

August 1993

Transportation and Telecommunications Reports and Testimony: May 1992 - April 1993

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Foreword

This country's transportation and telecommunications sectors are increasingly being looked to as key components in efforts to improve the economy; maintain and enhance U.S. competitiveness in the global marketplace; and serve the growing needs of businesses, industries, and the American public. Almost 19 cents of every U.S. consumer dollar—a total of \$800 billion annually—is spent for transportation products and services. To help ensure that transportation is safe, functional, and environmentally sound, the federal transportation budget has grown to over \$30 billion annually. The telecommunications sector is primarily privately funded, with an annual investment of about \$50 billion in an infrastructure with a present net worth of over \$400 billion.

The U.S. transportation and telecommunications systems, although the world's finest, face a number of challenges. In the transportation sector, accidents result in almost 50,000 deaths annually; considerable portions of the infrastructure are outmoded, noncompetitive, and sometimes dangerous; the aviation, highway, and waterway systems are increasingly congested. Demands are increasing for more and better public transit and rail service domestically and for strengthening American transportation to become more competitive globally. In addition, concerns are growing about transportation-related environmental effects and the effectiveness of transportation security practices.

In the telecommunications sector, the overall challenge is to provide reliable service to consumers at a reasonable cost. Associated challenges include deciding how to bring new services to consumers; who should do it; whether such services should be regulated and, if so, how and by whom; whether all the services should be available to all households and government entities; and who should bear the cost of putting this infrastructure into place.

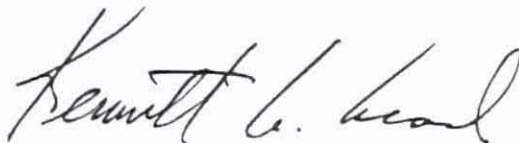
The Intermodal Surface Transportation Efficiency Act of 1991, the Cable Television Consumer Protection and Competition Act of 1992, and other recent legislation have begun to address some of the challenges. However, because the transportation and telecommunications systems are integral parts of our society, safety, economic, and other public policy decisions will continue to be influenced by the challenges affecting transportation and telecommunications.

This index provides summaries of 167 U.S. General Accounting Office (GAO) products—123 reports, 38 testimonies, and 6 letters—related to transportation and telecommunications that were issued from May 1992

through April 1993. The summaries are grouped chronologically under 11 topical categories: aviation safety, airport and airway system improvement, surface transportation safety, surface transportation infrastructure, transportation-related competition and consumer protection, Coast Guard and Maritime Administration efficiency and effectiveness, cross-modal budget/financial management issues, Panama Canal Commission, telecommunications, other transportation- and telecommunications-related matters, and special publications. The table of contents and the order form at the back of the index list the publications under each topical category.

The index should be useful for general information and research purposes and for identifying transportation and telecommunications issues that GAO has addressed. For information on GAO products on transportation matters issued from January 1989 through April 1992, please refer to Transportation Reports and Testimony: January 1989 - April 1991 (GAO/RCED-91-182, June 1991) or Transportation Reports and Testimony: May 1991 - April 1992 (GAO/RCED-92-224, Sept. 1992), cited in the Special Publications section of this index. Information on GAO products on transportation matters issued from 1985 through 1988 can be found in Transportation: Bibliography of GAO Documents, January 1985 - December 1988 (GAO/RCED-89-130, May 1989). These earlier indexes and the bibliography did not contain summaries of telecommunications products.

Questions may be directed to me at the U.S. General Accounting Office, Room 1842, 441 G Street, NW, Washington, D.C. 20548, (202) 512-6001. Readers interested in ordering documents or in requesting bibliographic searches on a specific topic should call the GAO Document Handling and Information Service, (202) 512-6000, or fax a request to (301) 258-4066. The forms at the back of the index—GAO Form 458, Report Order Form, and GAO Form 308, Fax Order Form—may also be used to order documents.



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1992/93

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Abbreviations

AAS	Advanced Automation System
AC&I	Acquisition, Construction, and Improvements
AID	Agency for International Development
AWIPS	Advanced Weather Interactive Processing System
CBO	Congressional Budget Office
DBE	Disadvantaged Business Enterprise
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EC	Economic Community (European)
EEOC	Equal Employment Opportunity Commission
EOP	Executive Office of the President
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GAO	General Accounting Office
GSA	General Services Administration
HHS	Department of Health and Human Services
IBM	International Business Machines Corporation
IMO	International Maritime Organization
IRS	Internal Revenue Service
ISTEA	Intermodal Surface Transportation Efficiency Act
MARAD	Maritime Administration
MAS	Multiple Award Schedule
MBE	Minority Business Enterprise
MSC	Military Sealift Command
MWAA	Metropolitan Washington Airports Authority
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
ODAPS	Oceanic Display and Planning System
OE	Operating Expenses
OMB	Office of Management and Budget
OPM	Office of Personnel Management
OSHA	Occupational Safety and Health Administration

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PME	Personnel Management Evaluations
SBA	Small Business Administration
SES	Senior Executive Service
USPS	U.S. Postal Service

Aviation Safety

Aviation Safety

Aviation Research:

FAA Could Enhance Its Program to Meet Current and Future Challenges

GAO/RCED-92-180, 6/3/92

The Federal Aviation Administration's (FAA) Research, Engineering, and Development Program plays an important role in ensuring the safety, security, and efficiency of the U.S. air transport system. The program's budget has grown over the past few years, from \$153 million in fiscal year 1988 to \$218 million in fiscal year 1992. Much of the funding increase has occurred in the areas of aircraft safety; security; and human factors, including the interface between controllers and air traffic control systems. This report examines (1) FAA's progress in responding to the Aviation Safety Research Act of 1988, which requires the agency to submit annual plans to the Congress and to undertake research on a variety of air safety issues; (2) the long-term research that FAA undertook in fiscal year 1991; and (3) factors that will affect the program's success.

Aviation Safety:

Additional Actions Needed for Three Safety Programs

GAO/T-RCED-92-90, 8/4/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Aviation, House Committee on Public Works and Transportation.

Although the Federal Aviation Administration (FAA) has developed requirements to deal with the safety of aging aircraft, GAO does not see significant follow-through in the places where safety inspections and compliance monitoring actually take place—the maintenance bays and hangars around the country. As airlines alternatively retire older aircraft and then return them to service to meet the changing demand for air travel, oversight of older aircraft becomes a critical safety issue. GAO testified that FAA must follow up on its efforts to develop and maintain an industrywide, periodically updated data base and make aging aircraft compliance inspections an integral part of safety inspectors' assignments. In addition, FAA has recently made progress on the Traffic Alert/Collision Avoidance System, an onboard device for alerting pilots to nearby planes, but several issues remain. Finally, procurement problems with the new Airport Surface Detection Equipment radar persist, and the split target

phenomenon remains unresolved. Some FAA officials are leery about fielding the system until this problem is worked out, but GAO continues to support deploying the system while FAA explores solutions. Moreover, FAA needs to complete its plans and establish priorities and cost estimates for the Runway Incursion Plan projects.

**Aircraft Certification:
Limited Progress on Developing International Design Standards**

GAO/RCED-92-179, 8/20/92

During the last decade, the production and sale of commercial transport planes became increasingly international in scope. Thirty percent of the components for the Boeing 767, for example, now originate outside the United States. The Federal Aviation Administration's (FAA) certification of aircraft and coordination with foreign authorities are critical to the safe and efficient production of aircraft. This report discusses (1) the benefits of common international certification standards and practices, (2) effectiveness of efforts to produce such commonality, and (3) differences in the relationship between certification authorities and aircraft manufacturers in the United States and Europe.

**Aviation Safety:
Progress on FAA Safety Indicators Program Slow and Challenges Remain**

GAO/IMTEC-92-57, 8/31/92

After spending 4 years and more than \$7 million on the Safety Indicators Program, the Federal Aviation Administration (FAA) has made little progress in developing a consistent set of air safety measures and the supporting computer analysis capability to (1) quickly and vividly present the state of aviation safety and (2) support decisions on potential changes to safety activities. These measures, or indicators, are meant to bring emerging issues to the attention of top-level FAA officials and facilitate more aggressive management of the agency's safety mission. Ineffective user involvement and unclear management commitment have hindered FAA's completing the program. Although an agency task force issued a report in mid-July on the indicators program, program completion is still years away, and problems with source data reliability remain a formidable challenge.

Aviation Safety:
New Regulations for Deicing Aircraft Could Be Strengthened

GAO/RCED-93-52, 11/18/92

Six months after the March 1992 crash of a USAir Flight at LaGuardia Airport, in which 27 people were killed during an unsuccessful takeoff possibly caused by ice buildup on the plane's wing, the Federal Aviation Administration (FAA) issued tougher regulations on airline ground operations during icy conditions—a considerable accomplishment considering that rulemaking can take as long as 7 years. Airlines had until November 1992 to implement the new regulations. The new regulations mandate more thorough inspection of aircraft and ice removal before takeoff. These guidelines take into account the length of time deicing and anti-icing fluids can effectively keep planes free of ice. Earlier regulations stipulated only that aircraft could not take off if ice, frost, or snow were sticking to critical surfaces, such as the wings. The new regulations clearly spell out the information and training that airline personnel will need to ensure safety during icy conditions. GAO has concerns, however, about allowing pilots to check for ice from inside the aircraft. Obstructed views, distance, and poor lighting could make it difficult, if not impossible, to detect ice from inside the plane. In addition, the regulations exempt commuter airlines, which are also vulnerable to icy conditions. Commuter pilots have reported five incidents during the past 4 years in which they aborted flights during or immediately after takeoff because of ice problems. Finally, FAA needs to take a more active role in verifying that airline personnel have actually received and understand the training information on the new regulations.

Aviation Safety:
Increased Oversight of Foreign Carriers Needed

GAO/RCED-93-42, 11/20/92

Nine of the 15 countries that the Federal Aviation Administration (FAA) recently visited lacked government oversight to ensure that their carriers complied with international safety standards. As a result, the Department of Transportation did not approve new carrier applications from these nations. Already-licensed carriers from these countries, however, can continue to fly into the United States because FAA believes that they have already established safety records. FAA also has concerns about potential retaliation by foreign governments against the United States. To ensure

that carriers for countries not meeting international standards are safe, FAA is increasing inspection coverage but has not stipulated the kind, frequency, or location of inspections. Current FAA inspections tend to be limited to examining aircraft markings, pilot licenses, and airworthiness certificates. Agency guidance, however, allows more close inspections of foreign carriers when FAA finds or suspects serious safety concerns. In three recent cases, FAA discovered serious structural cracks and corrosion, removed the aircraft from service, but made no effort to determine whether other planes run by the same carriers were safe. In another instance, FAA did not act promptly when alerted by the Canadians to serious deficiencies uncovered in Mexican aircraft during an in-depth inspection. FAA did not increase surveillance until 2-1/2 months later, after the carrier had already been involved in four serious incidents in U.S. airspace.

Aviation Safety:**Slow Progress in Making Aircraft Cabin Interiors Fireproof**

GAO/RCED-93-37, 1/6/93

The Federal Aviation Administration (FAA) issued regulations in the 1980s to strengthen the flammability standards for materials used in aircraft cabin interiors. In establishing the stricter standards, FAA anticipated that nearly 85 percent of the U.S. aircraft fleet would comply by the year 2000 and indicated that it would consider proposing a mandatory retrofit requirement if all airlines did not meet the standards as anticipated. At the start of 1992, about 11 percent of the more than 4,200 aircraft in the fleet had complied with the standards. Although the number of newly built aircraft meeting the standards will increase each year, no airline has replaced or plans to completely replace the interior components of aircraft that were in service before the stricter standards went into effect. As a result, 45 percent of the aircraft fleet at the end of the decade may not meet the new flammability standards; the entire fleet is not expected to comply with the stricter flammability standards until 2018. The total cost to the airlines to modify aircraft not meeting the standards would be several billion dollars and would average more than \$1 million per aircraft. FAA estimates that 9 to 16 lives could be saved each year if all aircraft met the stricter standards. Using this estimate, between 75 and 100 fatalities could potentially be avoided through 2018. If the Department of Transportation's value of \$1.5 million for a human life were used, the fatalities potentially avoided would have a present value of \$80 million to \$110 million. In the event, however, of one or two major crashes in which

hundreds of people are killed, the potential savings could be much higher, depending how high a value was used for a human life.

Aircraft Maintenance:

FAA Needs to Follow Through on Plans to Ensure the Safety of Aging Aircraft

GAO/RCED-93-91, 2/26/93

The airline industry's precarious financial health portends continuing flux in both U.S. airline fleets' mix of planes and in their strategies for operating aging aircraft. Many airlines today are constantly revising their estimated capacity needs, including plans to keep aging aircraft in the skies. GAO believes that the Federal Aviation Administration (FAA) needs a clear picture of airlines' compliance with rules for aging aircraft. Because of the potential gravity of even one major incident involving an aging aircraft, FAA needs to know the compliance status of each of the 1,800 planes in the nation's aging fleet. Although FAA has taken positive steps to monitor airline compliance, it has neither developed data bases on aircraft compliance or the activities of its inspectors nor completed planned inspections of aging aircraft. Better information on airlines' compliance would allow FAA to identify the areas of highest risk, which require more of its attention. GAO believes that, because FAA's large work load disperses inspection resources over many high-priority areas, it is essential that FAA have access to complete and accurate data with which to target resources.

Airport and Airway System Improvement

Airport and Airway System Improvement

Computer Security: Agencies Reported Having Implemented Most System Security Controls

GAO/IMTEC-92-45, 4/30/92

Under the Computer Security Act of 1987, federal agencies must identify computer systems containing sensitive information and develop and implement plans to safeguard them. Most federal agencies have security controls in place for sensitive computer systems. Over the last 2 years, the percentage of implemented controls in 18 systems that GAO had reviewed in an earlier study (GAO/IMTEC-90-48, 5/10/90) had risen from 78 percent to 92 percent. In addition, agencies have instituted 88 percent of applicable controls for nine new systems GAO reviewed. (Among the 27 systems GAO reviewed were 5 Federal Aviation Administration systems—En Route and Terminal Air Traffic Control System, Maintenance and Operations Support Systems, Interfacility Communications System, Ground-to-Air Systems, and Weather and Flight Services Systems.) Agency officials said that some new controls have not yet been implemented because (1) the systems are undergoing changes that may affect existing security controls, (2) the agencies are improving security controls, and (3) one new system is in the early stages of development. Most agencies continue to believe that security planning increases management awareness of computer security. They also believe that visits by the Office of Management and Budget and others, in which technical advice and other assistance may be offered, strengthen management commitment to computer security.

