortex problem to allow closer spacing of aircraft.
  - —Wind-shear detection systems.
  - —Improved weather forecasting equipment at airports.
  - —An improved airport surface traffic control system.
- Implement the Microwave Landing System (MLS) to increase IFR capacity.
- Continue development of the Automated Traffic Advisory and Resolution Service as the ultimate system for ATC backup to ground-based control.
- Provide increased protection at the earliest practical date by instituting an effective Collision Avoidance System (CAS) for large as well as small aircraft.
- Implement ATC procedures that prevent mixing IFR and VFR (Visual Flight Rule) traffic—an efficiency and safety problem.
- Use more high-capacity aircraft to reduce the number of flights, where traffic density permits.

Use of systems such as 4-D area navigation and the MLS with autoland signal quality could increase the Instrument Flight Rules (IFR) traffic volume to nearer the Visual Flight Rules (VFR) traffic volume by providing uniform and closer aircraft spacing.

Enroute Air Traffic Control

Improvements to the enroute system are dependent on the FAA's Airway Facilities, and Research and Development programs, as funded by the Airport and Airway Trust Fund. Recommendations for improvements to reduce congestion and improve safety include:

- Exploit the FAA's program of computer replacement and implementation of enroute automation to the fullest to provide timely and improved utilization of high density airspace.
- Expand the capacity of the upper enroute airspace by use of 1,000 feet vertical spacing of aircraft above 29,000 feet. (Currently 2,000 feet separation above 29,000 feet; 1,000 feet below 29,000 feet)
- Conduct research and development to define an integrated flow management system based on 4-D navigation and guidance. This system should exploit the capability of modern aircraft and flight management systems to provide fuel-efficient high capacity control of traffic, including the time-based enroute metering of arrivals into the terminal area. System development should be based on the Automated Enroute ATC and Enroute Metering programs.

FUNDING THE SOLUTIONS

The major congestion problems existing today are strong evidence that insufficient planning and funding have been applied to solve the problems.

Initial airport construction and development funds, particularly for the medium and large hubs, came primarily from local sources and private enterprise.

The Airport and Airway Trust Fund is a major source of funding for the Air Traffic Control system and for airport improvements (the Airport Development Aid Program).

The Airport and Airway Trust Fund

Past federal support of airport and airway programs was governed by the Airport and Airway Development Act of 1970 and the Airport and Airway Revenue Act of 1970. The last amendments to this legislation were made in 1976; the legislation expired September 30, 1980.

The Airport and Airway Revenue Act established a trust fund financed by user taxes. Table 2 shows which programs receive monies from the fund, with the 1980 outlay levels shown as an example. The sources and amounts of user taxes collected for the Airport and Airway Trust Fund for FY 1980 are also shown.

Newly proposed legislation would permit application of ADAP funds to privately owned airports which will continue to operate as public-use airports for the economic life of government-owned facilities. Under past legislation, private airport development and improvement had to be funded by the private sector.

The ADAP program had provided substantial funding grants to support public airport programs (from 50 to 90 percent of project cost, depending on the nature of the project). The rest of the funding for public airport development came from local governments and sponsoring agencies. In 1979, for example, 81 percent of ADAP fund authorization was for air carrier airports, 19 percent for general aviation.

The funding under ADAP of public space in terminal buildings was a recent progressive step.

Funding for improvements in access roadways and public transportation to airports to relieve congestion must be provided by local governments. The complexity and problems of funding such programs, of course, varies greatly between communities. Access roads on the airport were eligible for ADAP funding.

Actual ADAP expenditures obligated or allocated from 1970 through March 1979 total $3.17 billion (ref. 9). Although this is a sizable expenditure, the nation is still faced with current and rapidly increasing congestion problems.

Past funding levels for airway Facilities and Equipment (F&E) and for Research, Engineering and Development (R, E&D) have been inadequate to the task and should be upgraded.

TABLE 2

AIRPORT AND AIRWAYS TRUST FUND
FY 1980

Programs Funded

	Outlays ($ in Millions)
Grants-in-Aid Program (Airports) Airport Development Aid Program (ADAP) Planning Grant Program (PGP)	590
Facilities and Equipment (Airway)	230
Research, Engineering and Development	78
Facilities Maintenance (Air Navigation)	325
	1,223

Sources and Amounts Of User Taxes Collected

	Cash Income ($ in Millions)
Passenger ticket tax	$1,601
Waybill tax	92
Fuel tax	70
International passenger tax	92
Aircraft use tax	21
Aircraft tires and tubes tax	1
Refunds of taxes	3
Subtotal user taxes	$1,874
Interest on investments	400
Total annual income	$2,274

Legislation effective after 1976 permitted the FAA to use trust funds for flight check and maintenance of the air navigation facilities—about $325 million was so allocated for FY 1980.

It is ludicrous that there was a $3.8 billion uncommitted balance for the Airport and Airways Trust Fund at the end of FY 1980; much, or all of this should have been spent to alleviate and prevent congestion.

