

**THE RESTRUCTURING OF  
FAA: REVIEW OF PAST STUDIES**

October 19, 1993

Prepared for:

Office of Aviation Policy, Plans  
and Management Analysis  
Federal Aviation Administration  
800 Independence Avenue, S.W.  
Washington, DC 20591

# THE RESTRUCTURING OF FAA: REVIEW OF PAST STUDIES

## TABLE OF CONTENTS

Executive Summary .....	1
Introduction .....	2
FAA Services and Functions .....	2
Alternative Organizational Forms .....	3
Government Corporation .....	4
Framework Principles .....	6
Review of Past Studies: Problem Definition .....	7
Budget Process/Program Planning .....	10
Revenue Generation .....	11
Continuity of Leadership .....	12
Organizational Culture .....	13
Personnel .....	13
Procurement .....	14
External Oversight .....	15
Conflicting Goals and Objectives .....	15
Technology/Operational Performance .....	16
Review of Past Studies: Recommendations for Change .....	16
Concluding Remarks .....	20
Appendix A: Problem Area Descriptions and Examples .....	Tab A
Report Titles and Abbreviations .....	A-2
Problem Area Descriptions .....	A-3
Budget Process/Program Planning .....	A-5
Revenue Generation .....	A-10
Continuity of Leadership .....	A-14
Organizational Culture .....	A-16
Personnel .....	A-18
Procurement .....	A-23
External Oversight .....	A-26
Conflicting Goals and Objectives .....	A-28
Technology/Operational Performance .....	A-31

# THE RESTRUCTURING OF FAA: REVIEW OF PAST STUDIES

## TABLE OF CONTENTS (Continued)

Appendix B: Synopses of Related Prior Studies .....	Tab B
<i>From Red Tape to Results: Creating a Government that Works Better &amp; Costs Less</i> , Report of the National Performance Review, September 1993. (NPR) .....	B-2
<i>Change, Challenge and Competition: A Report to the President and Congress</i> , National Commission to Ensure a Strong Competitive Airline Industry, August 1993. (ARC) .....	B-4
Robert W. Poole, Jr., <i>How to Spin Off Air Traffic Control</i> , Policy Study No. 166, Reason Foundation, August 1993. (REA) .....	B-7
<i>Assessment of FAA Organizational Options</i> , Federal Aviation Administration, Office of Policy and Plans, Policy and Systems Analysis Division, July 1993. (FAA) .....	B-13
<i>A Proposal for a Restructured, Independent Federal Aviation Administration</i> , The FAA Conference of the Federal Managers Association, June 1993. (FMA) ...	B-16
<i>Winds of Change: Domestic Air Transport Since Deregulation</i> , Transportation Research Board, National Research Council, Special Report 230, 1991. (TRB) .....	B-18
<i>Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment</i> , Prepared by: U.S. Congress, Office of Technology Assessment, July 1988. (OTA) .....	B-23
<i>Report on Independent ATC Corporation</i> , prepared by a DOT Working Group, April 1988. (DOT) .....	B-26
<i>Aviation Safety Commission: Final Report and Recommendations</i> , Aviation Safety Commission, April 1988. (ASC) .....	B-28
<i>Privatization of Federal Aviation Administration Functions</i> , statement of Kenneth M. Mead, Associate Director, Resources, Community, and Economic Development Division, General Accounting Office before the President's Commission on Privatization, December 1987. (GAO) .....	B-32
<i>The Proposed National Aviation Authority: A First Review</i> , Apogee Research, Inc., September 1986. (APOG) .....	B-35

THE RESTRUCTURING OF FAA: REVIEW OF PAST STUDIES

TABLE OF CONTENTS (Continued)

*The Air Traffic Control System: Management by a Government Corporation,  
A Study for the Air Transport Association of America, National Academy  
of Public Administration, March 1986. (NAPA) . . . . . B-39*

*Federal Corporation Approach to the Management and Funding of the Air  
Traffic Control System, Air Transport Association, September 1985. (ATA) . . . . . B-41*

# THE RESTRUCTURING OF FAA: REVIEW OF PAST STUDIES

## Executive Summary

This paper reviews thirteen studies or reports from 1985 to 1993 that have examined the restructuring of FAA, in terms of both the problems facing FAA and the recommendations for various changes in organizational form.

Past studies have emphasized the following nine major problem areas:

- Budget Process/Program Planning
- Revenue Generation
- Continuity of Leadership
- Organizational Culture
- Personnel
- Procurement
- External Oversight
- Conflicting Goals and Objectives
- Technology/Operational Performance

The three major alternatives under consideration in the past studies for the provision of FAA services are:

- A government ATC corporation, with regulation and non-ATC related services provided by a remaining federal agency;
- A government corporation for all of FAA; and
- Reform of FAA in its current organization, including changes in personnel, procurement, resource autonomy and other areas to optimize its performance.

Another possible option is establishing a private ATC corporation, although most of the past studies bypass this alternative.

The major feature that is missing from the past studies is a broad-based and up-to-date evaluation of FAA's entire organizational and institutional framework that examines all of the functions of FAA as well as FAA's basic objectives and fundamental principles. These studies focus narrowly on specific problems and concerns and do not examine the possibility that while an organizational restructuring may resolve problems for one area of FAA, it may also create an entirely new set of problems for other aspects of FAA.

# THE RESTRUCTURING OF FAA: REVIEW OF PAST STUDIES

## Introduction

In recent years, a number of studies have suggested that the air traffic control (ATC) system be transferred from the jurisdiction of the Federal Aviation Administration (FAA) and set up as an independent government (or federal) corporation, while other studies have recommended transforming the entire FAA into a government corporation. These studies claim that placing FAA functions in an independent corporation would improve efficiency by bypassing federal budget, procurement, and personnel constraints. A more efficient way of providing FAA services could lead to both improvements in safety and reductions in delay as well as a more rapid modernization of technology.

The National Commission to Ensure a Strong Competitive Airline Industry and the Vice President's National Performance Review are the latest of many reports to discuss these issues. These two reports recommend the restructuring of FAA, based on the findings of numerous studies conducted over the last decade.

The purpose of this paper is to review these past studies, in terms of both the problems facing FAA and the recommendations for various changes in organizational form. The next section of this paper describes the services offered by FAA, followed by a listing of the alternative organizational forms under consideration. The paper then provides a definition of a government corporation and outlines framework principles for restructuring FAA. This is followed by an overview of the problems confronting FAA, as specified in the various studies. The paper concludes with a description of the recommendations offered by these studies. Appendix A breaks down the past studies by problem area while Appendix B contains study summaries.

## FAA Services and Functions

The FAA currently provides an array of ATC services including terminal and en route ATC, weather information, and telecommunications. FAA also is responsible for the following functions, among others:

- Development, testing, evaluation, and implementation of ATC and navigation systems;
- Regulation of ATC;
- Regulation of all safety and security matters concerning airports and aircraft manufacturing, operations and maintenance;
- Registration of aircraft;
- Airport grants; and
- Overseas technical assistance.

Virtually all FAA activities support the following four fundamental "lines of business" which provide products and services to customers:

- FAA provides an air traffic management system.
- FAA regulates and oversees aviation system users in the United States that serve U.S. passengers and freight, in order to meet safety and security objectives.
- FAA assists in U.S. airport infrastructure development.
- FAA supports U.S. aviation and U.S. aviation world preeminence.

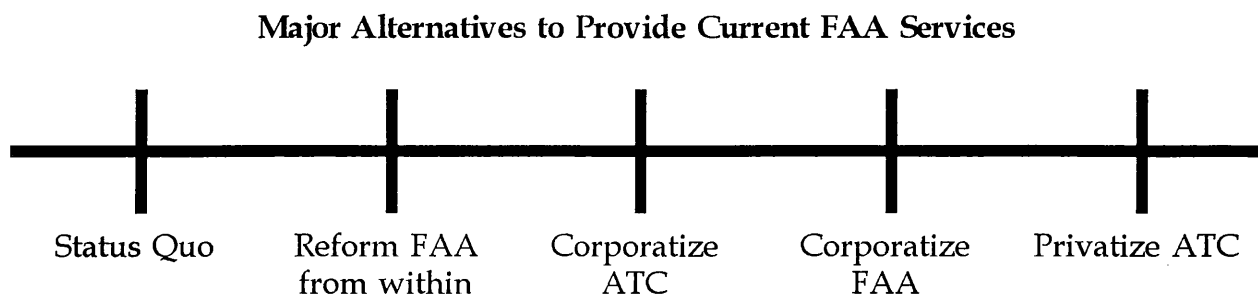
### Alternative Organizational Forms

The three major alternatives under consideration for the provision of these services are:

- A government ATC corporation, with regulation and non-ATC related services provided by a remaining federal agency;
- A government corporation for all of FAA; and
- Reform of FAA in its current organization, including changes in personnel, procurement, resource autonomy and other areas to optimize its performance.

These should be compared to a baseline scenario of the status quo. Another possible option is establishing a private ATC corporation, although most of the past studies bypass this alternative. Figure 1 illustrates the continuum of options, with privatization representing the greatest departure from the status quo.

Figure 1



## Government Corporation

Before reviewing the various studies, it is important to provide a definition of a government corporation.<sup>1</sup> As mandated by the Government Corporation Control Act of 1945, a government (or federal) corporation can only be established by Congress. The various rights and responsibilities of the organization include:

- Establishment of a corporate existence independent of its members and unaffected by their death;
- The power to sue and be sued in the corporate name;
- The right to make bylaws (i.e, self-made regulations affecting the corporation's business and members which do not operate on third persons, or in any way affect their rights); and
- The right to acquire, hold, and convey property for corporate purposes in the corporate name.

During the creation of a government corporation, Congress must also specify other rights and responsibilities of the entity, including:

- The methods of contracting and financing;
- Procurement and personnel procedures;
- The qualifications and procedures for appointment and removal of principal officers;
- Whether the entity can borrow money in its own name; and
- Whether the entity is exempt from most regulatory statutes applicable to the expenditure of funds and employee relations.

The exact nature of a government corporation and the extent to which it differs from a government agency can vary widely, depending on how Congress specifies the organization's rights and responsibilities. Overall, government corporations are similar to business corporations except that at least some of their directors are appointed by governmental officials and frequently they are financed in part or totally by government.

Based on ownership of assets, government corporations can be broken down into two major categories: wholly-owned and mixed-ownership. According to the Aviation Safety Commission:

---

<sup>1</sup> The following section on government corporations is adapted from the 1988 Aviation Safety Commission Report.



- Wholly-owned government corporations exhibit the closest relationship to the President and Congress. They have assets owned solely by the government and are managed by a board or administrator appointed by the President or a Cabinet secretary. They pursue a governmental mission and may be capitalized by appropriations. Wholly-owned government corporations generally try to operate on a self-sustaining basis and recover the costs of operation through user charges. Examples include the Tennessee Valley Authority, the Federal Prisons Industry, Inc., the United States Postal Service, and the St. Lawrence Seaway Development Corporation.
- Mixed-ownership government corporations are part private and part public. They have assets owned by both government and the private sector. The management structure is similar to a wholly-owned corporation but has more constituent representation and maintains more independence from the President and Congress. Examples include the Federal Deposit Insurance Corporation and the Rural Telephone Bank.

In both cases, the enabling statutes of government corporations provide for either a single administrator or a board of directors. Depending on the type of government corporation, these administrators often are appointed by the President or a Cabinet Secretary. Proponents of government corporations believe that Presidential appointment protects the public interest.

A variety of financing mechanisms are available to a government corporation. The corporation may:

- Receive money from Congress through the appropriations process;
- Earn revenues from fees;
- Borrow from the Treasury; or
- Borrow funds directly, based on the guarantee of future revenue streams.

If user fees are charged, it might be necessary to subject the corporation to economic regulation in much the same way as a public utility in order to prevent it from charging monopoly prices. There are a variety of specific arrangements through which economic regulation can take place, including rate of return regulation, cost-based regulation, or contracting. All have the purpose of ensuring that the corporation provides a socially optimal amount of services while charging prices that allow it to earn only a normal rate of return, but each has its own advantages and disadvantages. For example, productive efficiency may be hindered by rate of return regulation but promoted by cost-based regulation.

Another key issue, and one that is not discussed in much detail in the past

studies, is whether the entity will be allowed to earn profits. In a competitive firm, profits serve as a clear-cut incentive for efficient production. If it were determined that the public interest required the new entity to operate on a not-for-profit basis, the profit incentive would disappear, having implications for the proposed organization and its efficiency.

### Framework Principles

In considering whether to organize FAA differently, various principles must be considered. Overall, using this type of framework can help determine whether the proposed restructuring will resolve some of the problems that may currently exist at FAA, as described in the next section.

- Will the restructuring maintain a high level of safety in all aspects of the U.S. aviation system? For example, will the new organization have incentives to produce optimal levels of safety in those services it produces as well as in those segments of aviation it may oversee? Would the separation of safety regulation from the provision of ATC remove potential conflicts of interest?
- Will the restructuring increase productive efficiency? Productive efficiency involves producing a service at the least cost while maintaining quality. For example, would a government corporation be able to staff its facilities more efficiently, while at the same time attracting a talented and technically sophisticated work force?
- Will the restructuring improve economic efficiency? Economic efficiency involves allocating scarce resources to best satisfy people's demands; that is, deciding what services users want and when and where they want them. For example, if the current FAA is unable to deliver best-practice ATC services because of organizational problems, would the various organizational or policy alternatives benefit airlines and other consumers, and if so, by how much?<sup>2</sup>

Any of the alternative ways of providing FAA services which address these principles, must also be examined in terms of the following implementation issues.

- Will the provider require regulation and, if so, what form will that regulation take? If only ATC services are corporatized, safety regulation

---

<sup>2</sup> The issue of economic efficiency, discussed below under the revenue generation problem area, has not been a major focus in the past studies. When economic efficiency is used as a framework principle, equity issues must be considered as well.

will certainly be required and economic regulation or contract supervision may also be imposed in order to ensure that the benefits of the reorganization are realized.

- Is the reorganization administratively and politically feasible given the current institutional framework?
- How will the reorganization affect the international obligations of the United States with respect to air transportation?
- In the process of resolving some of the existing personnel, procurement, budget and other problems, will the restructuring create new problems?

### Review of Past Studies: Problem Definition

Past studies on the restructuring of FAA have emphasized nine major problem areas with the system as it exists today.

- Budget Process/Program Planning
- Revenue Generation
- Continuity of Leadership
- Organizational Culture
- Personnel
- Procurement
- External Oversight
- Conflicting Goals and Objectives
- Technology/Operational Performance

Although the problem areas may overlap, the above listing serves as a useful study framework. Note that safety has not been identified in the past studies as a problem currently facing FAA.

The rest of this section of the report will discuss each alleged problem area, based on the past studies. Overall, GRA reviewed thirteen studies from 1985 to 1993 for this report, as listed in Table 1. Appendix A provides more detailed linkages of the thirteen studies to the nine problem areas, as summarized in Figure 2, while Appendix B contains summaries of each of the thirteen studies.

**It should also be noted that the description of each problem reflects what is found in the past studies (some of which are almost ten years old), and may not be indicative of the current state of affairs at FAA.**

Table 1

REPORT TITLES AND ABBREVIATIONS

NPR	<i>From Red Tape to Results: Creating a Government that Works Better &amp; Costs Less</i> , Report of the National Performance Review, September 1993.
AIRC	<i>Change, Challenge and Competition: A Report to the President and Congress</i> , National Commission to Ensure a Strong Competitive Airline Industry, August 1993.
REA	Robert W. Poole Jr., <i>How to Spin Off Air Traffic Control</i> , Policy Study No. 166, Reason Foundation, August 1993.
FAA	<i>Assessment of FAA Organizational Options</i> , Federal Aviation Administration, Office of Policy and Plans, Policy and Systems Analysis Division, July 1993.
FMA	<i>A Proposal for a Restructured, Independent Federal Aviation Administration</i> , The FAA Conference of the Federal Managers Association, June 1993.
TRB	<i>Winds of Change: Domestic Air Transport Since Deregulation</i> , Transportation Research Board, National Research Council, Special Report 230, 1991.
OTA	<i>Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment</i> , Prepared by: U.S. Congress, Office of Technology Assessment, July 1988.
DOT	<i>Report on Independent ATC Corporation</i> , prepared by a DOT Working Group, April 1988.
ASC	<i>Aviation Safety Commission: Final Report and Recommendations</i> , Aviation Safety Commission, April 1988.
GAO	<i>Privatization of Federal Aviation Administration Functions</i> , statement of Kenneth M. Mead, Associate Director, Resources, Community, and Economic Development Division, General Accounting Office, before the President's Commission on Privatization, December 1987.
APOG	<i>The Proposed National Aviation Authority: A First Review</i> , Apogee Research, Inc., September 1986.
NAPA	<i>The Air Traffic Control System: Management by a Government Corporation</i> , A Study for the Air Transport Association of America, National Academy of Public Administration, March 1986.
ATA	<i>Federal Corporation Approach to the Management and Funding of the Air Traffic Control System</i> , Air Transport Association, September 1985.

Figure 2

Report	Problem Definition Area: Was the Area Discussed in the Study?								
	Budget Process / Program Planning	Revenue Generation	Continuity of Leadership	Organizational Culture	Personnel	Procurement	External Oversight	Conflicting Goals and Objectives	Technology / Operational Performance
NPR	X				X	X			X
AIRC	X	X			X	X			X
REA	X	X	X	X	X	X	X	X	X
FAA	X		X		X	X	X		
FMA			X		X	X		X	X
TRB	X	X	X	X	X	X	X	X	
OTA	X		X	X	X	X	X	X	X
DOT	X				X	X		X	X
ASC	X		X	X	X	X	X	X	X
GAO	X				X	X			X
APOG	X	X	X	X	X	X	X	X	X
NAPA	X	X		X	X	X	X		X
ATA	X	X			X	X			

See Table 1 for the full names of the reports.

## Budget Process/Program Planning

FAA faces problems in funding both capital projects and operations. The long-term modernization of ATC technology is difficult because funding is tied to annual appropriations. In addition, the unstable and unpredictable budget process through which FAA must compete for general treasury revenues has led to inadequate funding and the continuing federal deficit constrains future plans and programs.

The Vice President's National Performance Review (NPR) report claims that the current process of funding FAA capital projects has led to delays in the modernization of ATC technology. The President's Airline Commission concurs, stating that the method by which FAA is funded -- through annual budget allocations subject to cuts and changes -- assures that any planned "new" technology will be obsolete by the time it is operational. According to the Commission, "Put simply, the federal budget process cannot be relied on to provide adequate, continuing funds for FAA's operations or capital programs."

In addition to the inability to implement long-term plans for ATC modernization and other projects, the federal budget process' unpredictability also disrupts research and development plans and programs, as pointed out by the 1993 Reason Foundation Report. According to the 1991 Transportation Research Board (TRB) report entitled *Winds of Change*, the protracted debates between Congress and the executive branch over the budget have diluted the focus of FAA on its programs and plans. Instead of being able to devote their full attention to the provision of aviation safety and ATC capacity, FAA managers are frequently distracted by the need for contingency planning for funding fluctuations.

The 1991 TRB report also claims that efficient planning suffers when the fiscal year is well under way before FAA's budget is determined and its funding and employment levels are known. This trend also is emphasized in the 1985 Air Transport Association (ATA) report, which states that meaningful long range planning, operational flexibility, quick response to changing conditions and greater productivity are not possible with the constraints imposed by current government funding practices.

Not only does the annual appropriations process lead to unpredictable revenue streams, the complexity of the process also reduces FAA's flexibility to use the funding. For example, a 1993 FAA report assessing FAA's organizational options notes that the FAA receives funding through five separate Congressional appropriations that are 'fenced off' into 41 budget activities and over 160 line items every year. This report also points out that the federal budget process undermines the rewards or incentives for employees and agencies to save money.