Detroit City Airport

GAO/RCED-92-169R, 4/30/92

This letter provides information about the city of Detroit's plans to request airport grant funding from the Federal Aviation Administration for two projects—one to remove certain structures on the Detroit City Airport's periphery for safety reasons and the other to expand the airport.

**FAA Budget:
Key Issues Need to Be Addressed**

GAO/T-RCED-92-67, 5/21/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations.

The Federal Aviation Administration (FAA) has made great strides during the last decade in improving the nation's air traffic control system and ensuring safety. GAO testified that future progress will depend on FAA's addressing concerns about the adequacy of staffing levels, targeting of resources, modernization cost increases and delays, and uncertainties about consolidation and satellites. GAO believes that FAA needs to improve its planning in such areas as air traffic control system modernization, airport development, and research and development. Good planning involves a reasonable vision of the future and the ability to break that vision down into measurable increments or goals. GAO believes that through its planning, FAA needs to commit itself to appropriate goals that will help guide funding decisions and act as benchmarks for measuring progress.

New Denver Airport Followup

GAO/RCED-92-285R, 9/14/92

This letter, which provides information on the new Denver airport's progress, follows up on GAO's 9/17/91 report entitled New Denver Airport: Safety, Construction, Capacity, and Financing Considerations (GAO/RCED-91-240). As of July 31, 1992, the new airport's construction was slightly ahead of schedule and, as of August 2, 1992, continued to be under budget. The letter also discusses the potential effects on the new Denver airport of air cargo traffic at Front Range Airport, a small general aviation airport only a few miles from the new Denver airport.

**Air Traffic Control:
Advanced Automation System Still Vulnerable to Cost and
Schedule Problems**

GAO/RCED-92-264, 9/18/92

During the past decade, substantial cost growth and schedule delays have beset the Federal Aviation Administration's (FAA) Advanced Automation System (AAS), a \$5-billion project to replace and enhance the work stations and computer systems used by air traffic controllers. FAA originally estimated in 1983 that AAS would cost \$2.5 billion and be completed in 1996. Since then, completion costs have doubled and the schedule has slipped by 6 years, generally because FAA underestimated the effort required to develop and implement the system. The upshot is that air traffic controllers continue to use 20-year-old equipment, a situation that reduces the margin of safety in the air traffic control system. Delays in implementing AAS have also deferred benefits for users of the air traffic control system, such as savings in fuel cost for airlines arising from better routing capabilities. Although FAA has taken positive steps to improve AAS, such as developing a demonstration facility to gain an early assessment of controllers' and technicians' concerns, the project remains vulnerable to further cost increases and schedule delays.

**Air Traffic Control:
FAA Needs to Justify Further Investment in Its Oceanic Display
System**

GAO/IMTEC-92-80, 9/30/92

The Federal Aviation Administration's (FAA) manually intensive process for controlling aircraft over U.S. oceanic airspace cannot keep pace with growing traffic volumes. As a first step in addressing this situation, FAA is acquiring the Oceanic Display and Planning System (ODAPS), which will give air traffic controllers a computer-generated display of oceanic air traffic and an automatic update and display of flight plans. ODAPS, however, has a long history of problems, and more deficiencies continue to surface. Despite a \$49-million investment over 11 years, ODAPS is still missing a key element—an operation conflict probe that can determine the impact of flight changes on aircraft separation. Delivering this crucial function will require extensive time and effort because the current software does not meet certain requirements and is poorly written. Furthermore, FAA is not performing basic capacity management activities on ODAPS, which increases the risk of shortfalls in processing air traffic. Although FAA

claims that completing ODAPS will cost only about \$1.5 million, this estimate is highly suspect because it is not based on any formal estimating tools or techniques and does not include the money to correct known conflict probe problems. Furthermore, FAA does not know when ODAPS will be completed. At this point, the system's continued development is not justified, and FAA may be wasting time and money by doing so.

**Airspace System:
Emerging Technologies May Offer Alternatives to the Instrument
Landing System**

GAO/RCED-93-33, 11/13/92

Precision landing systems, which allow aircraft to land and depart under poor weather conditions, improve airline safety and increase runway capacity. During the 1970s, the Federal Aviation Administration (FAA) began developing the microwave landing system to replace the current instrument landing system, which has been in use for more than 50 years. FAA expects the microwave landing system to be ready by the mid-1990s. In the years since the decision was made to develop the microwave landing system, however, other technologies for precision landing systems have emerged, and FAA is now supporting the development of a satellite-based system, as well as an instrument landing system enhanced with a computer-based flight management system. This report reviews these systems. GAO (1) describes the capabilities and costs of these precision landing systems and (2) identifies some potential consequences of FAA's approach to developing them.

**Air Traffic Control:
Justifications for Capital Investments Need Strengthening**

GAO/RCED-93-55, 1/14/93

The Federal Aviation Administration (FAA) launched a major effort in 1991—now called the Capital Investment Plan—to modernize air traffic control by acquiring new radar, communications, and data processing systems designed to bolster the safety and efficiency of air travel. While acquiring these new systems, FAA has encountered serious problems in cost growth and performance as well as schedule delays. In an earlier report (GAO/RCED-91-159), GAO found that FAA's failure to prepare mission need statements for any of its major acquisitions had contributed to these acquisition problems. FAA reformed its acquisition process in 1991 by

requiring a mission need statement for all new system acquisitions in the Capital Investment Plan. This report discusses whether (1) mission need statements contained evidence to support the need for new investments and (2) the statements relied on analyses of current performance of air traffic control systems.

**Contract Award Practices:
Metropolitan Washington Airports Authority Generally Observes
Competitive Principles**

GAO/RCED-93-63, 2/8/93

The Metropolitan Washington Airports Authority's (MWAA) procedures for awarding contracts worth more than \$200,000 and concession contracts have promoted a competitive environment. The contract awards that GAO reviewed followed MWAA's procedures and reflected a fully competitive process that was open to all interested parties, with solicitations focused on local vendors. GAO did find some practices, however, that could harm the competitive process. These practices include (1) awarding contracts under procedures that have not been publicly disclosed, (2) not clearly delineating responsibility for reviewing the appropriateness of the evaluation criteria used to rank proposals for awarding architectural and engineering contracts, and (3) extending a contract without authorization.

**New Chicago-Area Airport:
Site Comparison, Selection Process, and Federal Funding**

GAO/RCED-93-105, 2/22/93

The need for a major new airport in the Chicago region has been much studied and debated in recent years. A site-selection process narrowed possible candidates to five locations in Illinois and Indiana, which an independent consultant then evaluated on the basis of nine factors. In a controversial decision, a policy committee consisting of representatives from each state reviewed the consultant's analysis and settled on the Lake Calumet site in the city of Chicago. An analysis of the factors in the consultant's study, however, does not indicate a clear-cut choice for the location of a new Chicago-area airport. For two of the nine factors—airspace and air traffic control—particular sites had advantages over the others. The consultant estimated that the rural sites would have the fewest airspace and air traffic control delays and would incur significantly lower costs than the urban sites. For another

factor—collateral development costs for utilities and highways and rail lines to access a new airport—the consultant did not provide cost data for comparing the sites. The remaining six factors identified advantages and disadvantages for each site but did not strongly favor any particular one. The policy committee's site selection was based on its interpretation of the consultant's study and other considerations. The committee votes indicate that Illinois members favored the Illinois site, while Indiana members supported the Indiana site. Seven of the 10 committee members were from Illinois, and a majority-rule process was used to choose a site. Federal funds to help defray the costs of a new Chicago-area airport would have totaled about \$3.1 billion for the Lake Calumet site. By comparison, the new Denver airport—the only major airport to be built since 1974—will receive \$498 million in federal Airport Improvement Program funds. Federal Aviation Administration officials expressed concern that funding a new airport at such levels would seriously affect the program's ability to fund other airport projects across the country.

**Air Traffic Control:
Advanced Automation System Problems Need To Be Addressed**

GAO/T-RCED-93-15, 3/10/93

Testimony by Allen Li, Associate Director for Transportation Issues, before the Subcommittee on Aviation, House Committee on Public Works and Transportation.

The Advanced Automation System, a central component in the Federal Aviation Administration's (FAA) program to modernize the nation's air traffic control system, involves substantial software development, changes how air traffic controllers use their equipment, and requires FAA to convert from old to new equipment while maintaining the highest safety standards for the traveling public. Given the system's substantial complexity and cost, GAO believes that FAA management must exercise closer supervision of the main contractor's progress and address schedule and technical problems in a more timely manner. Recently announced management initiatives must be carried through. Furthermore, in light of problems plaguing the project during the past 5 years and likely changes in FAA's consolidation plan, GAO believes that FAA should decide whether the current plan for each segment of the system is the most appropriate way to meet the air traffic control system's needs.

**Air Traffic Control:
Status of FAA's Modernization Program**

GAO/RCED-93-121FS, 4/16/93

The Federal Aviation Administration has been working for more than a decade to modernize its air traffic control system. This effort has involved acquiring new equipment, such as radar and computers; upgrading older equipment; increasing automation; and consolidating facilities. GAO's fourth annual report on this subject discusses the status of the air traffic control modernization, major acquisitions, and new capabilities projects.

**Air Traffic Control:
Uncertainties and Challenges Face FAA's Advanced Automated System**

GAO/T-RCED-93-30, 4/19/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

The Advanced Automation System, the largest project in the Federal Aviation Administration's (FAA) \$33 billion effort to modernize the nation's air traffic control system, has been plagued by worsening schedule delays and cost growth over the past year. FAA and IBM, the main contractor, agreed to a plan that was too ambitious, significantly underestimating the technical challenges involved. In addition, FAA oversight of IBM has been weak. Although GAO testified that recent management initiatives to overcome some of these problems appeared reasonable, it will take time for these changes to work. Moreover, GAO remains concerned about the Advanced Automation System's last three segments. Less consolidation, a desire to implement advanced software earlier, and less tower modernization will affect project costs and schedules, user benefits, equipment location, and FAA's contract with IBM. GAO believes that continued support should depend on (1) FAA's successfully overcoming the system's technical challenges and (2) the quality of the agency's justification for restructuring and proceeding with the system.

**FAA Budget:
Important Challenges Affecting Aviation Safety, Capacity, and
Efficiency**

GAO/T-RCED-93-33, 4/26/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

The Federal Aviation Administration's (FAA) \$9.2 billion budget request for fiscal year 1994 represents a 3.5-percent increase over the fiscal year 1993 appropriation. The fiscal year 1994 request includes \$2.5 billion for facilities and equipment; \$4.6 billion for operations; \$1.8 billion for grants-in-aid to airports; and \$250 million for research, engineering, and development. This testimony discusses challenges FAA faces in ensuring the aviation system's safety, capacity, and efficiency. GAO also focuses on the status of FAA's air traffic control modernization program, work forces, airport development, and aviation security initiatives.

Surface Transportation Safety

Surface Transportation Safety

Highway Safety:

Safety Belt Use Laws Save Lives and Reduce Costs to Society

GAO/RCED-92-106, 5/15/92

GAO reviewed 44 published and unpublished studies on safety belts and related laws and assembled a review panel to help evaluate studies and formulate conclusions. These studies showed that safety belt use generally reduced both the fatality rate and the serious injury rate by 50 to 75 percent in motor vehicle crashes. In addition, states with safety belt laws cut fatalities and serious injuries by 5 to 20 percent compared with states with no laws. Existing state safety belt laws could be strengthened to (1) include coverage to rear seat occupants, (2) extend coverage to light trucks and vans, and (3) facilitate enforcement. One recent study pegged the 1988 costs of traffic crashes to society at \$334 billion. Most studies that addressed hospital costs reported that belted victims averaged 60 to 80 percent lower hospital costs than did unbelted victims. Studies found that unbelted occupants hurt in crashes paid less than one-half of their hospital expenses, with most costs being paid through insurance premiums or Medicare and Medicaid.

Railroad Safety:

Engineer Work Shift Length and Schedule Variability

GAO/T-RCED-92-68, 6/10/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Hazardous Material, House Committee on Energy and Commerce.

Human factors overtook track defects as the leading cause of railway accidents in 1990, contributing to more than one-third of the 3,000 railroad accidents reported that year. The Hours of Service Act mandates that railroad engineers work no longer than 12 continuous hours, at which point they must be given at least 10 consecutive hours off duty. Yet the act may be having little effect on rail safety because start time variability—the change in work period start times from shift to shift—may be causing widespread fatigue among engineers. When combined with other factors, such as work during early morning hours, variable schedules can decrease performance levels. Reducing the maximum hours allowed per shift from 12 to 10 would at best affect only a small fraction of rail accidents, mainly because so few accidents attributable to human factors occur after 10

hours in an engineer's shift. More importantly, such a reduction could increase the variability of work period start times for those who regularly work such hours, actually increasing fatigue in some cases. GAO urges that to avoid even greater engineer schedule variability, the Congress exercise caution if it changes the Hours of Service Act. These changes could lead to more widespread fatigue, particularly in the early morning hours. This testimony summarizes GAO's 4/20/92 report entitled Railroad Safety: Engineer Work Shift Length and Schedule Variability (GAO/RCED-92-133).

**Motor Vehicle Regulations:
Regulatory Cost Estimates Could Be Improved**

GAO/RCED-92-110, 7/9/92

Although federal safety, emissions, and fuel economy regulations have yielded a wealth of benefits—everything from fewer highway deaths to cleaner air—manufacturers and consumers have paid a price. Federal agencies and the automobile industry estimate regulatory costs by figuring component costs and then adding in the costs of manufacturer and dealer overhead and profit (markup) to arrive at the consumer cost. Government and industry cost estimates, however, often vary substantially. For example, the National Highway Traffic Safety Administration pegged the cost of a driver's-side air bag at \$220, while industry estimated it at about \$500. This report examines the (1) methods that government and industry use to estimate the cost of proposed regulations, (2) reasons for differences between federal and industry estimates, and (3) extent to which federal agencies coordinate and exchange information on vehicle regulations.