Effectiveness of the Federal Program

The Grants-in-Aid Program, as pointed out in previous sections of this report, has not kept pace with airport development and improvement requirements.

A number of years ago, the FAA adopted a long-range plan for development of an Upgraded Third Generation Air Traffic Control System (UG3RD). It is difficult to find specific, meaningful plans, timetables and funding programs for development and implementation of the various components of the ATC system, or for the complete system. ATC developments have not been made fast enough to meet safety and congestion alleviation requirements. There is some uncertainty as to whether the ATC system program is headed in the right direction. The FAA report, *National Aviation System Development and Capital Needs for the Decade 1982-1991,* is a useful program plan review and should be expanded in detail and updated regularly (ref. 14).

The FAA has held several reviews with industry on the National Aviation System Plan (which includes the ATC), but the impact seems to have been negligible from the standpoint of maintaining a program to keep pace with growth.

The March 1979 FAA report, *New Engineering & Development Initiatives,* contains the results of an evaluation of National Airspace System policy and technological issues by the users and the aviation industry. The FAA is continuing to evaluate and use some of the guidance from this report as evidenced in their January 1980 Consultive Planning Conference.

Proposed Legislation

The Airport and Airway Development Act, which established the Trust Fund, expired on September 30, 1980. Several bills have been introduced to continue the airports and airways program.

Most recently, a one-year extension of previous legislation was proposed in the House. This Act provides $450 million in fiscal 1981 for the airport development aid program and was made part of the Omnibus Budget Reconciliation Act of 1981.

There is a major impediment to the House-Senate compromise in the earlier submitted, multi-year proposals House bill—H.R. 2643 and Senate bill S. 508. The Senate bill has adopted the Administration proposal (H.R. 2930) for a reduced ADAP program of $450 million annually, following the adoption of the Administration's fiscal 1981 budget. This represents roughly half the House proposed budget in

TABLE 3

A COMPARISON OF MULTI-YEAR PROPOSALS IN THE HOUSE AND SENATE*

(Authorizations in Millions)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
Grants-in-Aid (ADAP)						
House	$450	$ 600	$ 600	$ **	$ **	$ **
Senate	450	450	450	450	450	**
Administration	450	450	450	450	450	450
Facilities & Equipment						
House	350	325	425	—	—	**
Senate	400	450	550	600	750	**
Administration	350	325	425	455	490	525
Research & Development						
House	85	85	**	**	**	**
Senate	90	95	100	105	110	**
Administration	85	105	120	135	140	140
Operations & Maintenance						
House	525	525	525	**	**	**
Senate	700	750	800	850	900	**
Administration	525	1,950	2,050	2,150	2,250	2,350

*As of Sept. 18, 1981

**No Proposal

the previous Congress, or $200 million less per year than the fiscal 1980 appropriation level. The principal difference between these bills, however, is that the Senate and Administration versions contain a defederalization plan which would phase out grant-in-aid fund allocations first to the large, then to the medium-sized airports. The defederalized airports would have to deal directly with airlines and other users to secure development funding. The means of raising airport revenues to compensate for the loss of ADAP funds would be left to the individual airport operators and could include, for example, "head taxes" or increased landing fees. The House bill does not exclude the larger airports from ADAP funds.

Trust Fund revenues would again be collected from airline passenger ticket taxes and fuel taxes on other aircraft.

A comparison of funding as called for by the House and Senate measures as of September 18, 1981, is shown in Table 2, page 17. Trust Fund authorization for FAA airway facilities and equipment will increase substantially from the fiscal 1980 authorized minimum of $250 million. Trust Fund allocations for FAA research, engineering and development would also increase annually from the fiscal 1980 level of $78 million, except in the House proposal. The most significant differences in the legislative proposals are in the allocations for operating and maintaining air navigation facilities, which were $325 million in fiscal 1980. The Administration's view is that users should pay all operating costs, whereas the proposed House appropriation of 50 percent of actual operating costs to be paid by the Trust Fund reflects its view that the nation at large benefits from an efficient air service.

What New Legislation Must Provide

New airport and airway legislation must require the development of a comprehensive, meaningful airport and airway improvement program with emphasis on reducing congestion and maintaining safety. Solutions to congestion problems proposed earlier in this report must be included in the program. The program must be complete with specific objectives, schedules, and funding requirements.

Congress must provide—and FAA must allocate—research, engineering and development funds for meaningful and timely improvements to the Air Traffic Control system. Realistic research, development and implementation schedules must be established. Adherence to such schedules must be a top priority in terms of future FAA operational goals.

New legislation must also include provisions for ADAP funding for existing and new privately-owned public use airports which serve as reliever airports.

Legislation should include requirements for increased allocation of R&D funds to the FAA in order to solve traffic control problems expeditiously.

Although Congress can legislate the requirement for the development of plans and establishment of a comprehensive airport and airway development program, the effectiveness of such a program depends on the amount and quality of effort applied by the producer of the program. Consideration should be given to establishing means to insure a continuity of responsibility and technical competence within the FAA.

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