The TRB report concludes that, "Given that the federal budget deficit is

projected to remain well above historic levels for many more years, budget strategies by the administration and Congress to contain the size of the federal deficit, including the use of the [Airport and Airway] Trust Fund to mask the true size of the deficit and simple restrictions on total spending, are likely to continue to restrain funding provided to the FAA."

In contrast to the current system, the NPR and the Airline Commission both recommend that the ATC system be funded through user fees. Equipment would be purchased as needed with money borrowed in the capital markets. User fee revenues would guarantee this long-term financing. This type of capitalization is well-established for airports and other quasi-public entities. Under such a system, user demand and the stability and growth of fee revenues would be the basis for FAA operations and modernization.

### Revenue Generation

The current system of revenue generation is economically inefficient because the taxes that aviation users pay into the Airport and Airway Trust Fund (i.e., ticket tax, fuel tax, etc.) are not related to the production costs of services received. In such a situation, prices do not ration use of the system and the FAA does not receive market signals concerning over- or under-utilization of its services. Economic inefficiencies also arise because cross-subsidies exist for general aviation and government/military users who pay considerably less than the cost of services provided to them.

FAA currently receives its funding via annual Congressional appropriations. Although a large share of these funds is deposited by users into the Airport and Airway Trust Fund, Congress must still appropriate the funds (although all ATC facilities and equipment are funded by the Trust Fund, about 75 percent of FAA operations and headquarters costs are funded by general taxpayer funds). As a result of the federal budget process and the pressures of the federal budget deficit, not all of the monies in the Trust Fund have been or are likely to be spent on the airways system, further weakening the link between what users pay and what they receive.

As the Reason Foundation states in a 1993 paper, because both Congress and the Administration seek to increase federal revenues and reduce federal outlays, nearly every year the amount the FAA is allowed to spend on the Airport and Airway Trust Fund purposes is less than the amount collected from users and deposited in the Trust Fund. As a result, the surplus in the Trust Fund is unavailable to FAA. This paper also provides evidence of considerable cross-subsidization of general aviation and military users, who account for a significant number of operations for which they do not pay.

A potential solution to the economic inefficiencies of the current system of

revenue generation, as suggested by numerous studies including the Reason Foundation and ATA reports, is to develop a set of workable user fees to fund ATC. As the ATA report claims, "The commercial-type operations of a federal ATC corporation, with typical demand fluctuations, as well as short and long term lead times for acquiring and utilizing needed resources, can be performed in a more responsive manner outside the usual federal budget process with funding provided by self-generated income from users, including reimbursement from government users."

### Continuity of Leadership

The average term of the FAA Administrator has been less than three years, while the tenure of top management has also been short-term. This has led to a deemphasis on long-term planning, a lack of continuity or stability in priorities, difficulties in establishing teamwork among top officials, lack of accountability, and a resistance on the part of the bureaucracy to respond to new directions because it is expected that the top management will not be around long enough to follow through. This problem is especially severe considering the long-term character of many FAA programs.

Numerous studies have stressed these points. A 1993 proposal by the FAA Conference of the Federal Managers Association claims that the short terms of higher FAA management have interfered with timely policy making and have caused the FAA to fall behind in meeting its Capital Investment Plan goals. A 1993 internal FAA report lists the following negative consequences of the short tenure of top management:

- Difficulties in establishing teamwork among top political and career officials;
- An emphasis on tactical maneuvering at the expense of long-term strategic policy formulation and execution;
- Lack of accountability because the person who sets policy, establishes objectives, and initiates change is gone before results can be measured; and
- Frequent interludes during which career executives operate in a "caretaker" mode.

The TRB report also cites a lack of continuity or stability in priorities, especially those involving large capital expenditures, as a negative result of the lack of long-term leadership.



A 1988 Office of Technology Assessment (OTA) Report concludes that without stronger and more stable leadership, the problems of inadequate long-range planning, lack of inter-departmental coordination, and uneven applications of regulations by regions are bound to continue. OTA recommends setting a fixed term of up to five years for the FAA Administrator, a policy change that can occur without having to establish a government corporation for all or part of FAA.

### Organizational Culture

The current organizational culture at FAA emphasizes "conservatism" and "conformity" rather than "innovation" and "dynamism".

The 1991 TRB report mentions problems that currently exist in the organizational culture of FAA. According to the TRB report, the existing incentive system at FAA is bureaucratic and rewards those who do not make waves instead of encouraging creative and innovative behavior. Both the TRB study and the Reason Foundation report mention the autocratic and militaristic FAA management style as obstacles to employee participation. The 1986 National Academy of Public Administration (NAPA) report claims that FAA decision-making has become more protracted in recent years, with management becoming notably less flexible and innovative.

### Personnel

The existence of arbitrary personnel ceilings, civil service requirements and procedures, and the lack of competitive pay make it unnecessarily difficult to attract and retain a talented and technically sophisticated work force. For example, the FAA has trouble attracting experienced controllers to high cost areas. Shortages also exist in the overall maintenance and electronic technical work force.

The TRB study lists the following personnel problems currently facing FAA:

- Shortages of air traffic controllers in high cost-of-living areas;
- Lack of authority to pay relocation allowances;
- Arbitrary personnel ceilings;
- Generally uncompetitive pay levels;
- Restructuring and cutting back of retirement benefits;
- Threatened furloughs (due to delays in approving a federal budget);
- Impending retirements of large numbers of maintenance technicians;
- Problems with FAA recruitment and training; and
- Civil service constraints.

The Aviation Safety Commission concludes that "FAA faces two separate personnel problems among its field personnel: geographic flexibility and competitive

compensation. FAA does not provide differential compensation across different geographic areas despite wide differences in the cost of living. In the case of ATC, many of the high cost of living areas are also high traffic areas where the demands on the controller work force are the greatest.... The result is that some of the busiest facilities are also some of the most severely understaffed."

According to TRB, Congress has recently responded to the inflexibility on pay in high-cost areas by authorizing an experimental program to pay controllers and some technicians wage differentials of up to 20 percent in high-cost cities. However, although FAA now has the authority to pay higher salaries to attract personnel to understaffed centers and towers, Congress did not provide any additional funds to finance this policy.

The Aviation Safety Commission points out the numerous and serious shortcomings of the civil service laws, including the basic statutory restrictions with respect to hiring, discipline, incentives, and firing that are beyond the power of FAA to change. A 1986 Apogee study claims that the civil service laws constrain FAA's ability to match the existing supply of trained personnel with the demand for service and make it difficult to alleviate morale problems.

#### Procurement

The cumbersome procurement system is designed to prevent fraud but instead leads to barriers to the timely and efficient acquisition of sophisticated and rapidly evolving high technology goods and services. FAA needs a more flexible and responsive acquisition process. For example, by the time FAA receives the technology it set out to acquire, the technology has been superseded by technologies developed in the interim.

The 1993 FAA report concludes that FAA procurement practices, which are conducted in accordance with Government-wide regulations and policies, preclude the development and maintenance of productive relationships between the FAA and its providers and inhibit the timely acquisition of systems to support industry changes. As the 1985 ATA study states, "Government regulations applicable to FAA procurement are cumbersome, inefficient and not responsive to the orderly and effective development of the ATC system.... Government procurement practices bear little resemblance to commercial-type procurement transactions."

A 1987 GAO report, on the other hand, claims that the fundamental procurement problems faced by FAA stem from its failure to follow recommended government procurement policies regarding testing and evaluation and not from the policies and procedures themselves.

## External Oversight

FAA is subject to detailed oversight by its parent agency, the DOT, by the White House's Office of Management and Budget (OMB) and Office of Personnel Management (OPM), and by various Congressional committees. These organizations' efforts to control or micromanage FAA can restrict FAA's flexibility and autonomy.

The 1991 TRB report claims that most former FAA Administrators favor giving FAA greater autonomy in running its programs, due to frustrations in dealing with the increased bureaucracy and the greater degree of control exercised by DOT's Office of the Secretary and the OMB over FAA affairs. The TRB report also provides some examples of micromanagement concerning personnel decisions, including ceilings on categories of FAA employees, or directives to increase employment in such categories, rather than assigning the FAA a personnel ceiling and allowing the Administrator to determine how best to use that ceiling.

The Aviation Safety Commission points out the problems of management oversight of the FAA rulemaking process. Although the rulemaking process includes multiple reviews, it does not lead to clearly defined responsibilities and accountability. "Responsibility has become diffused to the point where decisive action is difficult to achieve except in the wake of an accident." The 1986 Apogee study claims that too many layers of oversight have led to uncertainty about who controls a decision and how long it will take to make it.

To summarize this problem, the 1986 National Academy of Public Administration (NAPA) report states, "Approaches to oversight and accountability tend to be too heavy-handed for field operations. In effect, real control has been diffused into a complex, confusing, and often kaleidoscopic array of authorities among FAA leadership, the Office of the Secretary of DOT, the Office of Management and Budget, the Office of Personnel Management, the White House staff, and several Congressional committees."

## Conflicting Goals and Objectives

There are two main conflicts inherent in the current structure of FAA. The first relates to FAA's dual roles in operations and safety regulation. Because it performs both of these functions, FAA is in the unusual and difficult position of regulating itself. The objectivity required for safety regulation may be hindered by FAA's operational role. The second conflict is between FAA's responsibilities to promote aviation and to regulate it. FAA regulatory requirements, such as noise standards, may impede growth in the airline industry while in its attempt to promote the industry, FAA may be reluctant to impose stringent regulations.

The 1993 Reason Foundation Report claims that the first problem arises

because whereas FAA operates on an arms-length basis in regulating airframe manufacturers, aircraft operators, pilots and mechanics, for ATC FAA is essentially regulating itself. The Aviation Safety Commission states that, "in an organization like the FAA, which has both operational and regulatory functions, mixed incentives can create public and organizational concern about whether safety remains paramount in the face of other concerns." Many of the past studies recommend separating the regulation and operation of the ATC system, although the Aviation Safety Commission warns that too sharp a separation might give rise to problems with coordination.

The second main conflict is between the FAA's regulatory role and its responsibility to promote the aviation system. As noted by the Reason Foundation, this type of dual charter is not present in other federal safety regulatory agencies. As OTA notes, "In times of massive change and rapid travel growth, such as in the past decade, fulfilling both goals of this mandate presents the FAA with unavoidable conflicts."

#### Technology/Operational Performance

Less-than-optimal operational performance and slow acquisition of technology have contributed to high levels of airline delays and may also adversely affect safety. Overall, the problems mentioned above may hamper the productivity of delivering services to users as well as the demand for those services.

The Reason Foundation cites studies claiming that up to half of all airline delays are due to ATC problems. The President's Airline Commission concludes that "the federal regulatory system produces too many requirements that impose unwarranted costs and inefficiencies on the industry. It is no longer acceptable for the nation to run its air transportation system with rules, procedures and technology developed for an obsolete generation of aircraft and a less complex time." As a result, the Commission recommends fundamentally restructuring FAA in order to take full advantage of new developments in ATC technology.

#### Review of Past Studies: Recommendations for Change

The thirteen studies reviewed in this paper discuss various alternative organizational forms as a way to alleviate the problems outlined above. Figure 3 summarizes which alternatives are considered by which studies, and depicts the alternatives that are recommended. As shown in Figure 3, the three major alternatives under consideration are:

Figure 3

Report	Proposed Type of Organization		
	Create FAA Government Corporation	Create ATC Government Corporation	Change FAA from within
National Performance Review (NPR) <i>From Red Tape to Results: Creating a Government that Works Better &amp; Costs Less</i> September 1993		X	
National Commission to Ensure a Strong Competitive Airline Industry (AIRC) <i>Change, Challenge and Competition: A Report to the President and Congress</i> August 1993		X	
Reason Foundation Policy Study (REA) <i>How to Spin Off Air Traffic Control</i> August 1993	✓	X	
Federal Aviation Administration (FAA) <i>Assessment of FAA Organizational Options</i> July 1993	✓	✓	✓
FAA Conference of the Federal Managers Association (FMA) <i>A Proposal for a Restructured, Independent Federal Aviation Administration</i> June 1993			✓
Transportation Research Board (TRB) <i>Winds of Change: Domestic Air Transport Since Deregulation</i> 1991	✓	✓	✓
Office of Technology Assessment (OTA) <i>Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment</i> July 1988			X
Department of Transportation (DOT) <i>Report on Independent ATC Corporation</i> April 1988		X	
Aviation Safety Commission (ASC) <i>Aviation Safety Commission: Final Report and Recommendations</i> April 1988	X		✓
General Accounting Office (GAO) <i>Privatization of Federal Aviation Administration Functions</i> December 1987	✓	✓	✓
Apogee Research, Inc. (APOG) <i>The Proposed National Aviation Authority: A First Review</i> September 1986	✓		
National Academy of Public Administration (NAPA) <i>The Air Traffic Control System: Management by a Government Corporation, A Study for the Air Transport Association of America</i> March 1986	X		
Air Transport Association (ATA) <i>Federal Corporation Approach to the Management and Funding of the Air Traffic Control System</i> September 1985		X	✓

X = Recommended by the study

✓ = Considered in the study

NB: TRB, GAO, and ATA are the only studies to discuss privatization of ATC, but none recommend privatization. FAA is the only study to discuss both profit and non-profit government corporations. FMA proposes setting FAA up as an independent agency, separate from DOT.

**GRA, Incorporated**

- Create an FAA Government Corporation;
- Create an ATC Government Corporation; and
- Change FAA from within.

Four of the studies (GAO, FAA, APOG, TRB) consider and discuss the different options, without recommending a specific organizational structure. GAO suggests that "the pros and cons of alternatives short of full privatization of the work forces should be considered." For the GAO, ensuring accountability for aviation safety and protection of the public is a key criterion by which proposals for change ought to be judged. The 1993 FAA report also examines the comparative advantages and disadvantages of the various organizational options without making a recommendation, and is the only study to discuss both for-profit and not-for-profit ATC government corporations. The major differences between the two forms, according to this report, is that the for-profit corporation would be allowed to borrow money, sell bonds, and make investments to support capital projects and its Board of Directors would be less dominated by the public sector.

The 1986 Apogee report examines the proposal to establish a government corporation for all of FAA except safety regulation but does not argue either in favor or against this proposal. The 1991 TRB report examines all of the various options, including privatization, but only recommends a "publicly mandated study of change in the organization of the FAA by an independent group or organization." This study would focus on the relative merits and drawbacks of two models in particular: converting the entire FAA to a government corporation; and assigning ATC functions to a private corporation. Appendix B of the TRB report provides an extensive review of the various organizational forms but was not included in the main body of the study since some of the authors of the TRB report did not share its conclusion, which recommended that the entire FAA be converted into a government corporation.

Two studies (ASC, NAPA), however, did recommend establishing a government corporation for all of FAA. The Aviation Safety Commission (ASC) concludes that safety regulation and ATC should not be separated since "the Federal government must continue to play the central role in ensuring safe operation of the U.S. aviation system" and since "the Commission is not inclined to gamble in sorting out conflicting assertions about whether safety regulatory functions can be separated organizationally from the air traffic control and facilities operation activities currently operated by the FAA." Specifically, the ASC recommends that FAA be transferred from the Department of Transportation and be established as a user-funded authority which is:

- Overseen by a nine-member Board of Governors appointed by the President and confirmed by the Senate;
- Managed by an Administrator who is appointed and confirmed for a term of seven years;

- Subject to agency-wide regulatory oversight by a Director of Aviation Safety who is appointed and confirmed for a term of seven years; and
- Freed from the constraints of the federal civil service and procurement systems.

The National Academy of Public Administration also recommend a government corporation for all of FAA, claiming that breaking the FAA into several segments, one of them an ATC system, would lead to severe coordination problems.

Five studies (AIRC, NPR, REA, DOT, ATA) recommend a government corporation only for ATC services. The Airline Commission's report, which was presented to the President and Congress in August of 1993, recommends "creation of an independent federal corporate entity within the DOT to manage and fund air traffic control and related functions, including system development, procurement and maintenance. Policy control of the air traffic control system and safety oversight should stay with the federal government." The Vice President's National Performance Review report, which was released in September of 1993, concurs with the Commission, stating that ATC should be provided by a government-owned corporation, supported by user fees.

The Reason Foundation proposes the creation of a "federally chartered U.S. Airways Corporation" in which all current ATC-related staff, facilities, and equipment would be transferred to the new corporate entity. It would:

- Have a corporate charter and a normal corporate board of directors, with initial members appointed by the President and Congress;
- Operate on a fully self-supporting, though not explicitly for-profit basis;
- Be subject to safety regulation by the FAA and rate regulation by the DOT; and
- Have the right to hire and fire staff, to buy and sell property, and to issue bonds.

The FAA would retain all other functions, including airport grants and safety regulation.

DOT's 1988 Report on an independent ATC corporation recommends that "all ATC operational and research functions be transferred to a monopoly non-profit ATC corporation which would be legislatively charged with the responsibility for accepting, developing, operating, and maintaining the ATC system. The FAA will continue to regulate both civil and military operations in the interest of safety, while responsibility for operating and maintaining the ATC system will transfer to the ATC corporation." The report also suggests that the federal government receive compensation for the transfer of government-owned equipment and real estate. This could be accomplished by transferring some of the Airport and Airway Trust Fund to

the new corporation which would be used to "buy" the equipment. Finally, ATA examines the various options and concludes that of the several possible structural alternatives, a federal corporation offers the most promise.

The 1988 OTA report is the only study out of the thirteen examined by GRA that recommends leaving FAA in the DOT and changing FAA from within. Some of the steps that FAA can take without having to establish a government corporation, include:

- Giving the Administrator a fixed term, perhaps up to five years;
- Having Congress hold the Administrator accountable for safety; and
- Allocating stable and adequate funding sources from the General Fund and the Airport and Airway Trust Fund.

The FMA report suggests implementing similar changes within FAA but proposes making FAA an agency independent from DOT, but not a government corporation. Three of the thirteen studies (TRB, GAO, ATA) discuss privatization of ATC but none recommend creating a private corporation for the provision of ATC services.

### Concluding Remarks

After reviewing past studies' discussions of the current problems at FAA and the proposed organizational options, the question remains as to how, if at all, the various alternative structures will alleviate these problems. Figure 4 illustrates the view of the 1991 TRB report on how the major organizational forms may eliminate these problems. The last column of Figure 4 contains the corresponding problem area described in this paper, since the TRB problem areas are not identical to the areas specified in this overview.

Figure 4 shows that a government corporation, whether for ATC or for all of FAA, will likely alleviate the problems of financing, personnel and organizational culture. The government corporation will be less effective addressing, but will still improve, procurement policies and the current conflicts in FAA roles. According to Appendix B of the TRB report, establishing a government corporation for all of FAA is a superior option to corporatizing only ATC because an FAA corporation will be less vulnerable to micromanagement by Congress and political influences, and will be more effective in maintaining system safety.