**Motor Vehicle Safety:
Key Issues Confronting the National Advanced Driving Simulator**

GAO/RCED-92-195, 8/18/92

The Department of Transportation (DOT) plans to build a \$32 million state-of-the-art driving simulator at the University of Iowa. The simulator, housed in a 50-foot-high experimental bay that can mimic road conditions, will assist in research to reduce the number of deaths, injuries, and economic losses resulting from traffic accidents. It is expected to begin operating in 1996. Although the simulator's benefits cannot now be quantified in terms of lives or dollars saved, DOT believes that the simulator will improve the effectiveness of its vehicle safety, highway construction,

and other programs. The simulator will allow a variety of kinds of research that are not possible today, such as measuring the influence of different prescription drug doses on a driver. Current estimates and funding sources for the simulator are sketchy. A better picture of the simulator's cost and performance will be available once the two design contracts are completed in fiscal year 1993. Funding commitments from sources other than DOT had yet to be pinned down, although the National Highway Traffic Safety Administration had officially asked the private sector to make a financial contribution.

**Natural Gas Pipelines:
Greater Use of Instrumented Inspection Technology Can Improve
Safety**

GAO/RCED-92-237, 9/28/92

The Department of Transportation (DOT) is responsible for ensuring the safety of about 267,000 miles of interstate natural gas pipelines. The use of an instrumented internal inspection device known as a "smart pig" is the only way to detect internal and external corrosion without excavating the pipe. Pipeline corrosion is the second leading cause of pipeline accidents after accidental excavation damage. Smart pigs can also spot other flaws, such as gouges and dents, that weaken a pipe's structural integrity. Smart pigs have their limits, however. They cannot detect defects like longitudinal cracks and metal loss in pipe welds, and some pipelines with sharp bends and other configurations cannot accommodate smart pigs. Even so, this technology has the potential to greatly reduce pipeline accidents. No federal regulations governing smart pigs or the frequency of smart pig inspections are on the books. Because corrosion can lead to ruptures and leakages in aging pipelines—problems that smart pigs can avert—GAO urges DOT to complete a feasibility study and regulations mandated under a 1988 law.

**Amtrak Training:
Improvements Needed for Employees Who Inspect and Maintain
Rail Equipment**

GAO/RCED-93-68, 12/8/92

Amtrak has devised training programs so that its train engineers and assistant conductors have the necessary knowledge and skills to do their job effectively. Training programs for signal maintainers, carmen, and

mechanical foremen, however, are fraught with weaknesses that may have left Amtrak with a work force that is less than fully prepared. Because Amtrak had not assessed the programs, its officials were unaware of the problems GAO identified. Amtrak officials cited staff and equipment shortages as the reasons for not providing some training. The three European rail systems that GAO visited have signal maintainer, carmen, and foremen training programs that are centrally designed and managed, mandatory for all trainees, and that contain the same regimen as Amtrak's engineer training program.

Surface Transportation Infrastructure

Surface Transportation Infrastructure

Surface Transportation: Availability of Intercity Bus Service Continues to Decline

GAO/RCED-92-126, 6/22/92

Except for regional companies, Greyhound remains the sole nationwide provider of regular bus service between cities, and it filed for bankruptcy protection in June 1990. The U.S. bus industry's decline continued despite regulatory relief granted by the Congress in the early 1980s. The Bus Regulatory Reform Act of 1982 did not, however, address the underlying causes for the industry's collapse: shrinking rural populations, intense competition from air and rail transportation, and growing car ownership. As a result, the industry continued to contract, serving fewer than 6,000 locations by 1991—nearly a 50-percent drop over 9 years. The riders who have been losing service seem to be those least able to afford, and least likely to have access to, alternative modes of transportation. GAO found that 20 states have attempted to sustain regular intercity bus service, mainly by giving bus firms operating support for routes that might otherwise be abandoned and subsidies for new vehicles. By requiring states to use some federal funding for intercity bus transportation, the Intermodal Surface Transportation Efficiency Act of 1991 may make more money available for existing state programs. It may also spur other states to start programs to strengthen intercity bus service. Some states, however, could face problems in spending the funds because the Department of Transportation had not decided what activities would be eligible to receive funding and because of federal labor protection requirements.

Highway Contracting: Disadvantaged Business Eligibility Guidance and Oversight Are Ineffective

GAO/RCED-92-148, 9/1/92

State highway agencies are required to steer at least 10 percent of their federal highway funds to firms participating in the Disadvantaged Business Enterprise Program. Since 1988, state agencies have received thousands of new applications for participation in that program. For each application, state agencies must decide whether firms meet the eligibility standards found in federal laws and regulations. Ineffective guidance has hindered states from consistently applying the eligibility criteria for the program. This situation has arisen because the Department of Transportation (DOT)

and the Federal Highway Administration (FHWA) have issued confusing and conflicting guidance on eligibility. As a result, states have interpreted key eligibility criteria differently. Despite varying state interpretations, DOT has not clarified its guidance. Although revisions have been under way since 1988 and DOT told the Congress that it planned to publish a draft regulation by early 1991, that deadline went unmet. DOT estimated that it would publish a final regulation by August 1993. FHWA, which is responsible for overseeing states' implementation of the federal highway program, had not developed a system to evaluate whether the eligibility criteria were being correctly and uniformly applied.

Transit Systems:

Allegations of Fraud in Use of Grant Funds by the Long Island Railroad for the Holban/Hillside Maintenance Facility

GAO/OSI-92-7, 9/10/92

Following up on matters referred to in an earlier report (GAO/RCED-92-38, 1/23/92), GAO looked into allegations that fraud had contributed to the misuse of federal funds on the Holban/Hillside project, focusing on the prime contractor's Minority Business Enterprise (MBE) program and two contract change orders approved by the grantee. GAO found that, to gain the contract, the project's prime contractor made false statements to the New York State Metropolitan Transportation Authority and the grantee regarding the involvement of MBE subcontractors. In addition, the prime contractor made false statements about MBE substantive functions and dollar amounts of subcontracts; controlled the largest MBE subcontractor, which did not serve a commercially useful function to the project other than to meet contract regulations; presented schedules that misrepresented MBE participation and overstated dollar amounts; admitted that the overstated dollar amounts were to meet the contract's dollar amount requirements; and affirmed that it used a fraudulent MBE because insufficient MBES existed to perform large construction projects. Also, the grantee had ordered two change orders totaling \$1,993,000; forced an employee to sign the change orders, violated written change order procedures, and lacked adequate documentation; and removed the prime contractor from the contract due to nonperformance.

**Highway Trust Fund:
Strategies for Safeguarding Highway Financing**

GAO/RCED-92-245, 9/15/92

A \$5.9 billion revenue shortfall by fiscal year 1997 is projected for the fund that provides most of the financing for highways and mass transit, but the deficiency could be avoided by extending a portion of the federal gas tax that expires in 1995. To finance more than \$122 billion in federal aid for highway programs through fiscal year 1997, the Congress extended federal highway excise taxes, such as those on gasoline and diesel fuel, through fiscal year 1999. Most of these taxes go to the Highway Trust Fund, the accounting mechanism used to record revenues and outlays. According to Federal Highway Administration projections, however, revenues through fiscal year 1999 will fall \$5.9 billion short of money to be paid out of the account. This shortfall is expected to trigger the Byrd Amendment—a financial safeguard mandating a reduction in outlays in the face of revenue shortfalls—in fiscal year 1995 and to grow substantially during the remaining 2 years of the authorization period. Most of the projected shortfall is attributable to an expected decline in collections of highway excise taxes. The Congress could resort to several strategies—which include implementing, modifying, or suspending the Byrd Amendment—to address the anticipated revenue shortfall. All of these options have advantages and disadvantages that the Congress will need to weigh carefully in deciding how to deal with the shortfall.

**Transportation Infrastructure:
Major Program Revisions Present Challenges**

GAO/T-RCED-92-93, 9/17/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Interim Committees on Transportation, Oregon State Legislature.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, which authorizes unprecedented funding of \$155 billion over 6 years, has changed and challenged the nation's approach to transportation. The act reshapes surface transportation policy, restructures the federal-aid highway system network, gives state and local governments more flexibility in determining how funds should be distributed between highway and transit projects, and requires each state to develop a statewide intermodal transportation system plan. The act's challenges include (1) finding the budgetary resources to support the \$155 billion

authorization, (2) meeting growing transportation needs and developing new transportation technologies while sustaining the existing transportation infrastructure, (3) improving transportation safety, and (4) looking at transportation as a complete system for moving people and goods in a manner that is efficient yet consistent with other important national objectives. Successful implementation of ISTEA depends on the will and persistence of individuals committed to making the act work. For many transportation officials, the ISTEA era will represent a cultural change—highway and transit officials who previously focused on modal problems will now be responsible for creating partnerships for making investment decisions to form a coordinated surface transportation network. Forming these partnerships will be complicated by the need to adapt simultaneously to the changing roles and responsibilities of federal, state, and local governments. The Oregon Transportation Plan and the state's Model Intermodal Transportation Planning Proposal reflect Oregon's commitment to move beyond business-as-usual and confront the changes and challenges of ISTEA. As the policy element of the state's transportation plan notes, this effort will give direction to critical elements, such as the coordination of transportation modes and the relationship of transportation to land use, economic development, the environment, and energy use.

**Traffic Congestion:
Activities to Reduce Travel Demand and Air Pollution Are Not
Widely Implemented**

GAO/PEMD-93-2, 11/6/92

GAO's nationwide survey of metropolitan planning organizations revealed only limited evidence of integration of air quality and local transportation planning processes, even in areas with poor air quality; many respondents said that local officials were unwilling to reduce congestion by discouraging single-occupancy ridership. The 1990 Clean Air Act Amendments encourage the use of transportation systems management techniques—a variety of low-cost approaches to maximize the efficiency of existing roads or to lower demand on them—to meet air quality goals. The Environmental Protection Agency is authorized to mandate these techniques in locales that fail to meet federal air quality regulations. This report discusses in detail the role of federally required urban transportation planning agencies in managing transportation systems and the extent to which air quality concerns affect the inclusion of these activities in the local transportation planning process.

**Mass Transit:
Information on Federal Participation in Transit Benefit Programs**

GAO/RCED-93-25, 11/13/92

Recent legislation allows federal agencies to promote the use of public transportation by their employees through the use of discounted passes or other public transportation subsidies. This report assesses (1) the extent of federal agency and employee participation in state or local transit benefit programs, including the factors influencing participation, and the rates of pay of participating employees; (2) the costs of federal agency and employee participation in state or local programs and how this participation is being managed and implemented; and (3) the extent to which the legislation has successfully encouraged the use of public transportation. GAO concludes that it is too soon to know whether providing transit benefits results in greater use of public transportation among federal employees or, alternatively, whether the population of federal employees using public transportation will remain roughly the same. This impact will be a key consideration when the Congress considers extending agencies' authority to offer transit benefits beyond 1993.

**Mass Transit Grants:
If Properly Implemented, FTA Initiatives Should Improve Oversight**

GAO/RCED-93-8, 11/19/92

The Federal Transit Administration's (FTA) \$35 billion grants program, which helps state and local authorities build or upgrade mass transit systems, is 1 of 16 (now 17) areas in the federal government that GAO has flagged as highly vulnerable to fraud, waste, and abuse. In a series of reports, GAO has examined grant oversight in four FTA regions that receive about 60 percent of FTA's grant funds. (See GAO/RCED-91-107, 6/13/91; GAO/RCED-92-7, 11/15/91; GAO/RCED-92-38, 1/23/92; and GAO/RCED-92-53, 3/4/92.) This report (1) builds on GAO's earlier work to demonstrate the systemic effect of FTA's weak oversight, (2) assesses recent FTA and legislative initiatives designed to correct oversight problems, and (3) examines the mix of staff between FTA regional offices and headquarters and the agency's use of contractors to conduct oversight activities.

**Intermodal Freight Transportation:
Combined Rail-Truck Service Offers Public Benefits, but
Challenges Remain**

GAO/RCED-93-16, 12/18/92

In 1990, the nation's highways carried 32 percent more freight than in 1980 and 78 percent more than in 1970. Although trucking provides flexible, reliable, and economical service, the growth of this industry has been accompanied by concerns about safety, traffic congestion, pollution, and highway deterioration. Highways around cities like Chicago and Los Angeles are carrying more than 15,000 tractor-trailers a day. This report examines the status and potential benefits of intermodal transportation, in which loaded containers or trailers are transferred intact from truck to rail and back to truck. Specifically, GAO (1) discusses recent trends in intermodal rail transportation, (2) assesses the prospects for more intermodal cooperation between the rail and trucking industries, (3) identifies problems that undercut the effectiveness and benefits of intermodal transportation, and (4) considers federal initiatives that might encourage intermodal cooperation.

Federal Transit Administration Grant Management

GAO/HR-93-16, 12/92

In January 1990, in the aftermath of scandals at the Departments of Defense and Housing and Urban Development, GAO began a special effort to review and report on federal government program areas that it considered "high risk." This report, 1 of the 17 high-risk series reports summarizing GAO's findings and recommendations as of December 1992, describes GAO's concerns about the management and oversight of federal transit grants by the Department of Transportation's Federal Transit Administration. The report examines the agency's failure to use its monitoring and enforcement tools to detect and correct serious, widespread, and often long-standing noncompliance and inappropriate expenditures of funds by grant recipients. The report also discusses new initiatives that the agency is taking to better safeguard future grants, including implementing most of GAO's numerous recommendations. GAO plans to continue to monitor the agency's progress to confirm that the new oversight strategy is in place and achieving its objectives.

Disadvantaged Business Enterprise Program

GAO/RCED-93-89R, 1/19/93

This letter responds to concerns about the implementation of the U.S. Department of Transportation's (DOT) Disadvantaged Business Enterprise Program (DBE) in Pennsylvania. GAO reviewed whether (1) certain minority groups that the Pennsylvania DOT determined were eligible to participate in the state's DBE program were, in fact, eligible under federal laws and regulations and (2) 38 firms cited by a constituent as certified DBE firms were "fronts" for nonminority contractors.

**High Speed Ground Transportation:
Financing Issues**

GAO/T-RCED-93-14, 3/4/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations.

High-speed ground transportation refers to transportation systems, such as the French TGV and the Japanese Shinkansen, capable of sustained speeds of at least 125 miles per hour. In addition, magnetic levitation technology is now being developed in Germany and Japan that could carry passengers safely and efficiently at speeds of more than 250 miles per hour. Progress toward increased speeds in the United States has been limited to improving existing Amtrak routes, especially in the Northeast Corridor, where Amtrak's Metroliner hits speeds of 125 miles per hour in some stretches between Washington and New York. Whether to increase spending for high-speed ground transportation is an important decision that must be made at a time when cutting the federal deficit has made discretionary dollars increasingly scarce. Yet, without more federal commitment, this new technology will not advance in the United States. If the Congress decides to increase the federal role, it will need to weigh the merits of continued support for incremental improvements by Amtrak versus underwriting more ambitious—and riskier—projects by forging public-private partnerships. The Congress will also need to decide whether to target the resources it makes available for specific high-speed ground transportation projects. A fuller understanding of the costs and benefits of specific projects will require reliable data.

**Mass Transit:
Needs Projections Could Better Reflect Future Costs**

GAO/RCED-93-61, 3/9/93

In making crucial policy and funding decisions on the future role of public transit, the Congress needs the best information available about how states and localities intend to use transit to increase mobility, reduce traffic congestion, improve air quality, and spur economic development. The Congress has received four projections of overall transit needs since 1988. Two estimates came from the Federal Transit Administration (FTA) while two nonprofit associations representing state transportation and transit interests each prepared one projection. These projections varied

widely—from \$3 billion to \$32 billion per year—because each used different cost elements and made different assumptions in calculating costs. Several factors, including legislation such as the Clean Air Act Amendments of 1990, the Americans With Disabilities Act, and the Energy Policy Act of 1992, could cause future transit needs to exceed all of the needs projections. FTA needs to make several short- and long-term changes to improve its transit needs projections. New planning requirements for state and local transit plans could become the basis for a nationwide estimate of transit needs. Although these data are not now being collected, the Department of Transportation has an opportunity to facilitate future data availability.

**Surface Transportation:
Federal and State Efforts to Support Declining Intercity Bus
Service**

GAO/T-RCED-93-16, 3/11/93

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittee on Surface Transportation, Senate Committee on Commerce, Science, and Transportation.

Since regulatory reform of the intercity bus industry a decade ago, nearly 7,000 locations have lost bus service, most of them small towns without any other public transportation. The riders who have been losing service appear to be those least able to afford and least likely to have access to alternative transportation. Many states have provided funds to prevent further deterioration or elimination of intercity bus service. States' efforts to expand intercity bus routes may have been facilitated by the Intermodal Surface Transportation Efficiency Act of 1991, which set aside grant funds for intercity bus needs. The Federal Transit Administration's guidance on implementing the set-aside gives states flexibility in developing their own approaches to meeting intercity bus needs and allows states to use the funds to collect information on the effect of declining service and develop appropriate responses. Continued federal support will help states ensure the availability of intercity bus service where it is needed most.

**Mass Transit:
FTA's Projections Could Better Reflect State and Local Needs**

GAO/T-RCED-93-17, 3/11/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations.

This testimony summarizes GAO's 3/9/93 report entitled Mass Transit: Needs Projections Could Better Reflect Future Costs (GAO/RCED-93-61), which was described previously.

**High Speed Ground Transportation:
Financial Barriers to Development**

GAO/T-RCED-93-23, 3/15/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

This testimony is similar to GAO's 3/4/93 testimony entitled High Speed Ground Transportation: Financing Issues (GAO/T-RCED-93-14), which was described previously.

**Surface Transportation:
Funding Limitations and Barriers To Cross-Modal Decision Making**

GAO/T-RCED-93-25, 3/31/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations.

Decisions on surface transportation investment have become increasingly complex, encompassing the deterioration of the nation's roads, bridges, and transit systems; traffic congestion; air quality; energy efficiency; and mobility for the elderly and disabled. The Intermodal Surface Transportation Efficiency Act of 1991 provided an unprecedented level of funding for transportation needs and gave state and local governments more flexibility in deciding how money should be distributed on highway and transit projects. This testimony focuses on the (1) current fiscal

realities that threaten to limit investment opportunities, (2) potential ramifications of authorizing new demonstration projects, (3) use of funding flexibility, and (4) need for improved analytic tools for making intermodal investment choices.

**Surface Transportation:
Budget Issues and Optimizing Investment Returns**

GAO/T-RCED-93-29, 4/22/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

Weighing alternate surface transportation investment choices is becoming increasingly complex, encompassing deterioration of the nation's roads, bridges, and transit systems; traffic congestion; air quality; energy efficiency; and mobility for the elderly and disabled. This testimony discusses key issues affecting implementation of the Intermodal Surface Transportation Efficiency Act of 1991, which gave states an unprecedented level of funding to meet transportation needs as well as greater flexibility in deciding how funds should be distributed between highway and transit projects. GAO discusses the (1) variability in the projected financial condition of the Highway Trust Fund, (2) potential ramifications of authorizing new demonstration projects, (3) use of funding flexibility, and (4) need for better analytic tools for making investment choices.

**High Speed Ground Transportation:
Strategic Approach Needed for Introduction of HSGT**

GAO/T-RCED-93-35, 4/29/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Hazardous Materials, House Committee on Energy and Commerce.

Decisions on the level of U.S. funding for high-speed ground transportation—railway systems capable of sustained speeds of at least 125 miles per hour—must be made at a time when deficit cutting has made discretionary dollars especially scarce. High-speed ground transportation systems are expensive in any form, requiring a strategic selection of the most beneficial projects. This testimony reviews the alternative

technologies and focuses on infrastructure improvements needed to bring high-speed ground transportation to the United States on existing railroad rights-of-way. GAO also discusses the social benefits that might accrue from introducing high-speed ground transportation and the problem of accurately assessing them.

**Trans-Alaska Pipeline:
Projections of Long-Term Viability Are Uncertain**

GAO/RCED-93-69, 4/8/93

The Department of Energy (DOE) asserts that the Congress will have to authorize the leasing of the coastal plain of Alaska's Arctic National Wildlife Refuge—an area of high oil and gas potential—by 1997 to keep the Trans-Alaska Pipeline System operating. DOE concludes that because of the projected rate of decline in oil production from Alaska's North Slope, the pipeline will likely be forced to shut down by the year 2009. The pipeline's possible shutdown could be a consideration in reaching a policy decision on whether to open the refuge to oil and gas development or whether to designate the coastal plain as wilderness, thereby precluding future development. In assessing DOE's conclusion that 2009 is the most likely year that the pipeline will be forced to shut down, GAO evaluated the reasonableness of (1) the minimum operating level that DOE assumed for the pipeline and (2) the model and the key economic, geologic, engineering, and cost assumptions that DOE used to estimate oil production at the North Slope. GAO also looked at the reasonableness of DOE's belief that it will take 10 to 12 years to develop new oil fields in the refuge.

Transportation-Related Competition and Consumer Protection

Transportation-Related Competition and Consumer Protection

Comments on "Airline Competition Enhancement Act of 1992"

GAO/T-RCED-92-71, 6/18/92

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittee on Aviation, House Committee on Public Works and Transportation.

Major airline ownership of computerized reservation systems used by travel agents in booking most flights is often cited as a major barrier to competition in the airline industry. This testimony summarizes GAO's work over the past 6 years on the impact of airline-owned computerized reservation systems on competition. In GAO's view, the proposed Airline Competition Enhancement Act of 1992 (H.R. 5293, 102nd Cong., 2nd sess.) is a step in the right direction. The Department of Transportation has delayed too long in responding to continuing problems in this area, and legislation appears necessary.

Mass Transit: Effects of Tax Changes on Commuter Behavior

GAO/RCED-92-243, 9/8/92

Current tax rules favor employer-provided parking over employer-provided transit benefits, thereby encouraging individuals to drive to work rather than take mass transit. Increasing the tax-exempt amount of transit benefits that workers get from their employers, however, is unlikely to have a major impact on either transit ridership or drive-alone commuting. First, it is unclear how many additional employers will offer the benefit. Second, not everyone offered the benefit will take advantage of it. Third, proposals to tax the value of employer-provided parking in excess of \$145 to \$160 per month may not have a major impact because most parking subsidies fall below this taxable range. Over time, the effect could be more significant as the changes in the tax treatment of employer-provided transportation benefits begin to work in conjunction with other changes mandated at the federal, state, and local levels to discourage driving to work alone. The Congress' recent attempt to discourage driving alone represents a major departure from earlier federal efforts. Although the societal benefits to relieving congestion, conserving energy, and reducing air pollution are important, limits exist on what can be achieved through changes in tax policy. If proposed changes to the tax treatment of transportation benefits are enacted, the Department of

Transportation will need to monitor them to gauge their effectiveness before the Congress determines whether more restrictive actions are desirable.

**Airline Competition:
Impact of Changing Foreign Investment and Control Limits on U.S.
Airlines**

GAO/RCED-93-7, 12/9/92

Recent bankruptcies by financially strapped U.S. airlines have heightened congressional concerns about the effects of industry consolidation on domestic and international competition. Foreign investment is a potential source of capital for U.S. airlines, but it is limited by law. This report examines the implications of relaxing existing restrictions on foreign investment in and control of U.S. airlines. GAO assesses the impacts in five key areas—domestic and international competition, national security, airline employment, and safety. GAO also examines the Department of Transportation's procedures for enforcing the current restrictions.

**Airline Competition:
Strategies for Addressing Financial and Competitive Problems in
the Airline Industry**

GAO/T-RCED-93-11, 2/18/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Aviation, House Committee on Public Works and Transportation.

Although deregulation of the domestic airline industry has benefited U.S. consumers through lower fares and more frequent service on many routes, some firms face serious financial problems, and the industry's long-term competitive health could be at risk. This testimony discusses the industry's interrelated competitive and financial problems, with a view toward protecting the interests of consumers and ensuring that U.S. airlines are positioned to successfully compete in domestic and international aviation markets. In GAO's view, an effective strategy for reviving the ailing U.S. airline industry should include four key elements: improving airlines' access to capital markets by easing restrictions on foreign investments and control; improving access to the growing international market; reducing

barriers to competition; and examining airline pricing practices, especially those of bankrupt carriers.

**State of the Airline Industry:
Strategies for Addressing Financial and Competition Problems**

GAO/T-RCED-93-21, 3/10/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

Although deregulation of the domestic airline industry has benefited U.S. consumers through lower fares and more frequent service on many routes, some firms face serious financial problems, and the industry's long-term competitive health could be at risk. This testimony discusses the industry's interrelated competitive and financial problems, with a view toward protecting the interests of consumers and ensuring that U.S. airlines are positioned to compete successfully in domestic and international aviation markets. In GAO's view, an effective strategy for reviving the ailing U.S. airline industry should include the following four key elements: improving airlines' access to capital markets by easing restrictions on foreign investments and control; improving access to the growing international market; lowering barriers to competition; and examining airline pricing practices, especially those of bankrupt carriers.

**International Aviation:
Measures by European Community Could Limit U.S. Airlines'
Ability to Compete Abroad**

GAO/RCED-93-64, 4/26/93

With nearly 30 million passengers flying to and from Europe each year, transatlantic service is the largest international market for U.S. airlines. The European Economic Community (EC), however, is changing the way that individual aviation markets of its member nations are regulated. This report assesses (1) changes to air transport regulation that the EC has undertaken; (2) the effect of those changes on competition in the European air travel market; and (3) the implications of those changes for U.S. airlines, including the possibility of granting cabotage rights to a unified EC, which would allow EC airlines to provide air service between points in the United States in exchange for allowing U.S. airlines to serve

more routes in the EC. GAO notes that U.S. airlines' ability to compete in the EC could be limited by recent measures that ban non-EC carriers from dropping fares below existing ones on routes within the community and that make it harder to acquire more takeoff and landing slots.

Coast Guard and Maritime Administration Efficiency and Effectiveness

Coast Guard and Maritime Administration Efficiency and Effectiveness

Drug Control:

Inadequate Guidance Results in Duplicate Intelligence Production Efforts

GAO/NSIAD-92-153, 4/14/92 (released 5/13/92)

The Department of Defense (DOD) has contributed significantly to the drug intelligence collection capabilities that exist today and has increased the overall understanding within the U.S. counternarcotics community of the nature and scope of drug producing and trafficking organizations. Although the volume of drug-related intelligence being collected has risen, no single individual or group is directing the collection, analysis, and reporting of counternarcotics intelligence by both DOD and the law enforcement agencies—the Drug Enforcement Administration, Federal Bureau of Investigation, Customs Service, and U.S. Coast Guard. Even though the Director of the Office of National Drug Control Policy sets priorities for intelligence functions and encourages agency cooperation regarding intelligence information, he does not have the authority to direct intelligence activities. As directed by the President, the Director of Central Intelligence established the Counternarcotics Center to coordinate activities of the counternarcotics intelligence community. Neither the Counternarcotics Center nor DOD, however, has issued adequate guidance on the relative priority of two primary but differing national objectives: (1) collecting, analyzing, and reporting information on major drug trafficking and producing organizations and (2) detecting and monitoring individual drug shipments. DOD's collection efforts do not appear to unnecessarily duplicate those of the drug law enforcement agencies, but the lack of overall guidance has resulted in duplication within and among DOD and the law enforcement agencies in the critical production phase that follows intelligence collection.

Coast Guard:

Use of Appropriated Funds for the Morale, Welfare, and Recreation Program

GAO/RCED-92-158, 5/18/92

The U.S. Coast Guard's Morale, Welfare, and Recreation Program's primary mission is to provide activities, such as parties and reduced-price tickets to professional sporting events, and facilities, such as swimming pools and movies theaters, to boost the morale of Coast Guard members and their dependents. This report examines (1) the amount of

appropriated and nonappropriated funds used to support the program, (2) how the Coast Guard's requirements on the use of such funds compare with the Defense Department's requirements for support of comparable programs, and (3) whether the Coast Guard's management of the program ensures effective use of funds.