The main feature that is missing from the past studies is a broad-based and up-to-date evaluation of FAA's entire organizational and institutional framework that examines all of the functions of FAA as well as FAA's basic objectives and fundamental principles. For example, most of the studies that discuss the



TRB'S VIEW OF PROBABLE EFFECTIVENESS IN CORRECTING OR PREVENTING PROBLEMS  
(ASSUMING ENACTMENT OF PROPOSAL)

Problems	Status Quo	FAA Corporation	ATC Corporation	Corresponding Problem Definition in This Paper
Financial independence (with right to borrow)	Poor	Excellent	Excellent	Revenue Generation Budget Process / Program Planning
Tenure	Fair	Excellent	Excellent	Personnel Continuity of Leadership
Compensation	Fair	Excellent	Excellent	Personnel
Personnel ceilings	Poor	Excellent	Excellent	Personnel
Procurement	Poor	Good	Good	Procurement
Micromanagement				External Oversight
DOT	Fair	Good	Good	
Congress	Poor	Excellent	Good	
Political gaming	Poor	Excellent	Good	External Oversight
Regulatory	Fair	Good	Good	Conflicting Goals and Objectives Technology / Operational Performance
Culture change	Fair	Excellent	Excellent	Organizational Culture
Role conflicts	Fair	Good	Excellent	Conflicting Goals and Objectives
Maintaining system safety	Good	Excellent	Fair	Technology / Operational Performance

Source: Table B-2 from Appendix B of Winds of Change

procurement problem concentrate primarily on the purchase of ATC hardware, but ignore procurement procedures of FAA's other "lines of business." Also, the major personnel concern in past studies has been with geographic shortages, which may not be as important an issue today as it was during the 1980s. Nor do these studies examine the possibility that while an organizational restructuring may solve some of FAA's problems, it may also create an entirely new set of problems. In conclusion, the past studies provide only a partial analysis of the problems facing FAA and the potential of restructuring to resolve these problems.

FAA's Ad Hoc Task Force should conduct a study that will determine the factual basis as it exists today for the problems cited in past studies and that will objectively evaluate the different organizational options and the ability of these options to overcome the constraints actually facing FAA.

The Ad Hoc Task Force's analysis should:

- Be broad-based, examining all aspects of FAA in an integrated manner;
- Recognize that FAA is a complex organization with many interconnections between its lines of business and that not all problems are universal; and
- Examine which problems apply to which parts of FAA and how the effects of resolving one problem may cut across the entire organization.

In order to conduct such a study, the Ad Hoc Task Force will need a clear statement of FAA's organizational objectives for each aspect of FAA as well as clearly-defined criteria to evaluate how the restructuring proposals will affect the organizational objectives.

## Appendix A

### PROBLEM AREA DESCRIPTIONS AND EXAMPLES\*

This appendix presents nine main areas which previous reports have identified as problematic for FAA.

Page 2 lists thirteen previous studies relating to FAA restructuring which were used to arrive at the nine problem areas.

The next two pages present the nine problem areas and a brief description of each.

The rest of Appendix A consists of a section for each problem area. Each section presents the thirteen reports' major evidence and conclusions in a problem area.

The nine problem areas are:

- Budget Process/Program Planning
- Revenue Generation
- Continuity of Leadership
- Organizational Culture
- Personnel
- Procurement
- External Oversight
- Conflicting Goals and Objectives
- Technology/Operational Performance

\* The information in this appendix is the same as in Appendix B, organized differently.

## REPORT TITLES AND ABBREVIATIONS

- NPR *From Red Tape to Results: Creating a Government that Works Better & Costs Less*, Report of the National Performance Review, September 1993.
- AIRC *Change, Challenge and Competition: A Report to the President and Congress*, National Commission to Ensure a Strong Competitive Airline Industry, August 1993.
- REA Robert W. Poole Jr., *How to Spin Off Air Traffic Control*, Policy Study No. 166, Reason Foundation, August 1993.
- FAA *Assessment of FAA Organizational Options*, Federal Aviation Administration, Office of Policy and Plans, Policy and Systems Analysis Division, July 1993.
- FMA *A Proposal for a Restructured, Independent Federal Aviation Administration*, The FAA Conference of the Federal Managers Association, June 1993.
- TRB *Winds of Change: Domestic Air Transport Since Deregulation*, Transportation Research Board, National Research Council, Special Report 230, 1991.
- OTA *Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment*, Prepared by: U.S. Congress, Office of Technology Assessment, July 1988.
- DOT *Report on Independent ATC Corporation*, prepared by a DOT Working Group, April 1988.
- ASC *Aviation Safety Commission: Final Report and Recommendations*, Aviation Safety Commission, April 1988.
- GAO *Privatization of Federal Aviation Administration Functions*, statement of Kenneth M. Mead, Associate Director, Resources, Community, and Economic Development Division, General Accounting Office, before the President's Commission on Privatization, December 1987.
- APOG *The Proposed National Aviation Authority: A First Review*, Apogee Research, Inc., September 1986.
- NAPA *The Air Traffic Control System: Management by a Government Corporation*, A Study for the Air Transport Association of America, National Academy of Public Administration, March 1986.
- ATA *Federal Corporation Approach to the Management and Funding of the Air Traffic Control System*, Air Transport Association, September 1985.

## PROBLEM AREA DESCRIPTIONS

*Please note that the following descriptions of each problem area reflect what is found in past studies and may not be indicative of the current state of affairs at FAA.*

### Budget Process/Program Planning

FAA is dependent on the unstable and unpredictable federal budget process and a pay-as-you-go approach to funding operations and capital projects. In particular, modernizing ATC technology in a long-term framework is difficult because funding is tied to annual appropriations. The federal deficit also constrains future plans and programs, as does the fact that FAA must compete for funding from general treasury revenues which are available for other federal programs as well.

### Revenue Generation

Economic efficiency is enhanced when the users of a service pay a fee which is directly related to the cost of producing the service. The current system is economically inefficient because the taxes that users pay into the Airport and Airway Trust Fund are not related to the costs of services received. Economic inefficiencies also arise because cross-subsidies exist for general aviation and government/military users who pay considerably less than the cost of services they receive.

### Continuity of Leadership

The average term of the FAA Administrator has been 2 to 2.5 years while the tenures of top management have also been short. This has led to a de-emphasis on long-term planning, a lack of continuity or stability in priorities, difficulties in establishing teamwork among top officials, lack of accountability, and a resistance on the part of the bureaucracy to respond to new directions because it is expected that the top management will not be around long enough to follow through.

### Organizational Culture

FAA exhibits an overall organizational culture that emphasizes conservatism and conformity rather than innovation, responsiveness and dynamism.

### Personnel

The existence of arbitrary personnel ceilings, lack of competitive pay, and other personnel-related restrictions make it unnecessarily difficult to attract and retain a talented and technically sophisticated work force.

### Procurement

The cumbersome procurement system is designed to prevent fraud but instead leads to barriers to the timely and efficient acquisition of sophisticated and rapidly evolving high technology goods and services. FAA needs a more flexible and responsive acquisition process.

### External Oversight

FAA is subject to detailed oversight by its parent agency, the DOT, by the White House's Office of Management and Budget and Office of Personnel Management, and by various Congressional committees. These organizations' efforts to control or micromanage FAA can restrict FAA's flexibility and autonomy.

### Conflicting Goals and Objectives

Two broad conflicts exist within FAA. The first is between its safety/regulatory role and its operational role. The second is between its responsibilities to promote aviation and to regulate it.

### Technology/Operational Performance

Less-than-optimal operational performance and slow acquisition of technology have contributed to high levels of user delays. There may be adverse safety effects as well. Overall, the other eight problems mentioned above may hamper the productivity of delivering services to users as well as the demand for those services.

## Budget Process/Program Planning

- NPR "[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)
- "[Modernizing ATC technology] has been virtually impossible, because the FAA's money comes in annual appropriations." (p.60)
- "[The ATC system] should be... able to borrow on the capital markets, to do long-term financial planning, to buy equipment it needs when it needs it." (p.61)
- AIRC "The method by which air traffic control is funded and implemented--through annual budget allocations subject to cuts and changes--virtually assures that any planned 'new' technology will be obsolete by the time it is operational." (p.7)
- "[T]he FAA operate[s] under severe limitations... includ[ing] total dependence on a political and unpredictable budgetary process." (p.8)
- "Put simply, the federal budget process cannot be relied on to provide adequate, continuing funds for FAA's operations or capital programs." (p.8)
- "A recent OMB memorandum contemplates hundreds of millions of dollars in operating and maintenance budget reductions for FAA in fiscal year 1995. These cuts would have a devastating impact and illustrate how the vagaries of the federal budget undermine the funding stability necessary to provide efficient ATC services." (p.8)
- "The improvements we believe are necessary in our ATC system cannot be accomplished without a stable, predictable source of revenues and the ability to use those revenues to secure long-term financing." (p.8)
- "Few high-technology, capital-intensive businesses attempt a pay-as-you go approach to major capital investment projects." (p.8)
- REA "Because both Congress and the administration typically seek to increase federal revenues and reduce federal outlays, nearly every year the amount the FAA is allowed to spend on Aviation Trust Fund purposes is less than collected from users and deposited in the Trust Fund." (p.3)
- "Besides providing insufficient funding to deploy adequate numbers of fully trained air traffic controllers and to make needed investments in modernizing the ATC system, the federal budget process's unpredictability plays havoc with the need for long-term planning, both for research and development and for major investments in modernizing the ATC system." (p.4)

"One of the strongest indictments of the ATC system's inadequate funding comes from the ACAP study. Using a mathematical model, Drs. Darryl Jenkins and Douglas Frechtling concluded that up to half of all airline delays are due to ATC problems."

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it can readily be financially self-sufficient via user charges, therefore becoming free of... present budgetary constraints." (p.11)

If the entire FAA were made a corporation, "any use of federal tax funds for such a corporation would potentially subject it to the federal budgeting process," and the problems noted above. (p.10)

FAA

"FAA's flexibility to utilize funding is limited by needless compartmentalization of the budget. The FAA receives funding through five separate appropriations that are 'fenced off' into 41 budget activities and over 160 line items every year."

"The current 1-year Operations appropriation does not allow for a linkage that adequately supports the operations and maintenance of new equipment and systems which are deployed via the F&E [Facilities & Equipment] appropriation."

"The annual appropriations process does not ensure a sufficiently predictable revenue stream. FAA needs direct Trust Fund support for the FAA budget and removal of the Trust Fund from the Federal budget so that restrictions on spending are not imposed ostensibly to lower the Federal deficit, and to provide a predictable funding stream." (p.5)

"Additionally, the Federal budget process undermines the rewards or incentives for employees and agencies to save money." (p.5)

TRB

"The protracted debates between Congress and the executive branch over the budget, which have become standard practice in recent years, have resulted in tremendous inefficiencies. Instead of being able to devote their full attention to the provision of aviation safety and ATC capacity, FAA managers are frequently distracted by the need for contingency planning for changes in funding." (p.240)

"Given that the federal budget is projected to remain well above historic levels for many more years, budget strategies by the administration and Congress to contain the size of the federal deficit, including the use of the Trust Fund to mask the true size of the deficit and simple restrictions on total spending, are likely to continue to restrain funding provided to the FAA." (p.244)

"Because of the protracted budget debates of recent years, the fiscal year is often well under way before agencies' actual budgets are determined,



and therefore little incentive exists to address long-term needs. The effect that the annual budget cycle has on short-term planning is compounded by the short tenure of top agency managers." (p.253)

"Those who have recently reviewed the FAA's problems have concluded that inability to plan and manage its finances has contributed significantly to its performance problems (OTA, ASC, NAPA, Reason Foundation)." (p.326)

"Planning, especially long-range planning, is always difficult because of the year-by-year funding style of the federal government, but efficient management, as well as planning, suffers when the fiscal year is well under way before an agency knows what its funding and employment levels will be." (p.327)

OTA "ATC system renewal has moved at glacial speed, slowed by inadequate system planning, technology development difficulties, and administration and congressional budget decisions." (p.7)

"FAA and DOT budget decisions in the early 1980s to reduce personnel levels created shortages of trained personnel in three critical areas [air traffic controller, aviation safety inspector, and electronics technician], and the safety system continues to feel the effects." (p.17)

"Federal processes are so slow that FAA became adequately staffed to handle new industry entrants only in 1984, the year that new airlines began to go bankrupt or merge with established carriers." (p.17)

DOT "[An FAA restructuring proposal] must liberate the ATC system from the uncertainties of the federal appropriations process and ensure adequate resources on a long-term basis." (p.2)

ASC "The instability and uncertainty in the budget also produces uneven flows of new hires, particularly among safety inspectors, airways facilities technicians, air traffic controllers, and support staff. Hiring has typically come in 'lumps,' often in response to public or political pressure. Such hiring patterns make it difficult to use new personnel effectively." (p.20)

"Budget uncertainty in FAA's current bureaucratic environment may distort choices between capital (hardware) solutions to problems versus labor (personnel) solutions.... For FAA now, capital solutions have the advantage that they may be less sensitive to future budget uncertainty and the further advantage that it may be easier to sell 'technology'-based solutions in the political process than solutions calling for increases in personnel... even if [personnel-based solutions] might be more effective." (p.23)

GAO "... [T]he aviation trust fund has a substantial surplus, yet the various FAA work forces must compete for funding from general treasury revenues which are available for other federal programs as well. As our report on the trust fund shows, this is so for two reasons: (1) the trust fund does not take in enough money to fund all work force salaries; and (2) the trust fund legislation significantly restricts the trust fund's availability to cover these costs." (pp.8-9)

"Use of the trust fund... might contribute to more stable funding." (p.9)

APOG "The pressure of the ongoing federal budget deficit, disagreements among the authorizing and appropriating committees of Congress, and between the Congress and the Administration, have meant that billions of dollars available in the Airport and Airway Trust Fund have not been used for needed modernization of the air traffic control systems and for airport improvements." (p.5)

"Budget problems are of two types: the overall spending level and uncertainty over future funds." (p.6)

"While there are certainly worse examples of Congressional interference in a federal program, airport programs are subject to the same interest that typifies many 'Pork Barrel' programs." (p.6)

In line with its major focus on airport grants, the study notes: "In recent years, the actual level of federal airport grants has fallen short of authorized levels. Thus, a more predictable grant process is important to financial planning." (p.19)

NAPA "In recent years, deficits, fiscal pressure, and the mandated cuts embedded in the Gramm-Rudman-Hollings budget act have forced OMB into an institutional stance of finding ways to constrain budgets rather than forming balanced judgments reflecting the public's needs and interests." (p.10)

ATA There is "uncertainty [in] the federal budget process from year to year and shifting budget priorities and goals." (p.4)

There are "difficulties inherent in multi-layer federal decision making, especially its slow pace and lack of flexibility." (p.4)

"[U]nder the Federal Aviation Act, the quality of airline service must be determined by competition. The Federal Aviation Act also holds FAA responsible for providing ATC system resources needed by airlines to perform such service. Yet, that same statute subjects FAA's ability to provide the required ATC system resources to '... the limits of available appropriations made by the Congress.'" (pp.4-5) "Thus, whatever the public service demand may be,... ATC system capacity and airline

service are dependent upon the highly uncertain and complicated federal budget process." (p.5)

"... FAA must have DOT and OMB approval for its budget proposal each year, including requests for previously authorized trust fund expenditures, in order to bring FAA's budget into conformity with the Administration's national budget priorities and goals. And then, FAA's budget, including the trust fund portion, is subject to the complexities of Congress' annual budget resolution and appropriations struggle, involving more trade-offs, compromises and further blending."

"These extensive steps and transactions simply are not conducive to effective management and resource planning, no matter how capable the FAA management team may be. Meaningful long range planning, operational flexibility, quick response to changing conditions, and greater productivity are not possible with the constraints imposed by current law and government practice." (pp.5-6)

"The commercial-type operations of the federal ATC corporation, with typical demand fluctuations, as well as short and long term lead times for acquiring and utilizing needed resources, can be performed in a more responsive manner outside the usual federal budget process with funding provided by self-generated income from users, including reimbursement from government users." (p.11)

"[F]uture capital needs beyond or supplementing those identified for the current National Airspace System Plan would be met by the ability of a self-sustaining federal corporation to borrow in the private market when justified and necessary to carry out the corporation's purposes." (p.13)

## Revenue Generation

- AIRC "The Airport and Airway Trust Fund was designed to provide a dedicated source of user funding to pay for airport and airspace improvements. It should not serve as a general fund asset for the federal government." (p.8)
- "User demand and the stability and growth of user revenues must drive ATC operations and modernization." (p.8)
- "Few high-technology, capital-intensive businesses attempt a pay-as-you go approach to major capital investment projects." (p.8)
- REA A very important part of this paper is the discussion of user fees, through which the U.S. Airways Corporation would be self-sufficient. The main point of the author's discussion is to show that workable fees can be implemented.
- "In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it can readily be financially self-sufficient via user charges, therefore becoming free of... present budgetary constraints." (p.11)
- "The fundamental problem is that the current aviation excise-tax structure... involves considerable cross-subsidies among user groups. ... Airlines pay 97 percent of these taxes while general aviation pays only 3 percent. ... general aviation accounts for 21 percent of the ATC transactions at centers (ARTCCs), towers, and TRACONs.... Moreover, government users (military and other federal agencies) also account for significant numbers of operations for which they do not pay." (pp.14-15)  
The author includes charts to support his arguments.
- Based on an examination of data on GA fleets and operations, the author separates GA "into two broad categories of user: 1) commercial/business users, represented in a first approximation by turbine-powered aircraft; and 2) personal/recreational noncommercial users, represented (approximately) by piston-powered aircraft. The former group are heavy users of controlled airspace and ATC services, while the latter are not." (p.18)
- "The general principles for charging airspace users should be:
- No one pays for services they do not use;
  - Noncommercial ('true' GA) customers pay only the marginal costs they impose on the system; and
  - Charges should be based on long-run economic costs." (p.18)

On page 20 the author presents a set of user fees which would have covered the U.S. Airways Corporation's costs in 1991. These are developed based on a paper by Rich Golaszewski about the GRA cost-allocation methodology. Poole includes an appendix which describes these calculations in detail. These are not true marginal-cost prices, since they include allocated joint costs.

However, "for the nonbusiness [GA] piston-equipment segment, only true marginal costs have been used." (p.20) There is both an economic and a political reason for doing this. "GA users are the most highly price-sensitive, and in many cases may be discretionary users. ... In political terms, the vast majority of GA flyers are nonbusiness, single-engine piston users. They will not accept a pricing system that drastically increases their costs of flying, and they have lobbying clout." (p.20)

On pages 21 and 22, the author considers how the system of user charges would affect various user groups. He notes that "airline users (air carriers plus commuter/taxi) would provide 74 percent of the total revenues. GA-turbine users would pay 7 percent, while those GA-piston flyers actually using ATC services would pay 5 percent of the total. The large majority of GA-piston flyers, who do not use towered airports or other ATC services, would pay nothing at all." (p.22) (According to his chart on p. 22, government users would pay the remaining 14 percent.)

Poole raises the issue of whether user fees would have a safety impact. "Legitimate questions can be raised about whether charging noncommercial GA users for the services of flight service stations, for example, would lead to adverse safety impacts (e.g., pilots declining to obtain a \$9 briefing or to pay \$18 for a flight plan.)" (p.22)

"Charging military users is becoming standard practice overseas where ATC has been corporatized." (p.25)

"Although it has not traditionally paid for ATC services, ... the U.S. military pays market prices for other needed goods and services.... There is no reason in principle why it should not pay normal rates for ATC services." (p.25)

TRB

"The FAA relies heavily on the Airport and Airway Trust Fund as a source of revenue, but during the last 2 decades about half of its total budget has been funded from general tax revenues." (p.243) "In 1990, after debating this issue for several years, Congress agreed to fund 75 percent of the FAA operations from the Trust Fund to better align the FAA's costs attributable to the private sector with the revenues earned from the private sector. Congress also raised the Passenger Ticket Tax from 8 to 10 percent of each airline ticket. Despite these recent policy

changes, a considerable share of the FAA's budget (25 percent) will continue to be dependent on general tax revenues." (pp.243-244)

"[The Federal Aviation Act's] nondiscrimination provisions have been construed to block certain types of user charges for aircraft landings and take offs, which could be used to smooth out traffic and thus reduce congestion and delays at airports." (p.325)

APOG

In speculating about the future, the report suggests that "while general aviation as a group may pay the same share of fees as today, the burden within general aviation might shift away from 'weekend flyers' toward 'corporate jets.'" (p.28)

"The level of user fees also represents an important policy tool, either to be increased in order to finance long-term needs or to be reduced if the NAA starts to accumulate excess reserves." (p.18)

The details of the analysis can be found on pages 12 to 18. Table I on page 15 shows how different levels of bonding would be necessary to support different levels of the AIP under the alternative assumptions about the transfer of the Trust Fund.