Coast Guard:
Housing Acquisition Needs Have Not Been Adequately Justified

GAO/RCED-92-159, 5/19/92

During the next 5 years, the Coast Guard plans to spend more than \$200 million to purchase or build 1,200 houses for its members and their families. GAO found that the Coast Guard had not fully complied with requirements to justify the purchase or construction of nine housing projects for fiscal years 1990 through 1992. Although the Coast Guard documented its need for housing with general statements on local housing conditions, such as high rental costs or too little available housing, GAO found little or no support for these assertions. In addition, the Coast Guard did not adequately analyze alternatives, such as leasing, for meeting its housing needs. Finally, contrary to requirements in its own housing manual, the Coast Guard did not periodically assess housing market conditions following project approval, which occurs about 3 years before funding becomes available. Thus, the Coast Guard did not adjust for any changes in housing availability that could have made building or purchasing housing unnecessary.

Coast Guard:
Coastal Buoy Tender Acquisition Project Did Not Follow Federal Guidelines

GAO/RCED-92-156, 5/20/92

The Coast Guard plans to spend \$25 million in fiscal year 1993 and a total of more than \$200 million during the next 5 years to replace its fleet of 11 coastal buoy tenders—vessels mainly used to service short-range aids to navigation, such as buoys and lights, in coastal waters. This report examines whether the Coast Guard's acquisition program for the buoy replacements has been justified and conducted according to federal, Department of Transportation, and Coast Guard regulations governing major system acquisitions.

**Maritime Administration:
Stronger Management Controls Needed Over Vessels in Title XI
Custody**

GAO/RCED-92-147, 5/22/92

The Maritime Administration (MARAD) manages, as part of its Federal Ship Financing Program, a portfolio of guaranteed loans valued at nearly \$2.6 billion. When a borrower defaults, MARAD pays off the loan and typically takes title to the primary collateral—the vessel being financed. Because of a lack of basic management control at MARAD, however, the government may be realizing less than it should from the sale of these ships. Specifically, MARAD has not (1) developed detailed formal policies and procedures to guide vessel management and sales; (2) sufficiently documented important information used in making these decisions, such as the rationale behind decisions on specific ships; and (3) developed adequate performance indicators to assess these decisions.

**Coast Guard:
Abandoned Vessels Are Polluting the Waterways**

GAO/T-RCED-92-54, 6/10/92

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittee on Coast Guard and Navigation, House Committee on Merchant Marine and Fisheries.

Abandoned vessels littering the nation's waterways are often sources of pollutants like fuel oil or dump sites for hazardous material. Spills from these vessels have already harmed the environment, and further releases are a constant threat. Because about half the owners of these abandoned ships are either unknown or bankrupt, the federal government will likely have to pick up the tab for cleaning up spills or removing the vessels. GAO notes that no laws are on the books making abandonment illegal or establishing penalties to deter it. In addition, no law exists requiring barge owners to register their vessels with the Coast Guard.

**Coast Guard:
Abandoned Vessels Pollute Waterways and Cost Millions to Clean
Up and Remove**

GAO/RCED-92-235, 7/21/92

According to recent estimates, as many as 4,000 abandoned vessels may be littering the nation's waterways. These ships, leaking pollutants and often used as illegal dump sites for hazardous materials, pose a constant threat to the environment. Yet no federal law makes abandonment of a vessel illegal, and barge owners are not required to register their ships with the Coast Guard. As a result, the federal government may get stuck with the tab for mounting cleanup costs. Proposed legislation before the Congress (H.R. 5397 and S. 3262, 102nd Cong., 2nd sess.) would overcome many of these problems, prohibiting barge abandonment and mandating barge registration. However, while the legislation seeks to identify barge owners through state-administered vessel registration, GAO is concerned about the temporary nature of the vessel marking now required under the state numbering system.

**Drug Control:
Oversight Needed to Prevent Acquisition of Unnecessary
Equipment**

GAO/NSIAD-92-260, 7/30/92

The three agencies responsible for intercepting drugs en route to the United States—the Department of Defense, the U.S. Customs Service, and the U.S. Coast Guard—each identify their own requirements and establish their own acquisition plans for drug detection and monitoring equipment. No umbrella organization routinely oversees acquisitions to ensure that they respond to valid needs and that wasteful duplication is avoided. Interagency coordination has been a major focus of interdiction efforts, but the emphasis to date has been on coordinating operations, not acquisitions. Although the Office of National Drug Control Policy oversees budget requests and coordinates operations of the interdiction agencies, a similar process has not been established to routinely oversee and coordinate acquisition of detection and monitoring equipment. The report expresses uncertainty about the Coast Guard's continuing need for the EC-130V surveillance aircraft, which was acquired to support the agency's role in the war on drugs, and recommends that the Commandant declare the aircraft excess unless a validated requirement is established.

**Shipbuilding:
Navy's Plan to Acquire Additional Strategic Sealift**

GAO/NSIAD-92-224, 7/30/92

The Congress has been encouraging the Pentagon to beef up its sealift capabilities, providing \$2.1 billion in recent years for 20 new strategic ships to rapidly deploy troops and equipment. The Navy has been considering both new construction and conversion of existing ships to help obtain additional sealift capability. Significant time and money can be saved if the Navy buys and converts existing ships. If the Department of Defense lowers its speed requirement for a few of the 20 ships, more vessels will be eligible for conversion, possibly saving even more time and money. During the study, GAO reviewed a number of private industry comments and proposals submitted to the Maritime Administration (MARAD), which manages the National Defense Reserve Fleet, and interviewed MARAD officials.

**Coast Guard:
Progress in the Marine Safety Network, but Many Uncertainties Remain**

GAO/RCED-92-206, 8/28/92

This report discusses the Coast Guard's efforts to develop a new information system for its vessel inspection and other marine safety programs. The new system, the Marine Safety Network, is meant to overcome recognized problems with the current system, such as obsolete software. GAO examines factors that might affect the system's cost and implementation schedule and reviews steps taken to meet system users' information needs and to improve program management.

Oil Spill Clean-Up Contracts

GAO/RCED-93-73R, 12/28/92

Numerous producers of oil spill clean-up products had complained that they had been unable to supply Coast Guard contractors with their products because certain Coast Guard contractors had "exclusive-use" contracts with suppliers—contracts restricting the procurement of certain products to one supplier. This letter provides information on the (1) Coast Guard's procedures for acquiring oil spill clean-up services from

contractors, (2) requirements contractors are to follow in purchasing oil spill clean-up supplies and materials and the steps taken by the Coast Guard to ensure compliance with these requirements, and (3) extent to which contractors use exclusive-use subcontracts with individual suppliers of oil spill clean-up supplies and materials and the length of such subcontracts.

Drug Control:
Status Report on Counterdrug Technology Development

GAO/NSIAD-93-104, 1/28/93

This report provides information on counterdrug technology and its development. GAO reviewed the current efforts of the Department of Defense (DOD) and the Chief Scientist, Office of National Drug Control Policy, to develop and demonstrate counterdrug technology applications with an emphasis on DOD's efforts to develop cargo container inspection technology. According to the report, the U.S. Coast Guard is a potential customer for several cargo container inspection projects managed under the Defense Advanced Research Projects Agency's prototype development plan.

Drug Control:
Increased Interdiction and Its Contribution to the War on Drugs

GAO/T-NSIAD-93-4, 2/25/93

Testimony by Louis J. Rodrigues, Director of Systems Development and Production Issues, before the Subcommittee on Treasury, Postal Service, and General Government, Senate Committee on Appropriations.

The portion of the federal budget devoted to reducing the flow of drugs into the United States has almost doubled during the past 5 years, and funding for the Department of Defense's (DOD) detection and monitoring missions has soared more than 400 percent since 1989. (A 1989 act gave DOD leadership of all federal efforts to detect and monitor drugs smuggled by air and sea, while two civilian law enforcement agencies, the U.S. Customs Service and the U.S. Coast Guard, share the overall leadership for air and maritime interdiction, including the critical final phase culminating in arrests and seizures.) GAO reported that interdiction has had limited successes, with increased seizures and traffickers being forced to adopt new, and presumably more expensive, smuggling methods. Yet, cocaine

price, purity, and availability on American streets have remained relatively stable. According to GAO, the weak link in the interdiction process is not the detection and monitoring of suspect ships and planes, but the inability to execute the so-called "end game" of apprehension—culminating in arrests of suspected smugglers and seizure of their cargo. The failure to reduce the amount of cocaine entering the country is the combined result of (1) the enormous profits that make interdiction losses relatively inconsequential to drug traffickers and (2) the United States' inability to counter successful smuggling methods. Some level of interdiction effort must be maintained, not only as a symbolic gesture of national resolve but also as a key part of the national strategy for combatting the cocaine cartels. The level of that effort, however, should be commensurate with the relative contribution that interdiction is making—and can be expected to make—to the national war on drugs. GAO testified that additional investments in air and maritime surveillance will not substantially improve drug interdiction.

**Maritime Industry:
Federal Assessments Levied on Commercial Vessels**

GAO/RCED-93-65FS, 3/5/93

This fact sheet responds to congressional concerns about the total number and amount of user fees, taxes, and other charges, excluding fines and penalties, that have been levied on the commercial maritime industry. GAO identified 12 federal agencies that levied a total of 117 diverse assessments for total collections of nearly \$12 billion in fiscal year 1991. The assessments were intended to generate revenue or reimburse the agency for expenses incurred in providing a service. This fact sheet discusses in detail the agencies and their assessment activities, the payors of assessments, assessment amounts and totals collected, exemptions from assessments, and proposed assessments.

**Coast Guard:
Selection of Ports for Establishing or Improving Vessel Traffic
Service Systems**

GAO/RCED-93-110, 3/19/93

Vessel traffic service systems—typically consisting of a central monitoring location and an array of remote surveillance sensors, such as radar and closed circuit television cameras—can be used to help monitor vessel

traffic to avoid collisions, groundings, and other mishaps. The Coast Guard's plans for establishing, expanding, and improving vessel traffic service systems, as indicated by its fiscal year 1993 budget request, are consistent with the Department of Transportation's 1992 Port Needs Study, which prioritized the need for such systems in various U.S. ports and channels. Of the \$26.8 million requested for vessel traffic service systems in fiscal year 1993, 91 percent is earmarked for ports that the study considered a priority. The Coast Guard is using a cost-benefit approach to determine the specific areas within the chosen ports to be monitored by the systems. The Coast Guard plans, once it has selected the areas, to design systems that take into account specific operating needs and likely weather conditions.

Transportation:
Federal Assessments Levied on Commercial Maritime Industry

GAO/T-RCED-93-24, 3/25/93

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittees on Coast Guard and Navigation and on Merchant Marine, House Committee on Merchant Marine and Fisheries.

This testimony summarizes GAO's 3/5/93 report entitled Maritime Industry: Federal Assessments Levied on Commercial Vessels (GAO/RCED-93-65FS), which was described previously.

Coast Guard:
Additional Actions Needed to Improve Cruise Ship Safety

GAO/RCED-93-103, 3/31/93

The Coast Guard continues to discover safety problems aboard cruise ships, including inoperable fire doors and improperly designed escape routes. A common problem is substandard inspections by classification societies and the foreign countries in which cruise ships are registered. In addition, interpretations differ on some key international safety standards. Although the International Maritime Organization (IMO) has begun work on needed reforms, the Coast Guard has not adequately assessed information, nor shared it with IMO, on the extent of lax safety oversight by foreign countries and classification societies. The Coast Guard could improve its own examination program by (1) better collecting and analyzing results of its cruise ship examinations—the current system does not routinely track

repeated deficiencies by individual companies, nations, or classification societies—and (2) providing its inspectors with more training on international safety standards. International standards contain limited training requirements for crew members responsible for fighting shipboard fires. Furthermore, international standards for emergency information aboard cruise ships are limited and unclear. Emergency information to help passengers safely evacuate ships is often confusing and incomplete.

**Drug Control:
Coordination of Intelligence Activities**

GAO/GGD-93-83BR, 4/2/93

This briefing report provides information on the coordination of domestic narcotics intelligence activities. Several organizations, including the Drug Enforcement Administration, Customs Service, and Coast Guard, have established intelligence centers to collect and analyze intelligence. GAO discusses (1) the number and the functions of federal counternarcotics intelligence centers, (2) duplication found among centers' intelligence analyses, (3) past efforts to coordinate agencies' antidrug intelligence activities, and (4) the role and authority of the Office of National Drug Control Policy and its efforts to coordinate intelligence activities.

**Navy Contracting:
Military Sealift Command's Control Over Time-Chartered Ships**

GAO/NSIAD-93-140, 4/7/93

The Military Sealift Command (MSC) regularly charters both commercial and government-owned vessels to ship military cargo. Under a time-chartered contract, MSC pays a daily fee for the use of a ship during a specific time period but the owner remains responsible for ship operations, such as supplying the crew. MSC believes that it has complied with the law in allowing three of its time-chartered ships—the Atlantic Forest, the Green Wave, and the Green Ridge—to be worked on in foreign shipyards. GAO found that (1) MSC's decision to allow the Atlantic Forest to be reflagged overseas appears to have been within its discretion and (2) MSC's position that time-chartered ships remain within their owners' jurisdiction, and are therefore allowed to be repaired overseas, appears reasonable.

**Coast Guard:
Improvements Needed in Management of Programs and Activities**

GAO/T-RCED-93-28, 4/20/93

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations.

The Coast Guard, like many federal agencies today, is operating in a period when funding may become more scarce while demands for its services remain strong. Complicating this situation are the Coast Guard's wide-ranging missions, which encompass everything from its traditional search and rescue, maritime safety, and aids to navigation services to helping victims of natural disasters, like Hurricane Andrew, and interdicting Haitian migrants. As a result, the Coast Guard must function as efficiently and effectively as possible. This testimony is intended to help the Coast Guard build on its achievements and identifies ways to strengthen the efficiency and the effectiveness of its operations and use of budgetary resources.

**Coast Guard:
Acquisition Program Staff Were Funded Improperly**

GAO/RCED-93-123, 4/27/93

In the fiscal year 1992 transportation appropriations act, the Coast Guard received \$34 million to fund no more than 621 full-time-equivalent staff positions to support activities under its Acquisition, Construction, and Improvements (AC&I) appropriation. However, it also used about \$5.3 million from its general Operating Expenses (OE) appropriation to support a net of about 94 full-time-equivalent positions assigned to perform activities related to the AC&I appropriation. Since the Coast Guard received a specific appropriation for AC&I staffing in fiscal year 1992 and its OE appropriation was limited to purposes "not otherwise provided for," the Coast Guard's use of OE-funded personnel to perform AC&I activities was improper. Specifically, this use contravened 31 U.S.C. 1301(a) and was contrary to the general principles governing the use of appropriated funds. The Coast Guard's actions also raise the possibility of an Anti-Deficiency Act violation under 31 U.S.C. 1341 because the agency may not have sufficient funds available in the fiscal year 1992 AC&I personnel account to reimburse the OE account for the improperly charged funds.

Cross-Modal Budget/Financial Management Issues

Cross-Modal Budget/Financial Management Issues

DOT's Recommendation Response System

GAO/RCED-92-164R, 5/5/92

In surveying the systems that the Department of Transportation (DOT) and its operating administrations have for responding to GAO's recommendations and tracking actions taken on them, GAO noted three matters on which it believed corrective action was needed. These matters related to the Department's incomplete compliance with legislative, Office of Management and Budget (OMB), and/or DOT requirements in the following areas: (1) advising congressional committees within a specified time of actions taken or to be taken on GAO's recommendations, (2) establishing expected dates for completing corrective action, and (3) periodically evaluating recommendation response and tracking systems and their effectiveness.

Financial Management: DOT's Accounting and Financial Information System Can Be Improved

GAO/RCED/AFMD-92-238, 9/22/92

The Department of Transportation's budget for fiscal year 1992 totaled more than \$36 billion, funding everything from mass transit grants to contracts for air traffic control upgrades. For the last 8 years, DOT has been developing a single accounting and financial information system to keep track of these funds. This system was intended to (1) consolidate numerous inefficient accounting systems into a single departmentwide system, (2) correct existing accounting weaknesses related to disbursing payments and collecting debts, and (3) provide managers and the Congress with better information to oversee programs and operations. The schedule for installing the system has already slipped 2 years, and cost estimates have soared from \$17.6 million to \$26.4 million. Although DOT has made progress in achieving the system's first two goals, the third goal of providing better management information remains elusive.

DOT Contract Oversight

GAO/RCED-93-67R, 11/19/92

Earlier this year, GAO began a review of the Department of Transportation's (DOT) centralized oversight of contracting, focusing on

determining what controls over contract management were in place at DOT and its operating administrations. GAO's work on these issues, however, was largely superseded by an August 1992 DOT report and an August 1992 Office of Management and Budget (OMB) draft report, both of which addressed the same issues. This letter summarizes the DOT and OMB reports' recommendations; discusses GAO's audit findings, which are consistent with those in the DOT and OMB reports; and communicates GAO's decision to discontinue audit work at this time.

Transportation Issues

GAO/OCG-93-14TR, 12/92

This report, one in GAO's transition series, discusses major policy, management, and program issues facing the Congress and the new administration in the area of transportation. The issues include (1) investing wisely to rebuild and enhance surface transportation infrastructure, (2) modernizing air traffic control and enhancing airports, (3) improving transportation safety, (4) increasing airline competition and access to international markets, (5) strengthening Coast Guard acquisition programs and environmental protection, and (6) consolidating financial systems and revamping grant oversight.

Status of Open Recommendations:

Part B—Improving Resources, Community, and Economic Development Programs

GAO/OP-93-1B, 1/15/93

This annual report, consisting of four volumes, summarizes the findings and open recommendations resulting from GAO audits and other review work in federal agencies for which satisfactory legislative or administrative action has not yet been completed. To encourage prompt, responsive actions on its recommendations, GAO follows up on them. The four volumes contain information on 2,522 GAO recommendations that were open as of September 30, 1992. This volume, Part B, contains information on transportation and other issue areas related to resources, community, and economic development matters. The four-volume report is available in a set totaling more than 1,000 pages or on computer disk. Either format is available from GAO.

Panama Canal Commission

Panama Canal Commission

Financial Audit: Panama Canal Commission's 1991 and 1990 Financial Statements

GAO/AFMD-92-69, 8/18/92

Each year, GAO is required to audit the Panama Canal Commission, a federal agency that will run the canal until Panama takes it over at the turn of the century. In GAO's opinion, the Commission's financial statements present fairly its financial position for fiscal years 1991 and 1990 and the results of its operations, changes in the U.S. government's investment, and cash flows for those years. GAO also believes that internal controls are providing reasonable assurance that losses, noncompliance, or misstatements affecting the financial statements would be prevented or detected. GAO identified several matters involving data processing and other operations that need improvement. These matters, which were not material to the financial statements, were communicated for the Commission's consideration in a separate management letter.

Telecommunications

Military Satellite Communications: Potential for Greater Use of Commercial Satellite Capabilities

GAO/T-NSIAD-92-39, 5/22/92

Testimony by Louis J. Rodrigues, Director of Command, Control, Communications, and Intelligence Issues, before the Subcommittee on Defense, House Committee on Appropriations.

GAO testified on the potential for greater use of commercial satellites to satisfy Department of Defense (DOD) general-purpose communication needs. DOD expects its requirements for general-purpose satellite communications to increase substantially during the next several years and to exceed the existing and planned capacity of military communication satellite systems. In the past, DOD has leased individual circuits on commercial communication satellites, but this is a costly approach. One alternative DOD is considering involves creating private networks by acquiring and managing commercial communication satellite assets. Other alternatives also need to be analyzed, and DOD intends to hire several contractors to assist in the analyses during the next several months. Until this is done and GAO's review is completed, GAO would caution against DOD making any long-term commitments toward satisfying the expected increased requirements in general-purpose satellite communications.

Military Satellite Communications: Milstar Program Issues and Cost-Saving Opportunities

GAO/NSIAD-92-121, 6/26/92

During the past decade, the Department of Defense (DOD) has spent more than \$5 billion on a satellite system (the Milstar program) to provide the President and the military with a survivable worldwide communications capability through all levels of conflict, including nuclear war. Because of congressional concerns about the programs, DOD has scaled back the number of satellites and terminals. But DOD's plans to modify the Milstar satellite design are not the most cost and operationally effective alternatives for satisfying tactical communication needs. GAO believes that this matter and three technical issues—sufficient capacity, assured connectivity, and antennas capable of neutralizing the effects of electronic jammers—must be resolved. DOD can save up to \$441 million by canceling planned procurement of one kind of Army Milstar terminal and selecting

one contractor to finish producing the Air Force's command post terminals. DOD oversight of the Air Force's so-called low cost terminal program is critical, considering the risks involved; and separate criteria for exiting the demonstration and validation phase and engineering and manufacturing development phase of the acquisition process are essential. Caution is necessary regarding continued production of the Navy's Milstar terminals because of conflicts associated with reliability testing and production contract limitations.

**Telecommunications:
Concerns About Competition in the Cellular Telephone Service Industry**

GAO/RCED-92-220, 7/1/92

The U.S. cellular telephone industry grew from about 92,000 subscribers in 1984 to about 7.6 million subscribers in 1991—one of the fastest growing industries in the country. GAO examined the industry's competitive structure and the adequacy of the Federal Communications Commission's (FCC) current policies in ensuring competitively priced service. While GAO found no evidence of anticompetitive or collusive behavior, the two-carrier market system that FCC created may limit competition in cellular telephone markets. Price data were limited and yielded little information about industry competitiveness. GAO notes that neither FCC nor the states have ongoing efforts to evaluate industry competition. FCC is relying on the introduction of other advanced communications services to bring competition to the cellular telephone market; GAO agrees that such services would increase competition, if licenses were granted to carriers not already serving a particular market.

**Telecommunications:
Competition in the Cellular Telephone Service Industry**

GAO/T-RCED-92-72, 7/1/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Communications, Senate Committee on Commerce, Science, and Transportation.

This testimony summarizes GAO's 7/1/92 report entitled
Telecommunications: Concerns About Competition in the Cellular

Telephone Service Industry (GAO/RCED-92-220), which was described previously.

Attack Warning:

Status of the Survivable Communications Integration System

GAO/IMTEC-92-61BR, 7/9/92

Management and development problems with the Survivable Communications Integration system—an automated communications network designed to transmit missile attack warnings to the nation's leaders by both telephone lines and satellite—have contributed to a 65-percent increase in program costs and a 3-year delay in completion. Because the prime contractor was unable to deliver a system that could process sensor data fast enough to meet specifications, the Air Force allowed the contractor to replace the computer platform, for the second time at government expense, with a faster, more powerful model. The Air Force has also reduced the number of communications media to be used from five to three, thus reducing the system's survivability—a key factor for its justification. According to the Air Force, commercial high-speed telephone lines would probably be the first communications medium to go down during a nuclear attack. If a nuclear strike should occur before the military's satellite system became operational, attack warnings could be sent by only one satellite system.

FBI:

Advanced Communications Technologies Pose Wiretapping Challenges

GAO/IMTEC-92-68BR, 7/17/92

Since the mid-1980s, the Federal Bureau of Investigation (FBI) has been concerned that its wiretapping abilities have not kept pace with the rapid spread of new technologies, such as cellular telephones and satellites. The Bureau considers wiretapping an essential information-gathering tool in fighting crime. This report discusses the (1) technological alternatives available or soon-to-be available to the FBI to wiretap voice and data communications, (2) changes required to the telecommunications network to accommodate least intrusive wiretaps, and (3) estimated cost of developing and implementing such changes.

**Telecommunications:
Cellular Service Competition**

GAO/T-RCED-93-3, 1/12/93

Testimony by John H. Anderson, Jr., Associate Director for Transportation and Communications Issues, before the Senate Committee on Energy and Public Utilities, California State Legislature.

Cellular telephone service is one of the telecommunications industry's fastest growing segments. Since starting up in the early 1980s, cellular telephone service has seen annual revenues climb to nearly \$7 billion; about 10 million subscribers today pay more than \$68 per month for service. Under current Federal Communications Commission (FCC) rules, no more than two cellular carriers may operate in each geographic market. This testimony explores the industry's competitive structure and determines whether FCC's policies ensure the availability of cellular services at competitive rates.

Status of Open Recommendations:

Part D—Improving Justice, General Government, Financial and Information Management, and Evaluation Programs

GAO/OP-93-1D, 1/15/93

This annual report, consisting of four volumes, summarizes the findings and open recommendations resulting from GAO audits and other review work in federal agencies for which satisfactory legislative or administrative action has not yet been completed. To encourage prompt, responsive actions on its recommendations, GAO follows up on them. The four volumes contain information on 2,522 GAO recommendations that were open as of September 30, 1992. This volume, Part D, contains information on selected telecommunications matters. The four-volume report is available in a set totaling more than 1,000 pages or on computer disk. Either format is available from GAO.

**Telecommunications:
FCC's Oversight Efforts to Control Cross-Subsidization**

GAO/RCED-93-34, 2/3/93

Regulated telecommunications services include basic interstate telephone service, while unregulated services encompass such technologies as voice mail and electronic mail that transmit information over telephone lines. If carriers' costs for these two types of services are not properly allocated, customers of regulated telephone services may end up paying for some of the costs of the unregulated services—a practice known as cross-subsidization. GAO reported in October 1987 (GAO/RCED-88-34) that the Federal Communications Commission (FCC) had not assigned enough staff to monitor carriers' cost allocations to protect ratepayers from cross-subsidization. This report reviews FCC's implementation of (1) GAO's recommendation to boost on-site audits of carriers' cost allocations and (2) certain accounting safeguards established after 1987 to protect ratepayers from cross-subsidization, including audits of carriers' cost allocations done for the carriers by certified public accounting firms, FCC's reviews of these audits, and a computerized system for maintaining carriers' cost and revenue data.

**Telecommunications:
Interruptions of Telephone Service**

GAO/RCED-93-79FS, 3/5/93

In the fall of 1991, a long-distance carrier suffered a massive outage that cut off most long-distance communications to and from New York City. Particularly disturbing was a disruption in the region's air traffic control system, which depends on telephone lines for voice and data transmission. GAO found that more than 1,000 such outages occurred during 1990 and 1991, affecting upwards of 69 million customers. Discounting an ice storm that lasted 2 weeks, the outages' average duration was 3.3 hours; about half of the outages occurred between 9 a.m. and 6 p.m. Local telephone companies experienced about 80 percent of these outages; they said that hardware problems, such as computer failure, and software problems, such as programming errors, were the main culprits. Long-distance companies said that cable cuts were the main reason for their disruptions.

**Telecommunications:
FCC's Handling of Formal Complaints Filed Against Common
Carriers**

GAO/RCED-93-83, 3/18/93

The Federal Communications Commission (FCC) relies on a formal complaint process to resolve pricing and other disputes between customers and common carriers, such as local and long-distance telephone companies. A significant rise in complaints during fiscal years 1989 and 1990 and FCC's extensive use of deferrals have caused (1) an increasing number of unresolved formal complaints against common carriers, (2) long periods of time taken to resolve complaints, and (3) a very low level of compliance with the law requiring FCC to resolve tariff complaints within 12 to 15 months of their filing. FCC has taken various steps to resolve formal complaints more quickly, including doubling its staff of formal complaint attorneys, proposing to streamline its resolution procedures, and piloting alternative techniques for dispute resolution.

Other Transportation- and Telecommunications-Related Matters

Other Transportation- and Telecommunications-Related Matters

Program Performance Measures: Federal Agency Collection and Use of Performance Data

GAO/GGD-92-65, 5/4/92

Proposed legislation would require all federal agencies to develop standards and goals and to measure and report progress toward them. GAO surveyed more than 100 federal agencies, all of which had more than 1,000 employees or more than \$500 million in annual outlays, and found that many of them have a range of program performance measures. However, relatively few reported having the organizational characteristics that would make it more likely for them to use their performance measures to assess progress toward goals in their strategic management plans. In fact, most of the agencies GAO visited used measures to provide internal information on their past activities or present operations. As budgets tighten, many agencies find that using a range of performance measures can be beneficial, providing managers information about accountability, efficiency, and effectiveness while also providing the Congress and the public with information on how public resources are being spent. (Included in the survey were five Department of Transportation agencies—Maritime Administration; U.S. Coast Guard; Federal Aviation Administration; Federal Highway Administration; and Urban Mass Transportation Administration, now called Federal Transit Administration.)