NAPA

"... [T]he revenue stream to support the ATC system would be corporate revenues, not tax revenues and, therefore, the system would not be subject to appropriations and the oversight which necessarily accompanies the exercise of appropriation authority. Those who pay the fees would be in a better position to demand services." (p.32)

ATA

"[U]nder the Federal Aviation Act, the quality of airline service must be determined by competition. The Federal Aviation Act also holds FAA responsible for providing ATC system resources needed by airlines to perform such service. Yet, that same statute subjects FAA's ability to provide the required ATC system resources to '... the limits of available appropriations made by the Congress.' ... Thus, whatever the public service demand may be, ... ATC system capacity and airline service are dependent upon the highly uncertain and complicated federal budget process." (pp.4-5)

"The commercial-type operations of the federal ATC corporation, with typical demand fluctuations, as well as short and long term lead times for acquiring and utilizing needed resources, can be performed in a more responsive manner outside the usual federal budget process with funding provided by self-generated income from users, including reimbursement from government users." (p.11)

"FAA's annual budget currently is about \$5.4 billion with a staff of 48,000 at over 1,500 duty locations. About 70 percent of the budget comes from the Aviation Trust Fund with the remainder funded by

general revenue. Trust Fund revenue comes from a series of legislated user fees, with the largest source, currently some 87 percent, being the passenger ticket tax. Other user fee revenue comes from taxes on general aviation fuel, aircraft tires and tubes, air freight waybills, and international passenger departures." (p.15)

## Continuity of Leadership

REA "In reviewing the ATC corporation model in the TRB report, Jasper [notes that]:

- Long-range planning would be enhanced, thanks to longer tenure of the CEO and independent financing." (p.11)

FAA "Although political leadership of Executive Branch agencies was long ago adopted as a means of allowing the President to institute changes to policy and programs, the comparatively short tenure of top management can have a number of negative consequences including:

- Difficulties in establishing team work among top political and career officials;
- An emphasis on tactical maneuvering at the expense of long-term strategic policy formulation and execution;
- Lack of accountability because the person who sets policy, establishes objectives and initiates change is gone before success or failure can be measured;
- Frequent interludes during which career executives operate in a caretaker mode; and,
- Frequent reorganizations to exert more presidential control over the career bureaucracy and provide high visibility non-competitive positions for persons brought to the agency by the political appointees." (p.5)

FMA The "lack of consistent oversight from an incumbent FAA Administrator" has caused the FAA to fall "behind in meeting its goals as defined in the Capital Investment Plan." (p.2)

"The average term of FAA Administrators has been 2 to 2.5 years," resulting in frequent "management changes... and shifted roles and functions," all of which interfere with timely policy making. (p.2)

TRB "When an agency head serves only a short time, there are a number of adverse consequences, including a tendency to focus on short-term instead of more significant but delayed improvements; a lack of continuity or stability in priorities, especially those involving large capital expenditures; and a resistance on the part of the bureaucracy to respond to new directions because it is expected that the Administrator won't be around long enough to follow through." (p.323)

"The typical, but nonetheless short, tenure of the FAA Administrators poses a litany of problems for effective management." (p.262)



- OTA "OTA finds that without stronger leadership, FAA problems of inadequate long-range planning, inter-departmental coordination, management information, and uneven application of regulations by regions are bound to continue. Congress may wish to consider setting a fixed term of up to 5 years for the FAA Administrator." (p.65)
- ASC "The historical lack of managerial continuity at FAA is particularly troublesome because of the long-term character of many FAA programs. While Administrators can start major programs, there is virtually no prospect of having an Administrator in the job long enough to implement long-term programs. The result... is a tendency to focus on short-term or highly visible problems...." (p.21)
- "There is a tendency in FAA's current environment either to take immediate and visible steps which fail to provide permanent solutions, or to announce long-term proposals which are unlikely to be implemented fully. Intermediate-term solutions which may not be visible but which have time frames that hold the current FAA management accountable within its likely tenure tend to be disfavored. An official or an agency can be embarrassed or even punished for visible failure." (p.24)
- APOG "Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

## Organizational Culture

- REA "The FAA's quasi-military corporate culture has been cited by many observers... as another contributing factor" to its procurement difficulties. (p.5)
- "In reviewing the ATC corporation model in the TRB report, Jasper [notes that]:
- It would be freed from the mixed incentive systems inherent in a federal agency and enabled to build a private corporate culture related to innovation and performance." (pp.11-12)
- "The corporation would very likely recruit a number of new managers (especially in top management) from private industry, to speed the change to a high-tech, commercial corporate culture." (p.24)
- TRB The Jones Committee in 1982 and 1984 found that "the autocratic, militaristic management style typical of many FAA supervisors was not well suited to the participatory style desired by many employees, particularly controllers."
- "A really major change in attitude and behavior depends on changing the reward and incentive system from a bureaucratic one that rewards those who do not make waves to one that encourages creative and innovative behavior," (p.337)
- "One needs an organization whose values will continue to emphasize conservatism when it comes to the safety of aircraft operations, while seeking innovation and dynamism in responding to industry and technology changes. That can best be achieved by a change to a corporate-type entity." (p.337)
- OTA "Lack of strong top management, inadequate comprehensive planning, and diminished technical expertise have led on occasion to budget and regulatory priorities being set for FAA through pressure on Congress or DOT policy officials by potent and vocal special interest groups. Appropriate consideration of system safety is not always part of this process." (p.16)
- "OTA finds that without stronger leadership, FAA problems of inadequate long-range planning, inter-departmental coordination, management information, and uneven application of regulations by regions are bound to continue." (p.65)
- ASC "Deregulation increased the number of carriers, increased the number of routes most carriers flew, changed service patterns by allowing the creation of many new route hubs, and increased passenger traffic. The

FAA, accustomed to serving an industry subject only to technological improvement in aircraft, was suddenly confronted with an industry also subject to rapid changes in operating patterns. FAA procedures and policies developed in an era of industry stability proved poorly suited to a much more dynamic environment." (pp.23-24)

"There is a tendency in FAA's current environment either to take immediate and visible steps which fail to provide permanent solutions, or to announce long-term proposals which are unlikely to be implemented fully. Intermediate-term solutions which may not be visible but which have time frames that hold the current FAA management accountable within its likely tenure tend to be disfavored. An official or an agency can be embarrassed or even punished for visible failure." (p.24)

"[The following] example is, perhaps, illustrative of a range of issues where the regulatory process could assure the public a higher level of safety at a somewhat increased cost, but has determined that the cost is 'not worth it.' There is ample evidence that injuries and deaths could be reduced in accidents involving air carrier aircraft if the seat mountings were strengthened. ... But the simplistic application of cost/benefit analysis has apparently led to a conclusion that the [arbitrary] value of the lives saved and injuries prevented or reduced is less than the cost of strengthening the seat mountings." (pp.50-51)

APOG

"Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

NAPA

"Decision making has become more protracted and management has become notably less flexible and innovative." (p.5)

"After detailed assessment of current conditions in both the aviation industry and the FAA, the Academy Panel concludes that there has been a general decline in the overall ability of the ATC system to perform at top effectiveness and to respond swiftly to the demands placed upon it. This decline is in overall management effectiveness, not in operational safety. If this deterioration is permitted to persist, it eventually will jeopardize the capacity to sustain the operational safety and the overall excellence of the system." (p.9)

## Personnel

NPR "[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)

"The FAA has trouble attracting experienced controllers to high-cost cities." (p.60)

AIRC "[T]he FAA operate[s] under severe limitations... [including] a federal personnel system that makes it unnecessarily difficult to attract and retain a talented and technically sophisticated work force." (p.8)

REA Poole bases his analysis here on a previous study. "Among the specific problems cited by the TRB study are shortages of air traffic controllers in high cost-of-living areas, lack of authority to pay relocation allowances, arbitrary personnel ceilings, generally uncompetitive pay levels, restructuring and cutting back of retirement benefits, and threatened furloughs (due to delays in approving a federal budget). It also cited the impending retirements of large numbers of maintenance technicians and problems with FAA recruitment and training." (pp.4-5)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it would be free to use businesslike personnel and procurement methods, resulting in higher-quality management and equipment." (p.11)

Under Poole's proposal, employees transferred to the new corporation "would lose civil service status... [but] their pension rights would be guaranteed.... In addition, controllers in high-stress, high cost-of-living areas... would be likely to receive compensation increases." (p.24)

"The corporation would very likely recruit a number of new managers (especially in top management) from private industry, to speed the change to a high-tech, commercial corporate culture." (p.24) (See also p.26)

"Employee transitions have gone relatively smoothly in Germany, New Zealand, and Switzerland." (p.24) (Poole goes on to describe some of the details.)

"Eliminating the civil-service constraints would provide the ability to attract and retain (via higher levels of compensation) additional controllers at TRACONs and towers in some of the system's most critical locations." (p.26)

FAA "Government-wide rules preclude offering special compensation for hard to staff locations. Statutory and regulatory provisions for compensation, benefits, retirement and reductions-in-force affect work

force morale and performance. These rules prevent FAA from effectively managing its critical work force through the use of diverse salary and benefit packages." (p.4)

FMA "A smaller technical and controller work force [and] reductions in administrative offices and functions" could be one source of efficiencies. (p.1; see also p.7)

"During the initial phases of development, an independent FAA should retain present policies and regulations concerning pay and other personnel issues. The FAA Administrator, in connection with the FAA Advisory Board, should have the authority to create, validate and implement new pay bands and personnel policies. No policy should be permitted which controverts the laws governing adverse actions against the United States government." (p.10)

TRB "Through the mid-1980s, limits on personnel, attributable to efforts to control the burgeoning federal budget deficit, contributed to a declining FAA safety inspection work force even as the demands on it increased." (p.238)

"By the end of 1990 the FAA had 10,800 FPL (full performance level) controllers, about 2,400 fewer than the prestrike FPL work force," (p.245)

"Because of civil service limits on pay differentials, the agency has been unable to attract sufficient numbers of experienced air traffic controllers to high-cost areas such as New York City, and continues to have problems recruiting top-notch technical staff in all of its work forces, particularly in high-cost areas." (p.238)

However, Congress did recently give the agency more flexibility on pay in high-cost areas (p.239). "Congress has responded to this problem by authorizing an experimental program to pay controllers and some technicians wage differentials of up to 20 percent to attract them to high-cost cities that have staffing shortages. What Congress allows with one hand, however, it restricts with the other. Although the FAA was given the authority to pay higher salaries to attract personnel to understaffed centers and towers, Congress did not provide any additional funds." (p.247)

"Staff shortages in high-cost areas are caused by the desire of controllers to move to less expensive areas, the high washout rate of trainees, the difficulty recruiting controllers from other areas, high training workloads, and excessive overtime." (p.246)

Shortages also exist in the maintenance and electronic technician work force. "The FAA is the only major employer of the controller work force, but it must compete with other federal agencies and private industry for

the pool of potential technicians.... As an agency of the federal government the FAA is required to operate within a civil service system that does not provide adequate flexibility in pay for the technical and managerial expertise that the agency needs." (p.249)

"The current work force is less experienced than in the past, however, and because of the growth in the aviation system, the demands placed on the FAA have been growing faster than its work force." (p.256)

"The FAA's staffing shortages in the past, the looming retirements of many of its most experienced technicians, its difficulty in attracting and retaining personnel with high-level technical and managerial expertise, and the lack of preparation for the changes in staffing that can be expected with the NAS Plan are all cause for concern." (p.257)

"Stability in staffing levels will not be achieved as long as the FAA is subject to the budget and personnel ceiling controls administered by the OMB." (p.336)

"There are numerous and serious shortcomings in the Civil Service laws.... While the FAA could probably do a much better job in human resources planning, training, management development, performance evaluation, incentive systems, and the like (as could other agencies), some of the basic statutory restrictions, such as those with respect to hiring, discipline, incentives and firing, are beyond its discretion to change." (p.336)

OTA

"OTA finds that while the autonomy of the regions permits allocation of personnel according to regional need, policy guidance to FAA regions from headquarters is inadequate to ensure nationally consistent standards." (p.16)

"Federal processes are so slow that FAA became adequately staffed to handle new industry entrants only in 1984, the year that new airlines began to go bankrupt or merge with established carriers." (p.17)

"Differences in living costs, traffic volume and complexity, and other factors, compound difficulties in filling controller vacancies in major metropolitan areas such as Los Angeles, Chicago, New York, and Boston."

"OTA finds that assisting FAA to overcome some of these special difficulties is an important safety priority for Congress to consider. For example, provision for cost of living adjustments for assignments in major metropolitan areas could ease transfer of personnel to facilities with special needs. Mechanisms to speed contracting procedures for training and other vital procurement could be helpful." (p.65)

- DOT "[An FAA restructuring proposal] must address the problem of rigid federal personnel rules that prevent efficient deployment of key personnel." (p.2)
- ASC "The instability and uncertainty in the budget also produces uneven flows of new hires, particularly among safety inspectors, airways facilities technicians, air traffic controllers, and support staff. Hiring has typically come in 'lumps,' often in response to public or political pressure. Such hiring patterns make it difficult to use new personnel effectively." (p.20)
- "FAA faces two separate personnel problems among its field personnel: geographic flexibility and competitive compensation. FAA does not provide differential compensation across different geographic areas despite wide differences in the cost of living. ... In the case of air traffic control, many of the high cost of living areas are also high traffic areas where the demands on the controller work force are the greatest. ... The result is that some of the busiest facilities are also some of the most severely understaffed...." (pp.20-21)
- "The recent formation of a union suggests to many that the problems that precipitated the PATCO strike... have, at best, been only partially solved. Employee surveys also suggest continuing morale problems..." (p.25)
- GAO "Our 1985 survey of air traffic controllers found that controllers and their supervisors felt they were being stretched too thin. Additional work has shown that controllers are overloaded in peak periods and that further safeguards may be needed. FAA's current staffing standards fall short of accurately reflecting controller staffing needs, particularly in providing sufficient staff to cover peak traffic periods and maintain an adequate training pipeline. Until valid controller staffing standards are in place, neither the Congress nor FAA will know how many controllers are needed." (p.3)
- "Although FAA has staffing standards for maintenance personnel, it has not used them in preparing budgets because FAA managers did not believe they would receive support for staffing at that level, and, in any event, the staffing standards had not been fully validated. Our September 1987 report recommended that FAA improve validation of its staffing standards and revise its staffing targets accordingly. We also suggested that options be developed for meeting short term staffing needs." (p.3)
- "Better management controls over FAA work forces will also be required whether or not the functions remain within FAA, and much remains to be done to rebuild the controller and maintenance work forces. Considerable time is required to fully train new staff for these

work forces, and we believe this would be a factor for any new ATC corporation, as it is now for FAA." (p.7)

"As sophisticated new computer technologies come on line, FAA is using contractors to maintain the equipment where it has proven cost beneficial. FAA has already begun to use private contractors to perform weather observation functions formerly handled by FAA employees, and the Martin Marietta Corporation is responsible for ensuring the integration of NAS plan projects throughout that program." (p.9)

APOG "Civil Service rules limit the FAA's ability to match the existing supply of trained personnel with the demand for service and make it difficult to alleviate morale problems." (p.7)

NAPA "Personnel staffing, training and employee development have been curtailed or neglected." (p.5)

ATA "Statutory exemptions from arbitrary federal personnel ceilings and other federal personnel practices are necessary for the business-like functioning of the corporation, and would be included [in legislation for a federal corporation]. Management flexibility and employee productivity gains would be possible and encouraged by the legislative language."

"Management control of employment practices and pay, for example, would facilitate personnel transfers to meet shifting demands, allow more meaningful wage differentials to assure higher skills at high demand locations, and permit greater use of retired controllers on a part-time, temporary, or more permanent basis. ... The initial and continuing employment of the corporation's officers and other key personnel would be based solely on merit." (pp.11-12)



## Procurement

- NPR "[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)
- AIRC "[T]he FAA operate[s] under severe limitations...[including] a cumbersome procurement system designed to prevent fraud but even better at thwarting the timely and efficient acquisition of sophisticated and rapidly evolving high technology goods and services." (p.8)
- REA "Many observers attribute these problems [in keeping to the NAS Plan schedule] to the costly and cumbersome federal procurement regulations under which the FAA must operate. ... On the other hand, the General Accounting Office, which has made numerous investigations of FAA/ATC procurement problems, attributes much of the blame to poor planning and management by the FAA. In fact, the answer is probably a combination of a complex, cumbersome procurement system and an FAA management system ill-suited to developing and operating real-time high-tech systems. The FAA's quasi-military corporate culture has been cited by many observers... as another contributing factor." (p.5)
- FAA "FAA procurement practices are conducted in accordance with Government-wide regulations and policies. These regulations preclude the development and maintenance of productive relationships between the FAA and its providers. Timely acquisition of systems to support industry changes is nearly impossible. Acquisition could be more effective in meeting user requirements in a timely manner and within established costs if it could be free of some of the rules and regulations intrinsic within the Federal acquisition process. These include, but are not limited to: the Competition Contracting Act, the Brooks Act, the Service Contract Act, the Davis-Bacon Act, and the Federal budget cycle. Relief from these impediments would result in the FAA developing a more flexible and responsive acquisition process." (p.4)
- FMA The "lack of consistent oversight from an incumbent FAA Administrator" has caused the FAA to fall "behind in meeting its goals as defined in the Capital Investment Plan." (p.2)
- "All functions within this area should conform to present law and rules governing the procurement process." (p.9)
- "An office of procurement should be established, with direct reporting relationships to the FAA Administrator," and with "financial control of all programs under development." (p.9)
- TRB "The GAO has argued that the FAA began procuring equipment before carefully defining its needs and made inadequate provisions for testing and evaluation in the procurement process. Had the FAA followed the

procurement policy outlined in OMB Circular A-109, which calls for continual reassessment of progress by top management and a 'fly-before-buy' approach, many of the problems encountered could have been avoided, according to the GAO. Thus, from the GAO's perspective, the fundamental problems that the FAA has had in procurement stem from its failure to follow recommended government procurement policies and not from the policies and procedures themselves." (p.258)

"The Aviation Safety Commission concluded that current federal procurement regulations are not well suited to agencies such as the FAA that depend on advanced technologies. The implication of following all the steps required in these cumbersome regulations, which can take years to complete, is that by the time the FAA receives the technology it set out to acquire, the technology has been superseded by technologies developed in the interim." (p.259)

OTA "Scrutiny of air traffic controller and inspector work force levels, tensions between DOT and FAA, and progress of the National Airspace System (NAS) Plan are byproducts of national budget constraints, which have left FAA scrambling vainly to catch up with industry. Even after trouble spots have been pinpointed, Federal processes to put in place regulations, technologies, or programs as countermeasures are excessively time-consuming." (p.4)

"ATC system renewal has moved at glacial speed, slowed by inadequate system planning, technology development difficulties, and administration and congressional budget decisions." (p.7)

DOT "[An FAA restructuring proposal] must remove the burden of abstruse federal procurement rules that prevent timely acquisition of new technology." (p.2)

ASC "... FAA often encounters considerable difficulty in obtaining either the most modern or the least cost technology. FAA is subject to the same procurement policies that govern most other agencies, yet these policies are frequently ill suited for both FAA and for other government agencies operating in an environment of changing technology. FAA's frequent need for specialized technology plus... budget and leadership instability... aggravate the situation." (p.22) The main problems are complex federal rules for simple purchases and long delays to comply with these rules.