Performance Measurement: An Important Tool in Managing for Results

GAO/T-GGD-92-35, 5/5/92

Testimony by Charles A. Bowsher, Comptroller General of the United States, before the Senate Committee on Governmental Affairs.

Public officials must be able to better guarantee Americans that the government can effectively account for where their tax dollars go and how they are used, a task that will require federal agencies and the Congress to shift their focus from correctly spending allocated dollars to managing for results. Better information on program status and change in management attitude are needed, along with stronger incentives for agencies to account for their results. The Comptroller General testified that agencies need to (1) clearly articulate their missions in the context of statutory objectives and, with regard to services, citizen expectations; (2) develop

implementation plans for the goals and objectives and specific measures of progress toward achieving them; and (3) report annually on their progress. In addition, the Congress needs to carry out effective program oversight to demonstrate to the executive branch that it will use the information provided to hold the agencies accountable. This testimony also summarized the findings reported in Program Performance Measures: Federal Agency Collection and Use of Performance Data (GAO/GGD-92-65, 5/4/92), which is described above.

**Federal Buildings:
Many Are Threatened by Earthquakes, but Limited Action Has
Been Taken**

GAO/GGD-92-62, 5/6/92

About 40 percent of federally owned and leased buildings are located in areas where the risk of earthquake damage is moderate to very high, but little has been done to make the structures—or workers—safer. Even though buildings are located within the same seismic risk zone, damage to buildings would vary because of such factors as construction type and soil properties. Most agencies lack comprehensive data on these factors, so it is not possible to determine which buildings are more vulnerable than others. Although earthquakes threaten many federal buildings and employees, agencies' efforts to reduce building vulnerability have been limited. Agency officials did not have complete data on funds spent or needed to strengthen buildings. Four of the six agencies GAO reviewed estimated that they will need about \$2 billion collectively to make their buildings more earthquake-resistant. Officials cited the lack of funding as a major impediment to improving seismic safety. (The Department of Transportation (DOT) was not among the six agencies reviewed. However, the report shows that DOT owned 11,445 buildings, including 678 in areas with a very high level of seismic risk and 1,616 in areas with a high level of seismic risk. Also, DOT leased 5,115 buildings, including 347 and 367, respectively, in areas with very high and high levels of seismic risk.)

**Alternative Fuels:
Experiences of Brazil, Canada, and New Zealand in Using
Alternative Motor Fuels**

GAO/RCED-92-119, 5/7/92

The oil crisis of the 1970s spurred the governments of Brazil, Canada, and New Zealand to seek domestic alternatives for their motor fuels. Each government was the catalyst for action on alternative fuels, and this leadership proved crucial in removing economic and technological barriers and persuading industry and consumers that alternative fuels were important. Participation by the fuels, automotive, and utility industries was vital in attracting and retaining consumers for alternative fuels and vehicles in each country. Finally, consumer acceptance was essential to the use of alternative fuels in these countries, and incentives such as reduced taxes or subsidies helped boost consumer use of alternative fuels. These countries' experiences, however, show that introducing and sustaining the use of alternative fuels is neither a quick nor an easy undertaking. For example, consistent long-term government commitment was sometimes hard to maintain because of resource limitations and other reasons. In some cases, failure to maintain this commitment undercut sustained use of alternative fuels. Furthermore, alternative fuel initiatives struggled when industry was not actively involved in vehicle development, fueling system construction, and marketing.

**Operation Desert Shield/Storm:
Update on Costs and Funding Requirements**

GAO/NSIAD-92-194, 5/8/92

The Congress established the Defense Cooperation Account in fiscal year 1991 to receive contributions from foreign countries to help defray the costs of national defense efforts, such as Operation Desert Shield/Storm. This report discusses the (1) account's status through fiscal year 1992, (2) extent of future funding requirements, (3) impact of operation related and financed revolving fund surpluses on the Department of Defense's budget, and (4) Persian Gulf Regional Defense Fund's status. The report mentions the Coast Guard as one of the agencies for which money was appropriated for fiscal year 1991.

**Operations Desert Shield/Storm:
Foreign Government and Individual Contributions to the
Department of Defense**

GAO/NSIAD-92-144, 5/11/92

As of September 30, 1991, the Department of Defense (DOD) had accepted about \$48.7 billion in contributions from foreign governments and \$687,000 from private U.S. and foreign individuals. Foreign contributions consisted of cash and in-kind support, such as equipment and transportation, to defray Operations Desert Shield/Storm costs. Major contributors were Saudi Arabia, Kuwait, the United Arab Emirates, Japan, Germany, and Korea. Individual contributions consisted of cash donations to defray the costs of Desert Shield/Storm and for other DOD needs. As of April 10, 1992, foreign contributions had increased to \$53.7 billion, and individual contributions had increased to \$688,000. DOD credited all cash contributions to the Defense Cooperation Account and administered these funds in accordance with applicable legislative and accounting requirements. Of the total deposited in the account as of September 30, 1991, DOD had transferred about \$35.5 billion to DOD accounts and \$527 million to other agencies, including \$18.9 million to the U.S. Coast Guard. The remainder consisted of securities investments of about \$7.5 billion and a cash balance of about \$4,000. DOD also established procedures for tracking, reporting, and valuing in-kind support. GAO found some reporting discrepancies, which DOD corrected. Because data from contributing countries were not always available, DOD estimated the value of some contributions, and, as a result, the estimated value may differ from the actual cost incurred by the contributor.

**Tax Administration:
Status of Efforts to Curb Motor Fuel Tax Evasion**

GAO/GGD-92-67, 5/12/92

Recent indictments of several firms for excise tax evasion have bolstered petroleum industry claims that millions of dollars in federal motor fuel taxes are not being collected. To counter losses from tax evasion schemes such as the "daisy chain"—in which a product like gasoline is fraudulently sold to retailers as tax free by manipulating paper-based ownership of several companies—the collection point for gasoline was moved from wholesale distributors to the terminal, where gasoline is pumped into a rail car or truck. Because of a lack of appropriate data, GAO could not

determine if recent efforts by the Congress and the Internal Revenue Service (IRS) have thwarted evasion of motor fuel excise taxes. Because of concerns that evasion may still be a problem, IRS and Federal Highway Administration officials are taking further steps to reduce and detect evasion. Moving the collection point to reduce the number of liable firms, as has been proposed, should help minimize evasion attempts. Refinery-level taxation bears consideration on efficiency grounds alone, since the number of taxpayers would be reduced. In addition, refinery-level taxation would also improve controls against evasion. Industry members, citing concerns about competitive disadvantages, disagree about the desirability of such a move. GAO notes that it is unclear whether adding a 2- to 4-cent per barrel cost would significantly affect the industry.

**Government Civil Aircraft:
Longstanding Management Problems**

GAO/T-GGD-92-44, 5/21/92

Testimony by L. Nye Stevens, Director of Government Business Operations Issues, before the Subcommittee on General Services, Federalism and the District of Columbia, Senate Committee on Governmental Affairs.

According to the General Services Administration (GSA), federal civilian agencies own at least 1,300 aircraft with an estimated value of \$2 billion. Conservatively, these aircraft cost at least \$750 million annually to operate and maintain. Most of the aircraft are used to satisfy special mission requirements, such as firefighting and law enforcement, but about 100 of them are configured and used primarily for routine passenger transportation. Although top-level officials' use of government aircraft for personal travel and other questionable purposes has received considerable media attention recently, such practices are not new. GAO work during the past 15 years has documented many long-standing examples of mismanagement and inefficient use of government civilian aircraft. This testimony summarizes past GAO work in this area and discusses the status of executive branch reforms to date. Among the agencies reviewed was the Department of Transportation.

**Multiple Award Schedule Purchases:
Changes Are Needed to Improve Agencies' Ordering Practices**

GAO/NSIAD-92-123, 6/2/92

The Multiple Award Schedule (MAS) program is designed to help federal agencies buy a wide range of commercial goods, everything from office supplies to personal computers, in a simplified way. Yet GAO found that agencies' purchasing practices under the program do not always result in selecting the lowest overall cost alternative. For the most part, procurement offices fill user requests for a specific manufacturer's product without checking to see whether other items could satisfy the order at a lower cost. GAO found lower cost goods and services for 19 of the 47 procurements it reviewed in depth, alternatives that might have shaved as much as 10 percent off the \$3 million spent on the procurements. Further savings might have been possible had the agencies not limited purchase requests to specific manufacturers' products. Procurements under the MAS program receive little management and oversight from procurement offices, federal agencies, or the General Services Administration (GSA). GSA and agency procurement officials generally agree that automating program information would facilitate product and price comparisons and promote purchases of lower cost alternatives. Among the agencies mentioned in the report is the Department of Transportation, which accounted for 4.8 percent of the more than \$4 billion in orders placed under MAS contracts during fiscal year 1990.

**Political Appointees:
Number of Noncareer SES and Schedule C Employees in Federal
Agencies**

GAO/GGD-92-101FS, 6/8/92

This fact sheet provides information on the number and placement of political appointees in the federal government. GAO discusses (1) the number of noncareer Senior Executive Service (SES) and Schedule C appointees at each agency and department and governmentwide; (2) the number of career SES members governmentwide; and (3) the number, placement, and employment trends of noncareer SES and Schedule C appointees at five agencies—Department of Education, Environmental Protection Agency, Department of Housing and Urban Development, Small Business Administration, and U.S. Information Agency.

**Employee Drug Testing:
Estimated Cost to Test All Executive Branch Employees and New
Hires**

GAO/GGD-92-99, 6/10/92

Although the precise cost of drug testing federal workers in the executive branch is unknown, GAO estimates that total expenses could top \$168 million annually if all executive branch employees and new hires were tested. GAO estimates that each agency would spend about \$43 per test, including the review of test results by a doctor, purchase and submission of blind testing specimens for quality assurance, and collection of specimens from employees.

**Technology Transfer:
Japanese Firms Involved in F-15 Coproduction and Civil Aircraft
Programs**

GAO/NSIAD-92-178, 6/10/92

In 1978, the United States and Japan signed a coproduction agreement for the F-15 fighter aircraft. GAO reported in 1982 (GAO/ID-82-23, 3/18/82) that the United States, through military aircraft coproduction, was helping Japan develop its civil aircraft industry. The FS-X codevelopment program underscores U.S. concerns about the transfer of military technology to Japan for possible commercial application. Although the Japanese aerospace market share remains small when compared with that of the United States and Europe, it has grown during the last decade. The U.S. aerospace supplier and technology base is also declining. Various government and academic sources report a narrowing of the U.S. technological lead in aerospace, and recent reports by the Joint Chiefs of Staff and the Council on Competitiveness state that the U.S. supplier base in aerospace is shrinking. The Japanese government, working in tandem with the private sector, has targeted its aerospace industry for development and promotion, with strong emphasis on international relationships and supplying components and parts to world markets. This report looks at the Japanese aerospace industry's production, employment, market share, and trade during the last 10 years. GAO also discusses (1) Japanese aerospace companies' participation in the U.S. civil jet industry, specifically in Boeing and Douglas Aircraft Company programs; (2) Japanese companies participating in the F-15 coproduction

program; and (3) the Japanese firms that helped develop and produce Boeing and Douglas civil aircraft.

**Defense Transportation:
Ineffective Oversight Contributes to Freight Losses**

GAO/NSIAD-92-96, 6/18/92

The Department of Defense (DOD) spends more than \$500 million annually to ship government property throughout the continental United States, mostly by truck. Although DOD filed claims against freight carriers for \$15 million worth of lost or damaged property in fiscal year 1990, GAO believes that these losses could be many times greater. DOD's systems for identifying, reporting, and recovering lost freight and for monitoring carriers' performance are in disarray. DOD does not consistently or correctly report problems like undelivered and missing freight. Even when DOD files claims for lost freight, carriers are generally liable for only a fraction of the freight's value. Furthermore, DOD continues to use carriers that have lost excessive amounts of freight. DOD needs to strengthen management of freight shipments to cut down on property thefts and losses.

**Defense Procurement:
DOD Concerns Regarding Acceptance of FAA's Spare Parts Approvals**

GAO/NSIAD-92-209, 6/18/92

GAO reviewed proposals that would require the Department of Defense (DOD) to (1) accept Federal Aviation Administration (FAA) approvals on spare parts unless DOD provides specific reasons for not accepting the approvals and (2) adopt the FAA practice of designating individuals who are not employees to approve spare parts on the agency's behalf. Neither agency maintains data on all the parts used by both civil and military aviation, and manufacturers do not make this information readily available. Both DOD and FAA officials believe that the proposals would be impractical because their agencies' missions and spare parts approval processes differ substantially. DOD and FAA officials acknowledge that their spare parts approval processes are complex and subjective, but they believe that their separate approaches are necessary for ensuring that those parts meet the different standards of each agency.

**Value Engineering:
Usefulness Well Established When Applied Appropriately**

GAO/T-GGD-92-55, 6/23/92

Testimony by L. Nye Stevens, Director of Government Business Operations Issues, before the Subcommittee on Legislation and National Security, House Committee on Government Operations.

Value engineering involves a systematic search for less costly alternatives to traditional ways of doing things. Under this approach to evaluating equipment, services, and facilities, a more expensive heating system might be judged desirable because its energy efficiency makes it less expensive over the long run. Proposed legislation (H.R. 281, 102nd Cong., 1st sess.) would require value engineering reviews for some federal architectural and engineering services contracts. GAO recognizes the cost savings associated with this technique but believes that use of value engineering should proceed carefully. Value engineering, while often useful in improving productivity and cutting costs, may not be appropriate in every instance. To minimize the chance of wasting money on unnecessary, unsuccessful, or inappropriate value engineering reviews, agency discretion and flexibility are needed. The Congress may want to await the issuance of revised Office of Management and Budget (OMB) guidance on value engineering (OMB Circular A-131), which is being strengthened, before deciding on the proposed legislation. GAO suggests that, as an alternative, the bill be amended to allow agencies to waive the requirements for value engineering reviews in appropriate circumstances.