GAO "The 12 major [NAS Plan] systems have experienced schedule delays ranging from 1 to 8 years. FAA underestimated the complexity of these systems, the time needed to develop software, and the interdependency among the systems. Some technologies, thought to be available from the private sector 'off the shelf,' required further development and

testing to meet operational requirements. FAA had not defined the operational requirements of other systems well enough to permit development of adequate systems specifications... NAS Plan delays resulted from FAA's original acquisition strategy, not funding shortages. Our work on major acquisitions has often shown that FAA's original approach of using a fast-track, concurrent development and acquisition strategy lead to increased technical, operational, and economic risks." (pp.4-5)

"Despite initial delays, a new ATC computer and several other NAS Plan systems are now entering the deployment phase and FAA is taking some steps to correct acquisition deficiencies. In addition to issuing its first standard operating procedures to be followed in acquiring major systems, the agency has established test and evaluation procedures, and is also rethinking its approach to acquiring individual systems." (p.5)

APOG In setting up assumptions for its financial analysis on page 14, the study cites an Air Transport Association estimate that better management and procurement practices could result in a savings of 25%. The study itself uses a more conservative estimate.

"The immediate problem with implementing the NAS Plan... is not simply one of adequate funding. Rather, shifting priorities, changing development directions, and a balky procurement process appear to be more important. The NAA appears to have the potential to reduce many of these problems." (p.26)

Under the heading of "General Concern With Independent Authorities," the study notes the following: "Both in the United States and abroad there is evidence that quasi-public bodies with significant funding powers often overinvest: that is, they are not controlled in terms of the application of economic criteria to their investment decisions." (p.29)

NAPA "Procurement procedures and computer acquisitions are burdened with red tape, uncertainty, and delays." (p.5)

ATA "[G]overnment regulations applicable to FAA procurements are cumbersome, inefficient and not responsive to the orderly and effective development of the ATC system. ... Government procurement practices bear little resemblance to commercial-type procurement transactions." (p.12)

## External Oversight

- REA After citing the TRB study, the author states: "Because of aviation's high visibility, the FAA is subject to detailed oversight by a number of congressional committees. In addition, as an executive branch agency, it is subject to detailed oversight by its parent agency, the Department of Transportation, and by the White House's Office of Management and Budget. Micromanagement substitutes the often-conflicting priorities of these outside bodies for the priorities and best judgement of the FAA's professional managers." (p.4)
- "In reviewing the ATC corporation model in the TRB report, Jasper [notes that]
- It would be free of both legislative and executive micro-management.
  - Either user ownership or federal rate-review would prevent overcharging of users." (pp.11-12)
- FAA "Control of FAA operations has been diffused into a complex and confusing array of authorities among FAA leadership, OST [Office of the Secretary of Transportation], OMB [Office of Management and Budget], OPM [Office of Personnel Management], the White House staff, and several Congressional committees." (p.5)
- "In addition to oversight of acquisition, personnel, and appropriations, the OST/OMB involvement in rulemaking can add as long as six months to the process." (p.5)
- TRB "Examples [of micromanagement] are setting of ceilings on categories of FAA employees, or directives to increase employment in such categories, rather than assigning the FAA a personnel ceiling and allowing the Administrator to determine how best to use that ceiling." (p.323)
- "Most former FAA Administrators now favor giving the FAA greater autonomy in running its programs, partly because of the frustrations in dealing with the increased bureaucracy and the greater degree of control exercised by the Office of the Secretary and the OMB over FAA affairs." (p.262)
- OTA "Scrutiny of air traffic controller and inspector work force levels, tensions between DOT and FAA, and progress of the National Airspace System (NAS) Plan are byproducts of national budget constraints, which have left FAA scrambling vainly to catch up with industry. Even after trouble spots have been pinpointed, Federal processes to put in place regulations, technologies, or programs as countermeasures are

excessively time-consuming. Major changes in regulations, such as requirements for ground proximity warning systems or collision avoidance devices, usually occur only in the shocked and saddened aftermath of a major airline accident, even though the underlying causal problems were recognized years earlier." (p.4)

ASC "FAA rulemaking process must be streamlined and restructured to include clear and unambiguous responsibility and accountability." (p.2)

"The rulemaking process includes multiple reviews and yet does not contain clear responsibility and accountability. The Aviation Safety Commission could find few instances where the reviews outside of FAA changed even minor aspects of the technical content of the proposed rules. The result is a process that seeks public accountability but instead generates considerable disagreement and delay. Responsibility has become diffused to the point where decisive action is difficult to achieve except in the wake of an accident." (p.19)

"Outside reviews, however, are not the sole cause of delays. No matter how delay is measured, the problem of rulemaking delay seems to lie with problems throughout the entire process rather than with any specific step. The [ASC] examined 33 final rules generated by Aviation Standards between 1983 and 1987. The average time from petition to rulemaking was more than two years. Even if outside agency reviews were eliminated, the FAA's regulatory and rulemaking processes could be much more efficient." (p.50)

APOG "Bureaucratic and regulatory constraints appear to limit the effectiveness of the [FAA]... in its designated but conflicting roles as financier, operator, planner, promoter, and regulator." (p.5)

"Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

"Political involvement can result in micro-management, with over specification of procedures by higher levels in the organization." (p.7)

In order to give airports input into the grant process, the report recommends "that there be... a separate advisory panel, strictly limited to broad policy issues concerning the AIP program." (p.27)

NAPA "Approaches to oversight and accountability tend to be too heavy-handed for field operations. In effect, real control has been diffused into a complex, confusing, and often kaleidoscopic array of authorities among FAA leadership, the Office of the Secretary of DOT, the Office of Management and Budget, the Office of Personnel Management, the White House staff, and several congressional committees." (pp.9-10)

## Conflicting Goals and Objectives

- REA "While the agency operates on an arms-length basis in regulating airframe manufacturers and aircraft operators, and in licensing pilots and mechanics, when it comes to the ATC system the FAA is essentially regulating itself." (p.5)
- "The other conflict is between the FAA's regulatory role and its responsibility to promote the health of the aviation industry. This type of dual charter is not present in other federal safety regulatory agencies." (p.5)
- "In reviewing the ATC corporation model in the TRB report, Jasper [notes that] the present conflicts of interest between safety regulation and operations (and between promotion and regulation) would be removed." (p.11)
- FMA "Within the FAA are several diverse missions that are advanced through safety and nonsafety-related organizations. Also, the FAA has responsibility for the promotion of aviation. At times these missions conflict and create unnecessary competition for diminishing funds." (p.1)
- TRB "The shared power provisions of the constitution create inherent opportunities for conflict between Congress and the executive branch... While the head of a department is more likely to side with the White House and the OMB on such issues as hiring and spending, an administration such as the FAA is more likely to be sensitive to the priorities and pressures of Congress, before which it must support its legislative and funding requests.... Further, the tension between Congress and the executive branch has clearly contributed to the stop-and-start character of some vital staffing policies, such as when to hire controllers and inspectors, and how many to hire." (p.324)
- "Two other concerns have often been expressed about possibly conflicting roles assigned to the FAA. The first is between its regulatory role (certificating or licensing airlines, air crews, etc.) and its operational role (ATC). The second is between its responsibilities to promote aviation and to regulate it." (p.333)
- OTA "FAA has a dual mandate: '... to promote safety of flight... in air commerce through standard setting...' and to carry out for the Secretary of Transportation the responsibility '... to encourage and foster the development of air commerce.' While these tasks are not necessarily incompatible, an inherent tension exists between them in two vital safety activities of FAA — inspections, and managing and operating ATC. In times of massive change and rapid travel growth, such as in the past decade, fulfilling both goals of the mandate presents the agency with unavoidable conflicts." (p.5)

"Congress may wish to identify safety as FAA's sole and unique responsibility, especially for ATC and regulatory programs. Responsibility for fostering economic development of the industry could be returned to the Secretary of Transportation." (p.65)

DOT "Unlike most agencies, the FAA combines three distinct missions. It is charged with establishing and enforcing safety regulations for the aviation community. At the same time, FAA provides ATC services for public and private aviation. Thirdly, the agency is statutorily directed to encourage and foster the development of civil aeronautics and air commerce.... [T]hese three missions combine the incongruous tasks of promotion and regulation, as well as the responsibility for operation of the ATC system." (p.3)

ASC "In an organization like FAA, which has both operational and regulatory functions, mixed incentives can create public and organizational concern about whether safety remains paramount in the face of other governmental concerns." (p.24)

"[The budget and appropriation process] can create incentives to reduce personnel levels, to reassign personnel ceilings to different functions, to cut expenditures, or to close facilities. FAA also needs to be responsive to Congress and to other constituencies. This need for responsiveness can create potential conflicts with the desire to ensure that FAA operations are effective and efficient." (p.24)

"In a regulated public utility environment, the regulated firm must meet the regulators' standards, or persuade the regulator to change them. But, when the regulator also operates the 'utility,' in this case ATC, conflicting incentives may arise." (p.24) "Both safety and public confidence in the safety of the system might be enhanced if greater separation existed between the functions of regulating the ATC system and operating it. But too sharp a separation might give rise to problems with coordination." (p.25)

"... [R]egulatory processes must remain governmental in character and cannot be taken out of the Federal government or removed from public accountability." (p.27)

APOG "Bureaucratic and regulatory constraints appear to limit the effectiveness of the [FAA]... in its designated but conflicting roles as financier, operator, planner, promoter, and regulator." (p.5)

"The FAA is forced to meet several, contradictory goals: maximize safety while meeting budget constraints are but one obvious example." (p.7)

Given the linkages among safety, cost, and capacity there is a risk that

the new FAA could use its control of system safety and enforcement as leverage to achieve other unrelated objectives. Since the FAA will remain under the control of the Congress, it may be hard to limit this potential involvement. (p.24)



## Technology/Operational Performance

- NPR "With no recent expansion, the system lacks the capacity to handle all air travel demands." (p.60)
- AIRC "[T]he federal regulatory system produces too many requirements that impose unwarranted costs and inefficiencies on the industry. It is no longer acceptable for the nation to run its air transportation system with rules, procedures and technology developed for an obsolete generation of aircraft and a less complex time." (p.2)
- "This new technology will bring vast improvement in the operating efficiency of the airline industry." (p.2)
- "The FAA must be restructured fundamentally if we are to take full advantage of new developments in ATC technology." (p.8)
- REA "One of the strongest indictments of the ATC system's inadequate funding comes from the ACAP study. Using a mathematical model, Drs. Darryl Jenkins and Douglas Frechtling concluded that up to half of all airline delays are due to ATC problems."
- "One likely change in direction would be an accelerated movement toward satellite-based air traffic control." (p.26)
- FMA "With its present financial and managerial structure, the FAA is falling behind in technology...." (p.2)
- OTA "OTA concludes that FAA's functions cannot be separated into regulatory and operating (ATC) components without diminishing the effectiveness of the entire system. Furthermore, without more emphasis on system safety at the very top, FAA agency-wide problems that have hampered the organization's capabilities are likely to continue." (p.6)
- "Without immediate steps to modernize the ATC system and to manage air traffic flow and demand as necessary, present safety levels may not be sustainable." (p.9)
- "FAA and DOT budget decisions in the early 1980s to reduce personnel levels created shortages of trained personnel in three critical areas [air traffic controller, aviation safety inspector, and electronics technician], and the safety system continues to feel the effects." (p.17)
- DOT "[An FAA restructuring proposal must demonstrate] consistency in both safety regulation and in the delivery of ATC services at every level of the organization in charge of each." (p.2)
- ASC "Outside reviews, however, are not the sole cause of delays. No matter

how delay is measured, the problem of rulemaking delay seems to lie with problems throughout the entire process rather than with any specific step. The [ASC] examined 33 final rules generated by Aviation Standards between 1983 and 1987. The average time from petition to rulemaking was more than two years. Even if outside agency reviews were eliminated, the FAA's regulatory and rulemaking processes could be much more efficient." (p.50)

GAO "FAA expects to provide better air traffic control with fewer people because of NAS Plan improvements, but the delays are making it difficult for FAA to provide the level of air traffic control needed in the meantime. Secondly, the NAS Plan is supposed to save the airline industry considerable expense by reducing delays and permitting more effective routing, but these benefits are now being pushed further into the future." (p.5)

"... [M]odernization of the ATC system has been delayed because sophisticated technologies need to be developed and shown to work reliably, not because of funding shortages or procurement rules. In our view, a systematic approach to technology development will be required whether or not privatization occurs." (p.7)

APOG On page 7, the study describes "symptoms" of an airport and airway system that is not as effective as it should be. These "symptoms" include delays, which "will increase unless investments are made and operations changed to improve long-term capacity both for airports and for air traffic control," and safety concerns. The study cites figures showing an increase in near-misses in 1985 to support the concern for safety, but attributes part of the problem to the effects of the controllers' strike.

NAPA "After detailed assessment of current conditions in both the aviation industry and the FAA, the Academy Panel concludes that there has been a general decline in the overall ability of the ATC system to perform at top effectiveness and to respond swiftly to the demands placed upon it. This decline is in overall management effectiveness, not in operational safety. If this deterioration is permitted to persist, it eventually will jeopardize the capacity to sustain the operational safety and the overall excellence of the system." (p.9)

## Appendix B

### SYNOPSIS OF RELATED PRIOR STUDIES\*

This appendix presents the major evidence presented and conclusions drawn in thirteen previous studies related to the topic of restructuring FAA. Each synopsis begins with a "General Comments" section describing the study and its emphasis and organization. The next heading, "Proposed Type of Organization," contains key elements of the proposal the study recommends, if any.

Next, each synopsis presents the nine problem areas from Appendix A and key excerpts from the study's discussion of those problems.

Finally, if a study addresses possible precedents — related restructurings of either foreign aviation authorities or non-aviation U.S. institutions — the final section, "Information on Precedents," directs the reader where in the study to look for this information.

The structure of each synopsis, therefore, is as follows:

#### **Title and Bibliographic Information**

General Comments

Proposed Type of Organization

Revenue Generation

Budget Process/Program Planning

Continuity of Leadership

Organizational Culture

Personnel

Procurement

External Oversight

Conflicting Goals and Objectives

Technology/Operational Performance

Information on Precedents

\* The information in this appendix is the same as in Appendix A, organized differently.

*From Red Tape to Results: Creating a Government that Works Better & Costs Less,*  
Report of the National Performance Review, September 1993

General Comments

The National Performance Review, chaired by Vice President Al Gore, covers the operations of the entire federal government. Its recommendations are organized into four areas: *Cutting Red Tape, Putting Customers First, Empowering Employees to get Results, and Cutting Back to Basics*. Each area is further divided into a series of steps, which are buttressed by both notable examples and potential opportunities for changing current government operations. The second area, *Putting Customers First*, is divided into four steps (*Giving Customers a Voice--and a Choice, Making Service Organizations Compete, Creating Market Dynamics, and Using Market Mechanisms to Solve Problems*). *Creating market dynamics* contains a recommendation pertaining to the organization of the ATC system.

Proposed Type of Organization

The NPR proposes to "restructure the ATC into a government-owned corporation, supported by user fees and governed by a board of directors. As customer use rises, so will revenues, providing the funds needed to answer rising customer demands and finance new technologies to improve safety. Relieved of its operational role, the FAA would focus on regulating safety." (p.61)

Budget Process/Program Planning

"[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)

"[Modernizing ATC technology] has been virtually impossible, because the FAA's money comes in annual appropriations." (p.60)

"[The ATC system] should be... able to borrow on the capital markets, to do long-term financial planning, to buy equipment it needs when it needs it." (p.61)

Personnel

"[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)

"The FAA has trouble attracting experienced controllers to high-cost cities." (p.60)

Procurement

"[T]he FAA ATC system is constantly hamstrung by budget, personnel, and procurement restrictions." (p.60)

Technology/Operational Performance

"With no recent expansion, the system lacks the capacity to handle all air travel demands." (p.60)

Information on Precedents

Great Britain, New Zealand.

*Change, Challenge and Competition: A Report to the President and Congress,  
National Commission to Ensure a Strong Competitive Airline Industry, August 1993.*

General Comments

The National Commission to Ensure a Strong Competitive Airline Industry, created in 1993, was mandated to investigate, study and make policy recommendations about the financial health of the U.S. airline and aerospace industries. The Commission's membership included "individuals who are experts in aviation economics, finance, international trade and related disciplines who can represent airlines, passengers, shippers, airline employees, aircraft manufacturers, general aviation and the financial community." The Commission covered a broad range of aviation matters and its reported recommendations are organized into three general areas: efficiency and technological superiority, financial strength and access to global markets. A specific recommendation to restructure the FAA is contained in the first area.

Proposed Type of Organization

The Airline Commission recommends that the FAA be established as an independent government corporation and removed from the federal budget process.

The FAA must be reinvented. The new structure of FAA must be designed to produce a stable and predictable source of funds and to allow that funding stream to be leveraged to finance strategic capital investments, as well as a regulatory system that is cost effective, enhances safety and efficiency, and does not impede the ability of the industry to manage its affairs. (p.2)

The Commission recommends the creation of an independent federal corporate entity within the Department of Transportation to manage and fund ATC and related functions, including system development, procurement and maintenance. However, the Commission states that "policy control of the ATC system and safety oversight should stay with the federal government."

Specifically, the Commission recommends that the ATC Corporation be based on the following principles:

- Ability of the corporate entity to create and use a predictable, stable source of revenue for operations, maintenance and capital investment;
- Ability of the corporate entity to issue long-term bonds for capital purchases;
- Removal of current expenditures and revenues from the federal budget in equal amounts for a fiscally neutral effect;
- Sufficient management flexibility to create systems for procurement,

staff and budget consistent with the best practices in the private sector;

- Flexibility in a orderly transfer of operating functions to the reorganized entity; and,
- Continued ATC service to the Department of Defense, meeting national security requirements.

### Budget Process/Program Planning

"The method by which air traffic control is funded and implemented--through annual budget allocations subject to cuts and changes--virtually assures that any planned 'new' technology will be obsolete by the time it is operational." (p.7)

"[T]he FAA operate[s] under severe limitations... includ[ing] total dependence on a political and unpredictable budgetary process." (p.8)

"Put simply, the federal budget process cannot be relied on to provide adequate, continuing funds for FAA's operations or capital programs." (p.8)

"A recent OMB memorandum contemplates hundreds of millions of dollars in operating and maintenance budget reductions for FAA in fiscal year 1995. These cuts would have a devastating impact and illustrate how the vagaries of the federal budget undermine the funding stability necessary to provide efficient ATC services." (p.8)

"The improvements we believe are necessary in our ATC system cannot be accomplished without a stable, predictable source of revenues and the ability to use those revenues to secure long-term financing." (p.8)

"Few high-technology, capital-intensive businesses attempt a pay-as-you go approach to major capital investment projects." (p.8)

### Revenue Generation

"The Airport and Airway Trust Fund was designed to provide a dedicated source of user funding to pay for airport and airspace improvements. It should not serve as a general fund asset for the federal government." (p.8)

"User demand and the stability and growth of user revenues must drive ATC operations and modernization." (p.8)

"Few high-technology, capital-intensive businesses attempt a pay-as-you go approach to major capital investment projects." (p.8)

## Personnel

"[T]he FAA operate[s] under severe limitations...[including] a federal personnel system that makes it unnecessarily difficult to attract and retain a talented and technically sophisticated work force." (p.8)

## Procurement

"[T]he FAA operate[s] under severe limitations...[including] a cumbersome procurement system designed to prevent fraud but even better at thwarting the timely and efficient acquisition of sophisticated and rapidly evolving high technology goods and services." (p.8)

## Technology/Operational Performance

"[T]he federal regulatory system produces too many requirements that impose unwarranted costs and inefficiencies on the industry. It is no longer acceptable for the nation to run its air transportation system with rules, procedures and technology developed for an obsolete generation of aircraft and a less complex time." (p.2)

"This new technology will bring vast improvement in the operating efficiency of the airline industry." (p.2)

"The FAA must be restructured fundamentally if we are to take full advantage of new developments in ATC technology." (p.8)



### General Comments

This paper's author believes that air traffic control in the United States should be assigned exclusively to a government corporation. The paper analyzes the need for a change, cites the success of ATC corporatization overseas, shows how such a corporation could work in the United States (especially that workable user fees could be developed and safety could adequately be regulated), and proposes a specific plan.

### Proposed Type of Organization

The author proposes the creation of a federally chartered U.S. Airways Corporation. He describes it as follows:

All current ATC-related staff, facilities, and equipment would be transferred to the new corporate entity. It would have a corporate charter and a normal corporate board of directors, with initial members appointed by the President and Congress, but with subsequent membership determined by the company itself. ... Initially, 100 percent of its shares would be held by the federal government, though possible user ownership... and/or investor ownership... should not be ruled out. The company would operate on a fully self-supporting, though not explicitly for-profit basis. (p.25)

The FAA would retain all other functions, including airport grants and safety regulation.

The corporation would have a monopoly on the provision of "enroute air traffic control" (p.26) and be subject to safety regulation by the FAA and rate regulation by the Transportation Department. (pp.25-26) It would be allowed "to contract with other entities for specific services" (p.26) and have "the right to hire and fire staff, to buy and sell property, and to issue bonds." (p.26)

As a contrast to his proposal for a corporation to provide only ATC, on pages 9 and 10 the author analyzes a number of proposals which have been made for an FAA corporation. These include proposals by the Air Transport Association (1985), the Aviation Safety Commission (1987), FAA Associate Administrator Albert Blackburn (1989), and The FAA Conference of the Federal Managers Association (1993).

### Budget Process/Program Planning

"Because both Congress and the administration typically seek to increase federal revenues and reduce federal outlays, nearly every year the amount the FAA is allowed to spend on Aviation Trust Fund purposes is less than collected from users and deposited in the Trust Fund." (p.3)

"Besides providing insufficient funding to deploy adequate numbers of fully trained air traffic controllers and to make needed investments in modernizing the ATC system, the federal budget process's unpredictability plays havoc with the need for long-term planning, both for research and development and for major investments in modernizing the ATC system." (p.4)

"One of the strongest indictments of the ATC system's inadequate funding comes from the ACAP study. Using a mathematical model, Drs. Darryl Jenkins and Douglas Frechtling concluded that up to half of all airline delays are due to ATC problems."

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it can readily be financially self-sufficient via user charges, therefore becoming free of... present budgetary constraints." (p.11)

If the entire FAA were made a corporation, "any use of federal tax funds for such a corporation would potentially subject it to the federal budgeting process," and the problems noted above. (p.10)

### Revenue Generation

A very important part of this paper is the discussion of user fees, through which the U.S. Airways Corporation would be self-sufficient. The main point of the author's discussion is to show that workable fees can be implemented.

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it can readily be financially self-sufficient via user charges, therefore becoming free of... present budgetary constraints." (p.11)

"The fundamental problem is that the current aviation excise-tax structure... involves considerable cross-subsidies among user groups. ... Airlines pay 97 percent of these taxes while general aviation pays only 3 percent. ... general aviation accounts for 21 percent of the ATC transactions at centers (ARTCCs), towers, and TRACONs.... Moreover, government users (military and other federal agencies) also account for significant numbers of operations for which they do not pay." (pp.14-15) The author includes charts to support his arguments.

Based on an examination of data on GA fleets and operations, the author separates GA "into two broad categories of user: 1) commercial/business users, represented in a first approximation by turbine-powered aircraft; and 2) personal/recreational noncommercial users, represented (approximately) by piston-powered aircraft. The former group are heavy users of controlled airspace and ATC services, while the latter are not." (p.18)

"The general principles for charging airspace users should be:

- No one pays for services they do not use;

- Noncommercial ('true' GA) customers pay only the marginal costs they impose on the system; and
- Charges should be based on long-run economic costs." (p.18)

On page 20 the author presents a set of user fees which would have covered the U.S. Airways Corporation's costs in 1991. These are developed based on a paper by Rich Golaszewski about the GRA cost-allocation methodology. Poole includes an appendix which describes these calculations in detail. These are not true marginal-cost prices, since they include allocated joint costs.

However, "for the nonbusiness [GA] piston-equipment segment, only true marginal costs have been used." (p.20) There is both an economic and a political reason for doing this. "GA users are the most highly price-sensitive, and in many cases may be discretionary users. ... In political terms, the vast majority of GA flyers are nonbusiness, single-engine piston users. They will not accept a pricing system that drastically increases their costs of flying, and they have lobbying clout." (p.20)

On pages 21 and 22, the author considers how the system of user charges would affect various user groups. He notes that "airline users (air carriers plus commuter/taxi) would provide 74 percent of the total revenues. GA-turbine users would pay 7 percent, while those GA-piston flyers actually using ATC services would pay 5 percent of the total. The large majority of GA-piston flyers, who do not use towered airports or other ATC services, would pay nothing at all." (p.22) (According to his chart on p. 22, government users would pay the remaining 14 percent.)

Poole raises the issue of whether user fees would have a safety impact. "Legitimate questions can be raised about whether charging noncommercial GA users for the services of flight service stations, for example, would lead to adverse safety impacts (e.g., pilots declining to obtain a \$9 briefing or to pay \$18 for a flight plan.)" (p.22)

"Charging military users is becoming standard practice overseas where ATC has been corporatized." (p.25)

"Although it has not traditionally paid for ATC services, ... the U.S. military pays market prices for other needed goods and services.... There is no reason in principle why it should not pay normal rates for ATC services." (p.25)

### Continuity of Leadership

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that]

- Long-range planning would be enhanced, thanks to longer tenure of the CEO and independent financing." (p.11)

## Organizational Culture

"The FAA's quasi-military corporate culture has been cited by many observers... as another contributing factor" to its procurement difficulties. (p.5)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that]

- It would be freed from the mixed incentive systems inherent in a federal agency and enabled to build a private corporate culture related to innovation and performance." (pp.11-12)

"The corporation would very likely recruit a number of new managers (especially in top management) from private industry, to speed the change to a high-tech, commercial corporate culture." (p.24)

## Personnel

Poole bases his analysis here on a previous study. "Among the specific problems cited by the TRB study are shortages of air traffic controllers in high cost-of-living areas, lack of authority to pay relocation allowances, arbitrary personnel ceilings, generally uncompetitive pay levels, restructuring and cutting back of retirement benefits, and threatened furloughs (due to delays in approving a federal budget). It also cited the impending retirements of large numbers of maintenance technicians and problems with FAA recruitment and training." (pp.4-5)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it would be free to use businesslike personnel and procurement methods, resulting in higher-quality management and equipment." (p.11)

Under Poole's proposal, employees transferred to the new corporation "would lose civil service status... [but] their pension rights would be guaranteed.... In addition, controllers in high-stress, high cost-of-living areas... would be likely to receive compensation increases." (p.24)

"The corporation would very likely recruit a number of new managers (especially in top management) from private industry, to speed the change to a high-tech, commercial corporate culture." (p.24) (See also p.26)

"Employee transitions have gone relatively smoothly in Germany, New Zealand, and Switzerland." (p.24) (Poole goes on to describe some of the details.)

"Eliminating the civil-service constraints would provide the ability to attract and retain (via higher levels of compensation) additional controllers at TRACONs and towers in some of the system's most critical locations." (p.26)

## Procurement

"Many observers attribute these problems [in keeping to the NAS Plan schedule] to

the costly and cumbersome federal procurement regulations under which the FAA must operate. ... On the other hand, the General Accounting Office, which has made numerous investigations of FAA/ATC procurement problems, attributes much of the blame to poor planning and management by the FAA. In fact, the answer is probably a combination of a complex, cumbersome procurement system and an FAA management system ill-suited to developing and operating real-time high-tech systems. The FAA's quasi-military corporate culture has been cited by many observers... as another contributing factor." (p.5)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] it would be free to use businesslike personnel and procurement methods, resulting in higher-quality management and equipment." (p.11)

### External Oversight

After citing the TRB study, the author states: "Because of aviation's high visibility, the FAA is subject to detailed oversight by a number of congressional committees. In addition, as an executive branch agency, it is subject to detailed oversight by its parent agency, the Department of Transportation, and by the White House's Office of Management and Budget. Micromanagement substitutes the often-conflicting priorities of these outside bodies for the priorities and best judgement of the FAA's professional managers." (p.4)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that]

- It would be free of both legislative and executive micromanagement.
- Either user ownership or federal rate-review would prevent overcharging of users." (pp.11-12)

If the entire FAA were corporatized, "attempting to make the corporation fully independent... is difficult to reconcile with the idea of giving it a board composed of government officials." (p.10)

### Conflicting Goals and Objectives

"While the agency operates on an arms-length basis in regulating airframe manufacturers and aircraft operators, and in licensing pilots and mechanics, when it comes to the ATC system the FAA is essentially regulating itself." (p.5)

"The other conflict is between the FAA's regulatory role and its responsibility to promote the health of the aviation industry. This type of dual charter is not present in other federal safety regulatory agencies." (p.5)

"In reviewing the ATC corporation model in the TRB report, Jasper [notes that] the present conflicts of interest between safety regulation and operations (and between promotion and regulation) would be removed." (p.11)

## Technology/Operational Performance

"One of the strongest indictments of the ATC system's inadequate funding comes from the ACAP study. Using a mathematical model, Drs. Darryl Jenkins and Douglas Frechtling concluded that up to half of all airline delays are due to ATC problems."

"One likely change in direction would be an accelerated movement toward satellite-based air traffic control." (p.26)

## Information on Precedents

One of the author's major points seems to be that other countries have successfully reorganized their ATC systems. He describes the experiences of New Zealand, Switzerland, Germany, South Africa, and Canada on pages 6-8. He later notes four common characteristics of these reorganizations. In his words, these are:

- Separating out the ATC function from the national government aviation agency (usually a transport department);
- Creating a commercial-type corporate organizational form, with a board of directors consisting of private-sector executives and making use of commercial accounting practices;
- 100 percent user-charge funding, with no tax support and complete independence from the government budget process; and
- Retention within government of the safety regulatory function. (p.11)

*Assessment of FAA Organizational Options, Federal Aviation Administration, Office of Policy and Plans, Policy and Systems Analysis Division, July 1993.*

General Comments

In response to the National Aviation Commission, the FAA report presents a discussion of the comparative advantages and disadvantages of three primary organizational options for restructuring FAA.

The report begins by outlining five administrative problem areas:

- Acquisition
- Personnel
- Budget
- Excessive Oversight
- Leadership Turnover

Proposed Type of Organization

Following the discussion of problem definition, the report outlines the comparative advantages and disadvantages of three organizational options for addressing each problem area defined above. The FAA organizational options include:

- Status quo FAA organization with enhanced flexibility to manage administrative functions.

"Under this option, in which FAA would continue as a modal administration under DOT [Department of Transportation] without changes in its organizational structure, improvements in administrative processes would be achieved through modification of various Federal rules, regulations, and procedures. (p.7)

- FAA as a corporate entity under DOT.

"In this option, FAA is defined as an organizational entity within DOT, the operating costs of which are funded through a revolving fund which obtains its income from the Trust Fund. Budget, procurement, and personnel rules would be even more relaxed than under the modified Status Quo arrangement..., but some restrictions would be written into the authorizing legislation, such as limitations on the right to strike and a fixed-term for the Administrator. There would be a Board of Directors which would include the Secretary of Transportation." (p.13)

- FAA as a for-profit government corporation.

"Just as a non-profit Government Corporation, funding would be obtained from user fees, with appropriated funds only for specific narrow purposes, such as airport grants. However, in addition, the corporation would be allowed to borrow money, sell bonds, and invest to generate capital to support the Capital Improvement Program. Procurement and personnel restrictions would be alleviated, while Congressional and Executive Branch oversight would [be] relaxed. The composition of the Board of Directors would probably be less dominated by the political sector." (p.23)

Options two and three include a discussion of separating out only ATC and related services

### Budget Process/Program Planning

"FAA's flexibility to utilize funding is limited by needless compartmentalization of the budget. The FAA receives funding through five separate appropriations that are 'fenced off' into 41 budget activities and over 160 line items every year."

The current 1-year Operations appropriation does not allow for a linkage that adequately supports the operations and maintenance of new equipment and systems which are deployed via the F&E [Facilities & Equipment] appropriation."

"The annual appropriations process does not ensure a sufficiently predictable revenue stream. FAA needs direct Trust Fund support for the FAA budget and removal of the Trust Fund from the Federal budget so that restrictions on spending are not imposed ostensibly to lower the Federal deficit, and to provide a predictable funding stream." (p.5)

Additionally, the Federal budget process undermines the rewards or incentives for employees and agencies to save money. (p.5)

### Continuity of Leadership

"Although political leadership of Executive Branch agencies was long ago adopted as a means of allowing the President to institute changes to policy and programs, the comparatively short tenure of top management can have a number of negative consequences including:

- Difficulties in establishing team work among top political and career officials;
- An emphasis on tactical maneuvering at the expense of long-term strategic policy formulation and execution;
- Lack of accountability because the person who sets policy, establishes objectives and initiates change is gone before success or failure can be measured;



- Frequent interludes during which career executives operate in a caretaker mode; and,
- Frequent reorganizations to exert more presidential control over the career bureaucracy and provide high visibility non-competitive positions for persons brought to the agency by the political appointees.

### Personnel

"Government-wide rules preclude offering special compensation for hard to staff locations. Statutory and regulatory provisions for compensation, benefits, retirement and reductions-in-force affect work force morale and performance. These rules prevent FAA from effectively managing its critical work force through the use of diverse salary and benefit packages." (p.4)

### Procurement

"FAA procurement practices are conducted in accordance with Government-wide regulations and policies. These regulations preclude the development and maintenance of productive relationships between the FAA and its providers. Timely acquisition of systems to support industry changes is nearly impossible. Acquisition could be more effective in meeting user requirements in a timely manner and within established costs if it could be free of some of the rules and regulations intrinsic within the Federal acquisition process. These include, but are not limited to: the Competition Contracting Act, the Brooks Act, the Service Contract Act, the Davis-Bacon Act, and the Federal budget cycle. Relief from these impediments would result in the FAA developing a more flexible and responsive acquisition process." (p.4)

### External Oversight

"Control of FAA operations has been diffused into a complex and confusing array of authorities among FAA leadership, OST [Office of the Secretary of Transportation], OMB [Office of Management and Budget], OPM [Office of Personnel Management], the White House staff, and several Congressional committees." (p.5)

"In addition to oversight of acquisition, personnel, and appropriations, the OST/OMB involvement in rulemaking can add as long as six months to the process." (p.5)

*A Proposal for a Restructured, Independent Federal Aviation Administration, The  
FAA Conference of the Federal Managers Association, June 1993.*

General Comments

This proposal is made by a group of federal managers who believe that the key to improving the FAA is reorganizing it to give it more focus and stability. It has a heavy orientation toward the specifics of organization.

Proposed Type of Organization

This proposal is for a restructuring of the FAA to give it more independence and a sharper focus. It recommends that the FAA's functions be limited "to oversight and regulation of the safety-related responsibilities associated with aviation. All non-designated responsibilities and functions should be reassigned" to the Transportation Department. (p.4) The proposal is not specific about what functions would be reassigned, although it does state that operating the ATC system would continue to be an FAA responsibility. (p.4)

The major proposed reforms involve management and financing. In the area of management, they include:

- Presidential appointment of the FAA administrator for a fixed five-year term. The administrator would report directly to the Secretary of Transportation, who would report annually on his or her performance to Congress. (p.5)
- The creation of an "advisory board of directors to assist in determining the scope and mission of the organization." (p.5) Members would be appointed in equal numbers by the President, Congress and the Secretary of Transportation and would represent "the various aviation organizations, employee groups, private industry, and organizations representing the public sector." (p.6)
- The restructuring of "headquarters, regions and facilities ... to eliminate duplication, micromanagement and unnecessary staff." (p.7)
- The establishment of "an office of procurement, with direct reporting relationships to the FAA Administrator." (p.9) This office would have "financial control of all programs under development." (p.9)

This proposal calls for the FAA to "be supported by revenues from all segments of aviation" through fees collected "on a direct-benefit basis...based upon the use of the systems, frequency and level of services provided...placed in a public corporation account of the organization for the specific and restricted use of the FAA." (p.8)

### Continuity of Leadership

The "lack of consistent oversight from an incumbent FAA Administrator" has caused the FAA to fall "behind in meeting its goals as defined in the Capital Investment Plan." (p.2)

"The average term of FAA Administrators has been 2 to 2.5 years," resulting in frequent "management changes... and shifted roles and functions," all of which interfere with timely policy making.  
(p.2).

### Personnel

"A smaller technical and controller work force [and] reductions in administrative offices and functions" could be one source of efficiencies. (p.1; see also p.7)

"During the initial phases of development, an independent FAA should retain present policies and regulations concerning pay and other personnel issues. The FAA Administrator, in connection with the FAA Advisory Board, should have the authority to create, validate and implement new pay bands and personnel policies. No policy should be permitted which controverts the laws governing adverse actions against the United States government." (p.10)

### Procurement

The "lack of consistent oversight from an incumbent FAA Administrator" has caused the FAA to fall "behind in meeting its goals as defined in the Capital Investment Plan." (p.2)

"All functions within this area should conform to present law and rules governing the procurement process." (p.9)

"An office of procurement should be established, with direct reporting relationships to the FAA Administrator," and with "financial control of all programs under development." (p.9)

### Conflicting Goals and Objectives

"Within the FAA are several diverse missions that are advanced through safety and non-safety-related organizations. Also, the FAA has responsibility for the promotion of aviation. At times these missions conflict and create unnecessary competition for diminishing funds." (p.1.)

### Technology/Operational Performance

"With its present financial and managerial structure, the FAA is falling behind in technology...." (p.2)

*Winds of Change: Domestic Air Transport Since Deregulation*, Transportation Research Board, National Research Council, Special Report 230, Washington DC, 1991.

General Comments

Late in 1988 the Governing Board of the National Research Council approved a two-year TRB study of the air transport industry since deregulation. This study was supported with funds from the National Research Council Fund, the Sloan Foundation, and TRB and was conducted under the auspices of the Executive Committee of TRB. This Committee is appointed by the National Research Council and includes experts in aviation, economics, safety, airline and airport operations, and public policy. Of particular interest in this study is Chapter 7, which deals with the constraints on FAA performance, and Appendix B, which examines various organizational options.

Proposed Type of Organization

This report cites three basic choices for institutional reform, ranging from fully public to private models:

- One, return the FAA to its former independent status.
- Two, public corporation options include: (a) Assign the ATC functions of the FAA to a public corporation (a governmental enterprise) while the rest of the FAA's functions remain in the DOT, or (b) convert the entire FAA to a public corporation that is responsible only to the President and Congress or to the DOT Secretary.
- Three, private corporation options include: (a) Assign the ATC functions of the FAA to a congressionally chartered private corporation, or (b) assign the ATC functions to a congressionally chartered private corporation and imbed within this corporation a legally independent, governmental unit that would be responsible for setting and enforcing safety standards and for performing many of FAA's safety oversight and regulation other than those directly related to ATC.

Of these options, "2(b) and 3(b) would provide the authority and discretion needed to perform operational performance without severing links between regulatory and operational functions, which may compromise safety. *The committee recommends a publicly mandated study of change in the organization of the FAA by an independent group or organization that focuses on the relative merits and drawbacks of options 2(b) and 3(b), with a report to the President and Congress within 2 years after the study gets under way.*" p. 307.

Appendix B of this report provides an extensive review of the various organizational forms. This section was not included in the main body of the study, however,

because some of the Committee members did not share its conclusion, which recommended that the entire FAA be converted into a public corporation.

### Budget Process/Program Planning

"The protracted debates between Congress and the executive branch over the budget, which have become standard practice in recent years, have resulted in tremendous inefficiencies. Instead of being able to devote their full attention to the provision of aviation safety and ATC capacity, FAA managers are frequently distracted by the need for contingency planning for changes in funding." (p.240)

"Given that the federal budget is projected to remain well above historic levels for many more years, budget strategies by the administration and Congress to contain the size of the federal deficit, including the use of the Trust Fund to mask the true size of the deficit and simple restrictions on total spending, are likely to continue to restrain funding provided to the FAA." (p.244)

"Because of the protracted budget debates of recent years, the fiscal year is often well under way before agencies' actual budgets are determined, and therefore little incentive exists to address long-term needs. The effect that the annual budget cycle has on short-term planning is compounded by the short tenure of top agency managers." (p.253)

"Those who have recently reviewed the FAA's problems have concluded that inability to plan and manage its finances has contributed significantly to its performance problems (OTA, ASC, NAPA, Reason Foundation)." (p.326)

"Planning, especially long-range planning, is always difficult because of the year-by-year funding style of the federal government, but efficient management, as well as planning, suffers when the fiscal year is well under way before an agency knows what its funding and employment levels will be." (p. 327)

### Revenue Generation

"The FAA relies heavily on the Airport and Airway Trust Fund as a source of revenue, but during the last 2 decades about half of its total budget has been funded from general tax revenues." (p.243) "In 1990, after debating this issue for several years, Congress agreed to fund 75 percent of the FAA operations from the Trust Fund to better align the FAA's costs attributable to the private sector with the revenues earned from the private sector. Congress also raised the Passenger Ticket Tax from 8 to 10 percent of each airline ticket. Despite these recent policy changes, a considerable share of the FAA's budget (25 percent) will continue to be dependent on general tax revenues." (pp.243-244)

"[The Federal Aviation Act's] nondiscrimination provisions have been construed to block certain types of user charges for aircraft landings and take offs, which could be used to smooth out traffic and thus reduce congestion and delays at airports." (p.325)

## Continuity of Leadership

"When an agency head serves only a short time, there are a number of adverse consequences, including a tendency to focus on short-term instead of more significant but delayed improvements; a lack of continuity or stability in priorities, especially those involving large capital expenditures; and a resistance on the part of the bureaucracy to respond to new directions because it is expected that the Administrator won't be around long enough to follow through." (p.323)

"The typical, but nonetheless short, tenure of the FAA Administrators poses a litany of problems for effective management." (p.262)

## Organizational Culture

The Jones Committee in 1982 and 1984 found that "the autocratic, militaristic management style typical of many FAA supervisors was not well suited to the participatory style desired by many employees, particularly controllers."

"A really major change in attitude and behavior depends on changing the reward and incentive system from a bureaucratic one that rewards those who do not make waves to one that encourages creative and innovative behavior," (p.337)

"One needs an organization whose values will continue to emphasize conservatism when it comes to the safety of aircraft operations, while seeking innovation and dynamism in responding to industry and technology changes. That can best be achieved by a change to a corporate-type entity." (p.337)

## Personnel

"Through the mid-1980s, limits on personnel, attributable to efforts to control the burgeoning federal budget deficit, contributed to a declining FAA safety inspection work force even as the demands on it increased." (p.238)

"By the end of 1990 the FAA had 10,800 FPL (full performance level) controllers, about 2,400 fewer than the prestrike FPL work force," (p.245)

"Because of civil service limits on pay differentials, the agency has been unable to attract sufficient numbers of experienced air traffic controllers to high-cost areas such as New York City, and continues to have problems recruiting top-notch technical staff in all of its work forces, particularly in high-cost areas." (p.238)

However, Congress did recently give the agency more flexibility on pay in high-cost areas (p.239). "Congress has responded to this problem by authorizing an experimental program to pay controllers and some technicians wage differentials of up to 20 percent to attract them to high-cost cities that have staffing shortages. What Congress allows with one hand, however, it restricts with the other. Although the FAA was given the authority to pay higher salaries to attract personnel to

understaffed centers and towers, Congress did not provide any additional funds." (p.247)

"Staff shortages in high-cost areas are caused by the desire of controllers to move to less expensive areas, the high washout rate of trainees, the difficulty recruiting controllers from other areas, high training workloads, and excessive overtime." (p.246)

Shortages also exist in the maintenance and electronic technician work force.

"The FAA is the only major employer of the controller work force, but it must compete with other federal agencies and private industry for the pool of potential technicians.... As an agency of the federal government the FAA is required to operate within a civil service system that does not provide adequate flexibility in pay for the technical and managerial expertise that the agency needs." (p.249)

"The current work force is less experienced than in the past, however, and because of the growth in the aviation system, the demands placed on the FAA have been growing faster than its work force." (p.256)

"The FAA's staffing shortages in the past, the looming retirements of many of its most experienced technicians, its difficulty in attracting and retaining personnel with high-level technical and managerial expertise, and the lack of preparation for the changes in staffing that can be expected with the NAS Plan are all cause for concern." (p.257)

"Stability in staffing levels will not be achieved as long as the FAA is subject to the budget and personnel ceiling controls administered by the OMB." (p.336)

"There are numerous and serious shortcomings in the Civil Service laws.... While the FAA could probably do a much better job in human resources planning, training, management development, performance evaluation, incentive systems, and the like (as could other agencies), some of the basic statutory restrictions, such as those with respect to hiring, discipline, incentives and firing, are beyond its discretion to change." (p.336)

### Procurement

"The GAO has argued that the FAA began procuring equipment before carefully defining its needs and made inadequate provisions for testing and evaluation in the procurement process. Had the FAA followed the procurement policy outlined in OMB Circular A-109, which calls for continual reassessment of progress by top management and a 'fly-before-buy' approach, many of the problems encountered could have been avoided, according to the GAO. Thus, from the GAO's perspective, the fundamental problems that the FAA has had in procurement stem from its failure to follow recommended government procurement policies and not from the policies and procedures themselves." (p.258)

"The Aviation Safety Commission concluded that current federal procurement

regulations are not well suited to agencies such as the FAA that depend on advanced technologies. The implication of following all the steps required in these cumbersome regulations, which can take years to complete, is that by the time the FAA receives the technology it set out to acquire, the technology has been superseded by technologies developed in the interim." (p.259)

### External Oversight

"Examples [of micromanagement] are setting of ceilings on categories of FAA employees, or directives to increase employment in such categories, rather than assigning the FAA a personnel ceiling and allowing the Administrator to determine how best to use that ceiling." (p.323)

"Most former FAA Administrators now favor giving the FAA greater autonomy in running its programs, partly because of the frustrations in dealing with the increased bureaucracy and the greater degree of control exercised by the Office of the Secretary and the OMB over FAA affairs." (p.262)

### Conflicting Goals and Objectives

"The shared power provisions of the constitution create inherent opportunities for conflict between Congress and the executive branch.... While the head of a department is more likely to side with the White House and the OMB on such issues as hiring and spending, an administration such as the FAA is more likely to be sensitive to the priorities and pressures of Congress, before which it must support its legislative and funding requests.... Further, the tension between Congress and the executive branch has clearly contributed to the stop-and-start character of some vital staffing policies, such as when to hire controllers and inspectors, and how many to hire." (p.324)

"Two other concerns have often been expressed about possibly conflicting roles assigned to the FAA. The first is between its regulatory role (certificating or licensing airlines, air crews, etc.) and its operational role (ATC). The second is between its responsibilities to promote aviation and to regulate it." (p.333)

### Information on Precedents

See page 340 and pages 374-382 for information on other government corporations.



*Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment*, Prepared by: U.S. Congress, Office of Technology Assessment, July 1988.

General Comments

This report provides a broader overview of the status of aviation safety. The most relevant information on FAA structure and issues can be found in Chapters 1 (Summary) and 3 (Regulatory and Institutional Framework).

Proposed Type of Organization

"Congress may wish to identify safety as FAA's sole and unique responsibility, especially for ATC and regulatory programs. Responsibility for fostering economic development of the industry could be returned to the Secretary of Transportation." (p.65)

"OTA concludes that FAA's functions cannot be separated into regulatory and operating (ATC) components without diminishing the effectiveness of the entire system. Furthermore, without more emphasis on system safety at the very top, FAA agency-wide problems that have hampered the organization's capabilities are likely to continue." (p.6)

Budget Process/Program Planning

"ATC system renewal has moved at glacial speed, slowed by inadequate system planning, technology development difficulties, and administration and congressional budget decisions." (p.7)

"FAA and DOT budget decisions in the early 1980s to reduce personnel levels created shortages of trained personnel in three critical areas [air traffic controller, aviation safety inspector, and electronics technician], and the safety system continues to feel the effects." (p.17)

"Federal processes are so slow that FAA became adequately staffed to handle new industry entrants only in 1984, the year that new airlines began to go bankrupt or merge with established carriers." (p.17)

Continuity of Leadership

"OTA finds that without stronger leadership, FAA problems of inadequate long-range planning, inter-departmental coordination, management information, and uneven application of regulations by regions are bound to continue. Congress may wish to consider setting a fixed term of up to 5 years for the FAA Administrator." (p.65)

Organizational Culture

"Lack of strong top management, inadequate comprehensive planning, and

diminished technical expertise have led on occasion to budget and regulatory priorities being set for FAA through pressure on Congress or DOT policy officials by potent and vocal special interest groups. Appropriate consideration of system safety is not always part of this process." (p.16)

"OTA finds that without stronger leadership, FAA problems of inadequate long-range planning, inter-departmental coordination, management information, and uneven application of regulations by regions are bound to continue. Congress may wish to consider setting a fixed term of up to 5 years for the FAA Administrator." (p.65)

### Personnel

"OTA finds that while the autonomy of the regions permits allocation of personnel according to regional need, policy guidance to FAA regions from headquarters is inadequate to ensure nationally consistent standards." (p.16)

"Federal processes are so slow that FAA became adequately staffed to handle new industry entrants only in 1984, the year that new airlines began to go bankrupt or merge with established carriers." (p.17)

"Differences in living costs, traffic volume and complexity, and other factors, compound difficulties in filling controller vacancies in major metropolitan areas such as Los Angeles, Chicago, New York, and Boston."

"OTA finds that assisting FAA to overcome some of these special difficulties is an important safety priority for Congress to consider. For example, provision for cost of living adjustments for assignments in major metropolitan areas could ease transfer of personnel to facilities with special needs. Mechanisms to speed contracting procedures for training and other vital procurement could be helpful." (p.65)

### Procurement

"Scrutiny of air traffic controller and inspector work force levels, tensions between DOT and FAA, and progress of the National Airspace System (NAS) Plan are byproducts of national budget constraints, which have left FAA scrambling vainly to catch up with industry. Even after trouble spots have been pinpointed, Federal processes to put in place regulations, technologies, or programs as countermeasures are excessively time-consuming." (p.4)

"ATC system renewal has moved at glacial speed, slowed by inadequate system planning, technology development difficulties, and administration and congressional budget decisions." (p.7)

### External Oversight

"Scrutiny of air traffic controller and inspector work force levels, tensions between DOT and FAA, and progress of the National Airspace System (NAS) Plan are

byproducts of national budget constraints, which have left FAA scrambling vainly to catch up with industry. Even after trouble spots have been pinpointed, Federal processes to put in place regulations, technologies, or programs as countermeasures are excessively time-consuming. Major changes in regulations, such as requirements for ground proximity warning systems or collision avoidance devices, usually occur only in the shocked and saddened aftermath of a major airline accident, even though the underlying causal problems were recognized years earlier." (p.4)

### Conflicting Goals and Objectives

"FAA has a dual mandate: '... to promote safety of flight... in air commerce through standard setting...' and to carry out for the Secretary of Transportation the responsibility '... to encourage and foster the development of air commerce.' While these tasks are not necessarily incompatible, an inherent tension exists between them in two vital safety activities of FAA – inspections, and managing and operating ATC. In times of massive change and rapid travel growth, such as in the past decade, fulfilling both goals of the mandate presents the agency with unavoidable conflicts." (p.5)

"Congress may wish to identify safety as FAA's sole and unique responsibility, especially for ATC and regulatory programs. Responsibility for fostering economic development of the industry could be returned to the Secretary of Transportation." (p.65)

### Technology/Operational Performance

"OTA concludes that FAA's functions cannot be separated into regulatory and operating (ATC) components without diminishing the effectiveness of the entire system. Furthermore, without more emphasis on system safety at the very top, FAA agency-wide problems that have hampered the organization's capabilities are likely to continue." (p.6)

"Without immediate steps to modernize the ATC system and to manage air traffic flow and demand as necessary, present safety levels may not be sustainable." (p.9)

"FAA and DOT budget decisions in the early 1980s to reduce personnel levels created shortages of trained personnel in three critical areas [air traffic controller, aviation safety inspector, and electronics technician], and the safety system continues to feel the effects." (p.17)

*Report on Independent ATC Corporation, prepared by a DOT Working Group, April 1988.*

General Comments

The focus of the study is on organizational options for restructuring the FAA and not the definition of any problems with the existing FAA organization. However, the report notes five criteria established by DOT Secretary Burnley against which potential solutions must be measured:

- It must address the problem of rigid federal personnel rules that prevent efficient deployment of key personnel.
- It must remove the burden of abstruse federal procurement rules that prevent timely acquisition of new technology.
- The proposal must liberate the ATC system from the uncertainties of the federal appropriations process and ensure adequate resources on a long-term basis.
- There must be adequate oversight and maximum accountability to ensure public safety.
- There should be consistency in both safe regulation and in the delivery of ATC services at every level of the organization in charge of each.

The report provides a functional division of responsibilities between a recommended ATC corporation and a "residue" FAA and a comparison between a private non-profit corporation and a government corporation responsible for the ATC system, and summaries of several existing private and government corporate structures (e.g., ARINC, AMTRAK, U.S. Postal Service, St. Lawrence Seaway Development Corporation, Consolidated Rail Corporation, and the Washington Metropolitan Airport Authority).

Proposed Type of Organization

This proposal recommends that "all ATC operational and research functions be transferred to a monopoly non-profit ATC Corporation which would be legislatively charged with the responsibility for accepting, developing, operating, and maintaining the ATC system. The FAA will continue to regulate both civil and military operations in the interest of safety, while responsibility for operating and maintaining the ATC system will transfer to an ATC corporation."

FAA will interface with the new ATC corporation and oversee its operation and safety. Further, the FAA will maintain its role as the focal point of national aviation policy, ensuring congressional oversight of significant policy changes, and will also retain its role of regulation and enforcement.

The report suggests that the federal government receive compensation for the transfer of government-owned equipment and real estate. This could be accomplished by first transferring some of Aviation Trust Fund to the new corporation and then the corporation "will buy, as opposed to lease, the equipment."

#### Budget Process/Program Planning

"[An FAA restructuring proposal] must liberate the ATC system from the uncertainties of the federal appropriations process and ensure adequate resources on a long-term basis." (p.2)

#### Personnel

"[An FAA restructuring proposal] must address the problem of rigid federal personnel rules that prevent efficient deployment of key personnel." (p.2)

#### Procurement

"[An FAA restructuring proposal] must remove the burden of abstruse federal procurement rules that prevent timely acquisition of new technology." (p.2)

#### Conflicting Goals And Objectives

"Unlike most agencies, the FAA combines three distinct missions. It is charged with establishing and enforcing safety regulations for the aviation community. At the same time, FAA provides ATC services for public and private aviation. Thirdly, the agency is statutorily directed to encourage and foster the development of civil aeronautics and air commerce.... [T]hese three missions combine the incongruous tasks of promotion and regulation, as well as the responsibility for operation of the ATC system." (p.3)

#### Technology/Operational Performance

"[An FAA restructuring proposal must demonstrate] consistency in both safety regulation and in the delivery of ATC services at every level of the organization in charge of each." (p.2)

#### Information on Precedents

Transport Canada.

*Aviation Safety Commission: Final Report and Recommendations, Aviation Safety Commission, April 1988.*

General Comments

The Aviation Safety Commission was created by Congress in order to conduct an intensive inquiry into air safety, with an eye toward FAA organization and function. This report contains the results of that investigation, presented to Congress and the President.

Proposed Type of Organization

"... [ASC] recommends that FAA be transferred from the DOT and be established as a user-funded authority which is:

- Overseen by a 9-member Board of Governors appointed by the President and confirmed by the Senate;
- Managed by an Administrator who is appointed and confirmed for a term of seven years;
- Subject to agency-wide regulatory oversight by a Director of Aviation Safety who is appointed and confirmed for a term of seven years;
- Freed from the constraints of the federal civil service and procurement systems. (p.1; see also pp.25-30)

Budget Process/Program Planning

"The instability and uncertainty in the budget also produces uneven flows of new hires, particularly among safety inspectors, airways facilities technicians, air traffic controllers, and support staff. Hiring has typically come in 'lumps,' often in response to public or political pressure. Such hiring patterns make it difficult to use new personnel effectively." (p.20)

"Budget uncertainty in FAA's current bureaucratic environment may distort choices between capital (hardware) solutions to problems versus labor (personnel) solutions.... For FAA now, capital solutions have the advantage that they may be less sensitive to future budget uncertainty and the further advantage that it may be easier to sell 'technology'-based solutions in the political process than solutions calling for increases in personnel... even if [personnel-based solutions] might be more effective." (p.23)

Continuity of Leadership

"The historical lack of managerial continuity at FAA is particularly troublesome because of the long-term character of many FAA programs. While Administrators

can start major programs, there is virtually no prospect of having an Administrator in the job long enough to implement long-term programs. The result... is a tendency to focus on short-term or highly visible problems..." (p.21)

"There is a tendency in FAA's current environment either to take immediate and visible steps which fail to provide permanent solutions, or to announce long-term proposals which are unlikely to be implemented fully. Intermediate-term solutions which may not be visible but which have time frames that hold the current FAA management accountable within its likely tenure tend to be disfavored. An official or an agency can be embarrassed or even punished for visible failure." (p.24)

### Organizational Culture

"Deregulation increased the number of carriers, increased the number of routes most carriers flew, changed service patterns by allowing the creation of many new route hubs, and increased passenger traffic. The FAA, accustomed to serving an industry subject only to technological improvement in aircraft, was suddenly confronted with an industry also subject to rapid changes in operating patterns. FAA procedures and policies developed in an era of industry stability proved poorly suited to a much more dynamic environment." (pp.23-24)

"There is a tendency in FAA's current environment either to take immediate and visible steps which fail to provide permanent solutions, or to announce long-term proposals which are unlikely to be implemented fully. Intermediate-term solutions which may not be visible but which have time frames that hold the current FAA management accountable within its likely tenure tend to be disfavored. An official or an agency can be embarrassed or even punished for visible failure." (p.24)

"[The following] example is, perhaps, illustrative of a range of issues where the regulatory process could assure the public a higher level of safety at a somewhat increased cost, but has determined that the cost is 'not worth it.' There is ample evidence that injuries and deaths could be reduced in accidents involving air carrier aircraft if the seat mountings were strengthened. ... But the simplistic application of cost/benefit analysis has apparently led to a conclusion that the [arbitrary] value of the lives saved and injuries prevented or reduced is less than the cost of strengthening the seat mountings." (pp.50-51)

### Personnel

"The instability and uncertainty in the budget also produces uneven flows of new hires, particularly among safety inspectors, airways facilities technicians, air traffic controllers, and support staff. Hiring has typically come in 'lumps,' often in response to public or political pressure. Such hiring patterns make it difficult to use new personnel effectively." (p.20)

"FAA faces two separate personnel problems among its field personnel: geographic flexibility and competitive compensation. FAA does not provide differential

*Privatization of Federal Aviation Administration Functions, Statement of Kenneth M. Mead, Associate Director, Resources, Community, and Economic Development Division, General Accounting Office, before the President's Commission on Privatization, December 1987.*

General Comments

This document primarily summarizes findings of previous studies of ATC and aviation safety. It also makes some general statements about issues related to reorganization and privatization proposals. This testimony itself does not present an original proposal, though it does make broad suggestions regarding how a restructuring should proceed.

Proposed Type of Organization

"First, ensuring accountability for aviation safety and protection of the public should be a key criterion by which proposals for change ought to be judged. Second, our work shows that deregulation has combined with other factors... to present FAA with formidable challenges, and we believe these challenges cannot be overcome through structural changes alone." (pp.1-2)

"Any shifts in responsibility for ATC functions should make explicit provision for retaining adequate accountability for safety to the executive branch, the Congress, and the public. Safeguards will need to be put in place to assure the necessary emphasis is placed on the need to maintain a margin of safety in the face of demands to accommodate growth in air traffic and reduce delays." (p.6)

"Privatizing FAA, or shifting to other forms of organization will not, of itself, be sufficient to alleviate fundamental problems. For example, modernization of the ATC system has been delayed because sophisticated technologies need to be developed and shown to work reliably, not because of funding shortages or procurement rules." (p.7)

On the proposal to spin off ATC into a new entity: "... who would make the critical, often day-to-day judgements about how much traffic could be safely handled by controllers, enroute separation minimums, how much traffic an air sector should accommodate, whether aircraft should be delayed on the ground or in the air, and a host of other considerations, including monitoring airline compliance with safety procedures and responsibility for enforcement action. Depending on the specific privatization proposal under consideration, similar questions might be raised in other areas, such as airport security, approval of aircraft design, and pilot qualifications and training." (p.8)

"Use of the trust fund... might contribute to more stable funding." (p.9)

"[T]he pros and cons of alternatives short of full privatization of the work forces could be considered."



development and testing to meet operational requirements. FAA had not defined the operational requirements of other systems well enough to permit development of adequate systems specifications... NAS Plan delays resulted from FAA's original acquisition strategy, not funding shortages. Our work on major acquisitions has often shown that FAA's original approach of using a fast-track, concurrent development and acquisition strategy lead to increased technical, operational, and economic risks." (pp.4-5)

"Despite initial delays, a new ATC computer and several other NAS Plan systems are now entering the deployment phase and FAA is taking some steps to correct acquisition deficiencies. In addition to issuing its first standard operating procedures to be followed in acquiring major systems, the agency has established test and evaluation procedures, and is also rethinking its approach to acquiring individual systems." (p.5)

#### Technology/Operational Performance

"FAA expects to provide better air traffic control with fewer people because of NAS Plan improvements, but the delays are making it difficult for FAA to provide the level of air traffic control needed in the meantime. Secondly, the NAS Plan is supposed to save the airline industry considerable expense by reducing delays and permitting more effective routing, but these benefits are now being pushed further into the future." (p.5)

"[M]odernization of the ATC system has been delayed because sophisticated technologies need to be developed and shown to work reliably, not because of funding shortages or procurement rules. In our view, a systematic approach to technology development will be required whether or not privatization occurs." (p.7)

*The Proposed National Aviation Authority: A First Review, Apogee Research, Inc.,  
September 1986.*

General Comments

This study analyzes a proposal by the Air Transport Association to create a National Aviation Authority (NAA) to carry out all of the current FAA responsibilities except safety regulation. The report focuses heavily on the implications of this proposal for the interests of airport operators, especially the ways in which it would affect airport grants and the completion of the National Airspace System (NAS) Plan.

The study suggests two major concerns:

- How large will the Airport Improvement Program (AIP) be under the NAA? and,
- How can the airport operators influence the grant process so that safety and capacity concerns can be balanced?

Proposed Type of Organization

The study summarizes the proposed NAA as follows:

The NAA would replace most of the functions of the FAA, taking over the financial resources of the Airport and Airways Trust Fund. NAA responsibilities would include operation of the air traffic control system, completion of the NAS Plan, research and development, and the airport grant program. The "new" FAA would be responsible only for setting and enforcing safety rules. (p.2)

The NAA would be a "federal corporation" run by a director who "would be appointed to a single ten-year term by the President with the approval of the Senate." There would be "virtually no direct, legal constraints on his actions." (p.2)

The NAA would be advised by two panels, a Policy Advisory Board, composed of cabinet members, Senators, and Representatives with aviation concerns, and a Technical Advisory Committee, composed of representatives of various aviation user groups and airport operators. (p.12)

"The NAA would be authorized to set and collect fees from users of the airway system and to issue bonds guaranteed by the federal government." (p.2) These bonds would be exempt from state and local taxes (p.12) and "originally set at levels equal to the current federal excise taxes paid into the Airport and Airway Trust Fund." (p.11)

Budget Process/Program Planning

"The pressure of the ongoing federal budget deficit, disagreements among the

authorizing and appropriating committees of Congress, and between the Congress and the Administration, have meant that billions of dollars available in the Airport and Airway Trust Fund have not been used for needed modernization of the air traffic control systems and for airport improvements." (p.5)

"Budget problems are of two types: the overall spending level and uncertainty over future funds." (p.6)

"While there are certainly worse examples of Congressional interference in a federal program, airport programs are subject to the same interest that typifies many 'Pork Barrel' programs." (p.6)

In line with its major focus on airport grants, the study notes: "In recent years, the actual level of federal airport grants has fallen short of authorized levels. Thus, a more predictable grant process is important to financial planning." (p.19)

### Revenue Generation

In speculating about the future, the report suggests that "while general aviation as a group may pay the same share of fees as today, the burden within general aviation might shift away from 'weekend flyers' toward 'corporate jets.'" (p.28)

"The level of user fees also represents an important policy tool, either to be increased in order to finance long-term needs or to be reduced if the NAA starts to accumulate excess reserves." (p.18)

The details of the analysis can be found on pages 12 to 18. Table I on page 15 shows how different levels of bonding would be necessary to support different levels of the AIP under the alternative assumptions about the transfer of the Trust Fund.

### Continuity of Leadership

"Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

### Organizational Culture

"Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

### Personnel

"Civil Service rules limit the FAA's ability to match the existing supply of trained personnel with the demand for service and make it difficult to alleviate morale problems." (p.7)

## Procurement

In setting up assumptions for its financial analysis on p. 14, the study cites an Air Transport Association estimate that better management and procurement practices could result in a savings of 25%. The study itself uses a more conservative estimate.

"The immediate problem with implementing the NAS Plan... is not simply one of adequate funding. Rather, shifting priorities, changing development directions, and a balky procurement process appear to be more important. The NAA appears to have the potential to reduce many of these problems." (p.26)

Under the heading of "General Concern With Independent Authorities," the study notes the following: "Both in the United States and abroad there is evidence that quasi-public bodies with significant funding powers often overinvest: that is, they are not controlled in terms of the application of economic criteria to their investment decisions." (p.29)

## External Oversight

"Bureaucratic and regulatory constraints appear to limit the effectiveness of the [FAA]... in its designated but conflicting roles as financier, operator, planner, promoter, and regulator." (p.5)

"Too many layers of oversight and frequent changes in political leadership cause uncertainty as to who controls a decision and how long it will take to make." (p.7)

"Political involvement can result in micro-management, with over specification of procedures by higher levels in the organization." (p.7)

In order to give airports input into the grant process, the report recommends "that there be... a separate advisory panel, strictly limited to broad policy issues concerning the AIP program." (p.27)

## Conflicting Goals and Objectives

"Bureaucratic and regulatory constraints appear to limit the effectiveness of the [FAA]... in its designated but conflicting roles as financier, operator, planner, promoter, and regulator." (p.5)

"The FAA is forced to meet several, contradictory goals: maximize safety while meeting budget constraints are but one obvious example." (p.7)

The airport operators seem very concerned that an FAA focused only on safety will impose unreasonably costly standards on them. Consequently, the report focuses on the relationships between the FAA, the NAA, safety and airport grants. (This issue also is related to oversight, but fits more directly under this category.) The following selection of five quotations represents what the report has to say on this topic:

"The way in which the FAA and the NAA relate to one another on safety will be especially critical to airport operators. At the heart of the issue lies the question of how the NAA would administer the grant program, particularly as that program relates to improvements and expansions generated by changes in new FAA safety regulations and enforcement." (p.23)

"Assuming that the FAA sets and enforces safety requirements while the NAA carries out all other activities, the NAA would have no choice but to accept both the FAA safety requirements and their repercussions on system capacity and operating costs." (p.23)

"At present, many airports operate with 'variances' from... safety standards. If these 'variances' were removed and airports were required to meet all current standards, airport investment needs would increase substantially -- perhaps by \$3.4 billion over the next ten years." (pp.23-24)

"Given the linkages among safety, cost, and capacity there is a risk that the new FAA could use its control of system safety and enforcement as leverage to achieve other unrelated objectives. Since the FAA will remain under the control of the Congress, it may be hard to limit this potential involvement." (p.24)

"Because of the critical interaction between safety and capacity, it is vital to have a process to ensure that airport capacity and improvement priorities set by the NAA will be consistent with changes in FAA safety regulations and requirements." (p.24)

This topic is also treated extensively on pages 20 to 22. The issue of influencing the AIP program, especially the criteria for setting airport investment priorities, is one of the main concerns of the paper.

#### Technology/Operational Performance

On page 7, the study describes "symptoms" of an airport and airway system that is not as effective as it should be. These "symptoms" include delays, which "will increase unless investments are made and operations changed to improve long-term capacity both for airports and for air traffic control," and safety concerns. The study cites figures showing an increase in near-misses in 1985 to support the concern for safety, but attributes part of the problem to the effects of the controllers' strike.

#### Information on Precedents

See page 10 of the report for information on the British ATC system.

*The Air Traffic Control System: Management by a Government Corporation, A Study for the Air Transport Association of America, National Academy of Public Administration, March 1986.*

Proposed Type of Organization

The National Academy Panel concluded that, if properly chartered by Congress, a government corporation would offer substantial advantages over the current FAA in the management of the airports and airways program of the United States. This conclusion is based on interviews with "knowledgeable" officials at the FAA, the Office of the Secretary of DOT, the Office of Management and Budget, public interest groups, and others in the private sector. Further, the panel expresses deep concern that breaking the FAA into several segments, one of them an ATC system, would lead to problems with both coordination of and rationale for the corporation. (p.23)

Three major organizational recommendations are:

- The Authority should report to the Secretary of Transportation;
- The Authority should have a single chief executive officer, appointed by the President with the consent of the Senate; or,
- The Authority should have an advisory board of members appointed by the President. (p.29)

The Panel did consider the option of a Board of Directors to administer the Authority, but rejected the establishment of such a board based on two main issues: division of authority, and composition of such a board. (p.29)

Finally, the Panel recommends that the Authority establish a corporate system of user charges, in substitution for the present tax and Trust Fund mechanism. (p.32)

Budget Process/Program Planning

"In recent years, deficits, fiscal pressure, and the mandated cuts embedded in the Gramm-Rudman-Hollings budget act have forced OMB into an institutional stance of finding ways to constrain budgets rather than forming balanced judgments reflecting the public's needs and interests." (p.10)

Revenue Generation

"... [T]he revenue stream to support the ATC system would be corporate revenues, not tax revenues and, therefore, the system would not be subject to appropriations and the oversight which necessarily accompanies the exercise of appropriation authority. Those who pay the fees would be in a better position to demand services." (p.32)

## Organizational Culture

"Decision making has become more protracted and management has become notably less flexible and innovative." (p.5)

"After detailed assessment of current conditions in both the aviation industry and the FAA, the Academy Panel concludes that there has been a general decline in the overall ability of the ATC system to perform at top effectiveness and to respond swiftly to the demands placed upon it. This decline is in overall management effectiveness, not in operational safety. If this deterioration is permitted to persist, it eventually will jeopardize the capacity to sustain the operational safety and the overall excellence of the system." (p.9)

## Personnel

"Personnel staffing, training and employee development have been curtailed or neglected." (p.5)

## Procurement

"Procurement procedures and computer acquisitions are burdened with red tape, uncertainty, and delays." (p.5)

## External Oversight

"Approaches to oversight and accountability tend to be too heavy-handed for field operations. In effect, real control has been diffused into a complex, confusing, and often kaleidoscopic array of authorities among FAA leadership, the Office of the Secretary of DOT, the Office of Management and Budget, the Office of Personnel Management, the White House staff, and several congressional committees." (pp.9-10)

## Technology/Operational Performance

"After detailed assessment of current conditions in both the aviation industry and the FAA, the Academy Panel concludes that there has been a general decline in the overall ability of the ATC system to perform at top effectiveness and to respond swiftly to the demands placed upon it. This decline is in overall management effectiveness, not in operational safety. If this deterioration is permitted to persist, it eventually will jeopardize the capacity to sustain the operational safety and the overall excellence of the system." (p.9)

*Federal Corporation Approach to the Management and Funding of the Air Traffic Control System, Air Transport Association, September 1985.*

General Comments

This report was requested by the ATA Board of Directors in response to concerns about the capacity and effectiveness of the ATC system. ATA staff prepared the report, which does not discuss existing problems so much as possible solutions and their benefits. Specifically, it focuses on solving problems with the budgeting process.

Proposed Type of Organization

"A federal corporation is a statutorily established independent or quasi-independent entity. Its purpose is to assume management of a federal agency function where the normal government process prevents optimum performance of high priority services directly affecting the identifiable users or beneficiaries that would serve as the funding sources." (p.9)

"Applied to the ATC system, a federal corporation would reflect the predominantly commercial nature of the services provided, and would facilitate dealing with the users in a business-like manner." (p.10)

"With a proper statutory mission incorporating modern management objectives and performance standards, sophisticated planning models and techniques would be required to assure detailed running five-year or more projections of staff, equipment and other needed resources." (p.10)

"[T]he frustrations of federal personnel and procurement rules and practices can be avoided through appropriate legislative language establishing the corporation."

"Under this concept, the corporation's personnel would be employees of the United States, but outside of the Civil Service. Strikes, slow-downs and other job actions would be prohibited by law, and provision would be made to resolve disputes through arbitration. Statutory exemptions from arbitrary federal personnel ceilings and other federal personnel practices are necessary for the business-like functioning of the corporation...." (p.11)

"The costs and delays inherent in satisfying today's bureaucratic requirements would be avoided through the inclusion of a statutory exemption from applicable government procurement regulations." (p.12)

The organization should have "the ability of a self-sustaining federal corporation to borrow in the private market when justified and necessary to carry out the corporation's purposes." (p.13)

"[T]he components of a federal corporation should include all of the functions and activities now performed by FAA at headquarters and in the field which are



necessary to manage and operate the system and to provide for the development, acquisition, installation, and maintenance of needed equipment and facilities...." (p.17)

"Elements retained by FAA and funded from general revenue after the establishment of a federal ATC corporation would include:

- Administration of aviation flight safety and standards programs, except for the flight inspection program which directly supports the ATC system;
- Planning, direction and evaluation of research, engineering and development programs not related to ATC;
- Civil aviation security;
- International and planning functions unrelated to ATC;
- Non-ATC type training and testing; and,
- Operation of National and Dulles Airports (pending final determination of legislation now under consideration to transfer the two federal airports to an independent authority)." (pp.18-19; see also attachment F)

#### Budget Process/Program Planning

There is "uncertainty [in] the federal budget process from year to year and shifting budget priorities and goals." (p.4)

There are "difficulties inherent in multi-layer federal decision making, especially its slow pace and lack of flexibility." (p.4)

"[U]nder the Federal Aviation Act, the quality of airline service must be determined by competition. The Federal Aviation Act also holds FAA responsible for providing ATC system resources needed by airlines to perform such service. Yet, that same statute subjects FAA's ability to provide the required ATC system resources to '... the limits of available appropriations made by the Congress.' ... Thus, whatever the public service demand may be,... ATC system capacity and airline service are dependent upon the highly uncertain and complicated federal budget process." (pp.4-5)

"... FAA must have DOT and OMB approval for its budget proposal each year, including requests for previously authorized trust fund expenditures, in order to bring FAA's budget into conformity with the Administration's national budget priorities and goals. And then, FAA's budget, including the trust fund portion, is subject to the complexities of Congress' annual budget resolution and appropriations struggle, involving more trade-offs, compromises and further blending."

"These extensive steps and transactions simply are not conducive to effective

management and resource planning, no matter how capable the FAA management team may be. Meaningful long range planning, operational flexibility, quick response to changing conditions, and greater productivity are not possible with the constraints imposed by current law and government practice." (pp.5-6)

"The commercial-type operations of the federal ATC corporation, with typical demand fluctuations, as well as short and long term lead times for acquiring and utilizing needed resources, can be performed in a more responsive manner outside the usual federal budget process with funding provided by self-generated income from users, including reimbursement from government users." (p.11)

"[F]uture capital needs beyond or supplementing those identified for the current National Airspace System Plan would be met by the ability of a self-sustaining federal corporation to borrow in the private market when justified and necessary to carry out the corporation's purposes." (p.13)

### Revenue Generation

"[U]nder the Federal Aviation Act, the quality of airline service must be determined by competition. The Federal Aviation Act also holds FAA responsible for providing ATC system resources needed by airlines to perform such service. Yet, that same statute subjects FAA's ability to provide the required ATC system resources to '... the limits of available appropriations made by the Congress.'" (pp.4-5) "Thus, whatever the public service demand may be,... ATC system capacity and airline service are dependent upon the highly uncertain and complicated federal budget process." (p.5)

"The commercial-type operations of the federal ATC corporation, with typical demand fluctuations, as well as short and long term lead times for acquiring and utilizing needed resources, can be performed in a more responsive manner outside the usual federal budget process with funding provided by self-generated income from users, including reimbursement from government users." (p.11)

"FAA's annual budget currently is about \$5.4 billion with a staff of 48,000 at over 1,500 duty locations. About 70 percent of the budget comes from the Aviation Trust Fund with the remainder funded by general revenue. Trust Fund revenue comes from a series of legislated user fees, with the largest source, currently some 87 percent, being the passenger ticket tax. Other user fee revenue comes from taxes on general aviation fuel, aircraft tires and tubes, air freight waybills, and international passenger departures." (p.15)

### Personnel

"Statutory exemptions from arbitrary federal personnel ceilings and other federal personnel practices are necessary for the business-like functioning of the corporation, and would be included [in legislation for a federal corporation]. Management flexibility and employee productivity gains would be possible and encouraged by the legislative language."

"Management control of employment practices and pay, for example, would facilitate personnel transfers to meet shifting demands, allow more meaningful wage differentials to assure higher skills at high demand locations, and permit greater use of retired controllers on a part-time, temporary, or more permanent basis. ... The initial and continuing employment of the corporation's officers and other key personnel would be based solely on merit." (pp.11-12)

#### Procurement

"[G]overnment regulations applicable to FAA procurements are cumbersome, inefficient and not responsive to the orderly and effective development of the ATC system. ... Government procurement practices bear little resemblance to commercial-type procurement transactions." (p.12)