**Gasohol:
Federal Agencies' Use of Gasohol**

GAO/RCED-92-73, 6/24/92

Testimony by Victor S. Rezendes, Director of Energy Issues, before the Subcommittee on Investigations, House Committee on Armed Services.

This testimony examines federal agencies' use of gasohol—gasoline containing 10 percent ethanol. Bulk purchases of gasohol for use in federal motor vehicles have been limited, and the extent to which gasohol has been used by federal credit card purchasers of motor fuel is unknown. At the same time, suppliers have not been able to meet all recent federal requests for gasohol. Eliminating or tightening exemptions from

requirements for the use of gasohol and promoting its use among credit card users may increase demand. The Department of Defense (DOD) has advertised in trade publications its need for more suppliers, generating increased supplier inquiries about future federal contracts. Yet questions remain about the ability of DOD and industry to meet increased demand, particularly given (1) the current limited availability of gasohol, (2) pending environmental regulations that may spur ethanol demand, and (3) the cost competitiveness of gasohol when additional handling and other costs are considered.

**Financial Management:
Federal Entities With Treasury and Federal Financing Bank
Borrowing Authority**

GAO/AFMD-92-66FS, 7/22/92

Has the growth in borrowing from the Department of the Treasury and the Federal Financing Bank by government corporations and other federal entities put the government at risk for significant losses? This fact sheet looks at 66 government corporations, government-sponsored enterprises, and federal programs and funds that now have borrowing authority or have borrowed funds within the past 5 years. As of September 1990, these entities had borrowed nearly \$350 billion. For each entity, GAO provides data on (1) the statute authorizing the borrowing, (2) borrowing limitations or other conditions imposed by the law, (3) outstanding borrowing authority at the end of each fiscal year from 1987 to 1991, and (4) other financing sources available to each entity. Among the government corporations discussed are the National Railroad Passenger Corporation (Amtrak) and the Saint Lawrence Seaway Development Corporation. Transportation-related funds and entities discussed include the Federal Aviation Administration's Aircraft Purchase Loan Guarantee Program; the Federal Railroad Administration's Office of the Administrator, Railroad Rehabilitation and Improvement Financing Fund, Regional Rail Reorganization, and Settlements of Railroad Litigation; the Maritime Administration's Federal Ship Financing Fund and Ocean Freight Differential Account; the Panama Canal Commission; the Washington Metropolitan Transit Authority; and the Railroad Retirement Board's Railroad Retirement Account and Railroad Retiree Social Security Equivalent Benefit Account.

**Budget Policy:
Budgetary Treatment of Investment Programs**

GAO/T-AFMD-92-15, 7/23/92

Testimony by Paul L. Posner, Director of Budget Issues, before the Subcommittee on Legislation and National Security, House Committee on Government Operations.

The nation's long-term economic future depends in large part on budget and investment decisions made today. Current trends are discouraging, however, as federal budget deficits have absorbed increasing proportions of national saving that might otherwise have financed productive economic investment. These deficits, in turn, have placed growing pressure on discretionary federal spending, including programs with long-term potential for economic growth. Changes are needed in the U.S. budget process to focus on the long-term impacts of both overall fiscal policy decisions and the choices made among programs. In GAO's view, the most important contribution the federal government can make to a healthy and growing U.S. economy is to bring down the federal deficit. In doing so, it is important to recognize the unique contribution of investment programs to economic growth. (Airports and highways are cited as projects that almost certainly result in positive long-term economic returns.) GAO believes the investment implications of federal budget decisions need to be considered as those decisions are made. To do that, the choices presented by the budget need to be changed to more clearly reveal those implications. Better information on the costs and benefits of programs also needs to be available to decisionmakers. Two bills considered by the 102nd Congress—H.R. 4420 and H.R. 4558—offered the possibility that those programs could be considered differently in budget deliberations.

**Block Grants:
Increases in Set-Asides and Cost Ceilings Since 1982**

GAO/HRD-92-58FS, 7/27/92

Block grants are made to state and local governments to help them provide services and programs in such areas as health care, social services, and mass transit aid. This fact sheet reviews changes to the legislation authorizing block grant programs, including the Federal Transit Act—Large and Small Urban Areas program, to see how restrictions

placed on recipients have changed. GAO focuses on set-asides and cost ceilings, which directly restrict how state and local grantees may use their funds.

**Federal Facilities:
Issues Involved in Cleaning Up Hazardous Waste**

GAO/T-RCED-92-82, 7/28/92

Testimony by Richard L. Hembra, Director of Environmental Protection Issues, before the Subcommittee on Investigations and Oversight, House Committee on Public Works and Transportation.

The growing number of federal hazardous waste cleanups represents a daunting challenge for the Environmental Protection Agency (EPA) and other federal agencies. Several issues may need to be addressed as Superfund reauthorization approaches. First, how can federal facility assessments be speeded up? Second, cleaning up federal waste sites will have a major impact on federal spending. The full force of this impact is still unknown, however, because of uncertain cost estimates. The sooner these uncertainties are resolved, the sooner the government can begin planning how best to accomplish these cleanups. Third, what risks do federal sites pose to human health and the environment, and how can these risks be compared? Fourth, will EPA be able to fulfill its oversight responsibilities for federal facility cleanups? Increasing numbers of federal Superfund facilities, some far larger and more complex than nonfederal sites, will dramatically expand EPA's oversight work load. EPA has already had difficulty in meeting its oversight requirements; its future ability to meet these requirements also appears questionable. (The Department of Transportation is among the agencies mentioned in the testimony as having facilities on the docket awaiting evaluation for the Superfund program or in various early stages of cleanup.)

**Small Business:
Efforts to Provide Federal Procurement Dollars to Women-Owned Businesses**

GAO/RCED-92-185, 7/28/92

The Small Business Administration (SBA) serves as the government's advocate for promoting and developing women-owned small business. SBA works with executive branch agencies to set fiscal year contracting goals

for women-owned small businesses and reports on procurement assistance provided to them. This report looks at (1) how federal agencies' contracting goals are established for women-owned small businesses and whether these goals have been achieved and (2) the procedures agencies use to certify that such businesses are, in fact, owned by women. GAO also discusses how the Department of Transportation has tried to address the problem of women-owned and other small businesses' having to be certified as "disadvantaged business enterprises" each time they bid on a contract from a different state or local agency.

**OMB's High Risk Program:
Benefits Found But Greater Oversight Needed**

GAO/AFMD-92-63, 8/6/92

In 1989, the Office of Management and Budget (OMB), in coordination with federal agencies, identified 106 areas in which the government was at high risk for waste, fraud, and abuse. OMB's program to strengthen federal management in these high-risk areas has provided top-level government officials with a much needed focus for correcting deficiencies. Furthermore, reporting the status of agency accomplishments in each high-risk area in the President's budget will help ensure continued high visibility and attention to correcting existing problems. Although most information presented in the budget appears reasonable and accurate, the progress reported in several areas is misleading or overly optimistic. Furthermore, the budget does not disclose the existence of continuing material weaknesses in some high-risk areas deleted from the list. (Two Department of Transportation high-risk areas—Federal Transit Administration grants management oversight and departmental major systems acquisition procedures—are cited in the report as cases where GAO audit findings conflict with budget-reported progress.) No OMB staff work solely on the program, and OMB's Management Integrity Branch, which directs the program's day-to-day operations, often rotates its staff among high-risk areas. Because of these staff changes, documenting key events and agreements becomes critical to track and evaluate agency progress in correcting program shortcomings. GAO discovered, however, that records of meetings and agreements with agency officials and OMB evaluation of agency-provided information were often unavailable.

**Postal Procurement:
Eagle Air Hub Selection Not in Accordance With Solicitation**

GAO/GGD-92-127, 8/12/92

The U.S. Postal Service (USPS) announced in October 1991 that it had chosen Indianapolis as the permanent hub for its Eagle Air Network, which sorts and ships express and priority mail for about 30 cities around the country. This competitive procurement generated 14 offers from airports in Illinois, Indiana, Kentucky, and Ohio. Although USPS' criteria for selecting a permanent site for its Eagle Air Hub were valid and credible, its scoring plan did not reflect the importance placed on delivery time and move-in date. In addition, the USPS selection committee did not properly consider all the award factors in the selection decision because it compared the technical scores and proposed costs of only the top two technical proposals rather than all of the seven proposals deemed competitive. GAO concludes that USPS does not really know if it awarded the contract to the best offeror. GAO does not dispute that Indianapolis was one of the top technical competitors and might have won anyway if the solicitation requirements had been followed. Because of deficiencies in the cost estimates and the selection process, however, GAO was unable to determine which competitor would have won had the evaluation been consistent with the solicitation. GAO did find that USPS disallowed the bid protest of the award without satisfactorily resolving a key issue being protested—that the scoring plan did not follow the solicitation's stated evaluation criteria.

**Occupational Safety and Health:
Improvements Needed in OSHA's Monitoring of Federal Agencies'
Programs**

GAO/HRD-92-97, 8/28/92

The Occupational Safety and Health Administration (OSHA) knows little about federal agencies' safety and health programs and their effectiveness in protecting workers from occupational injuries and illnesses. In monitoring the programs, OSHA relies on inspections at specific workplaces, rather than using an approach—as envisioned by its regulations—combining program evaluations, report reviews, and on-site inspections. Although GAO cannot conclude that OSHA's approach means better or worse protection for federal workers, OSHA can improve its monitoring of agency safety and health programs. The information OSHA

already receives in agencies' annual reports can help it evaluate program implementation. Also, if OSHA checks for compliance with the program requirements during its inspections as planned and uses inspection results to identify systemic problems, it can better spot the causes of workplace hazards. The Department of Transportation is among the federal agencies mentioned in the report.

Congressional Reports:
OMB and Other Agency Reporting Requirements

GAO/GGD-92-90FS, 8/31/92

Concerns have been raised that the reporting requirements the Congress has imposed on federal agencies may be overly burdensome, resulting in duplicative and, in some cases, not very useful reports. This fact sheet examines the number of statutorily required reports that the Office of Management and Budget and other federal agencies provided to the House Committee on Government Operations during the 101st and 102nd Congresses under management-oriented legislation.

Agency for International Development:
The Minority Shipping Program Is Constrained by Program Requirements

GAO/NSIAD-92-304, 9/1/92

Section 8(a) of the Small Business Act encourages federal agencies to procure goods and services from small and disadvantaged businesses as much as possible. In reviewing how the Agency for International Development (AID) awarded contracts to ship food aid, GAO found that AID's criteria restricted the type of shipping contracts available to 8(a) firms. However, of 29 1990 cases GAO reviewed, 9 were offered to 8(a) firms but, for reasons beyond AID's control, only 1 resulted in a contract. A 10th contract was unnecessarily excluded because a U.S.-flag vessel was unavailable, but AID has changed its requirements to allow 8(a) firms to use foreign-flag vessels under certain conditions. AID's 8(a) shipping program has not produced any viable entities nor is it likely to because shipments are made on short notice with little opportunity to enter into any long-term commitments. Since 1986, only five firms have participated, and only two firms have remained in the shipping business. AID's revised procedures have added two required calculations—fair market price and the percentage of contract personnel costs that must be paid to employees of

8(a) firms. Although these requirements comply with applicable laws and regulations, they will be hard for 8(a) firms to meet.

**High-Technology Competitiveness:
Trends in U.S. and Foreign Performance**

GAO/NSIAD-92-236, 9/16/92

Debates about U.S. policy on everything from trade to education have increasingly focused on the ability of American producers to compete successfully in global markets. High-technology products have received considerable attention because their strong performance has been linked to increases in overall economic performance and growth. This report assesses competitiveness in high-technology areas, considering, in particular, trends in U.S. performance over the last decade and comparisons with Japan. GAO considers several basic questions. First, what is the significance of high-technology performance and how well can it be measured? Second, what do measures of overall U.S. performance in high-technology areas suggest? And third, for 11 industries—civilian aircraft, pharmaceuticals, telecommunications equipment, fiber optics, semiconductors, semiconductor equipment and materials, robotics, flexible manufacturing systems, supercomputers, advanced materials, and consumer electronics—what has been the relative performance of U.S. producers and U.S. research efforts during the past decade?

**Energy Policy:
Options to Reduce Environmental and Other Costs of Gasoline
Consumption**

GAO/RCED-92-260, 9/17/92

GAO evaluated six policy options—a higher gas tax, a tax on tail pipe emissions, subsidies for alternative fuels, higher fuel economy standards for new vehicles, surcharges for cars that are less fuel efficient and pollute more, and financial rewards for people who voluntarily scrap older vehicles—to determine their effect on the economy, the environment, traffic congestion, and other issues. These policy options can be modified or combined to more effectively reduce gasoline consumption and air pollution from cars and light trucks and to meet other important policy objectives. Options that send consumers clear market signals, such as higher gasoline or tail pipe taxes, could help ensure that the costs of gasoline use in these vehicles are visible and fully considered by

consumers when they buy, maintain, drive, and trade in vehicles. These options could also increase the demand for more fuel-efficient and alternatively fueled vehicles. Relying on just one option to meet multiple and sometimes conflicting policy objectives, however, could be difficult and costly. This, in turn, could reduce the chance that any policies will be adopted. An eclectic strategy incorporating the best designs of individual policy options seems desirable.

**Energy Policy:
Options to Reduce Environmental and Other Costs of Gasoline
Consumption**

GAO/T-RCED-92-94, 9/17/92

Testimony by Victor S. Rezendes, Director of Energy and Science Issues, before the Subcommittee on the Environment, House Committee on Science, Space, and Technology.

This testimony summarizes GAO's 9/17/92 report entitled Energy Policy: Options to Reduce Environmental and Other Costs of Gasoline Consumption (GAO/RCED-92-260), which is described above.

**Small Business:
Federal Agencies' Contracting Goals for Women-Owned Businesses**

GAO/T-RCED-92-95, 9/17/92

Testimony by Judy A. England-Joseph, Director of Housing and Community Development Issues, before the House Committee on Small Business.

Federal efforts to provide contracts to women-owned small businesses include the Small Business Administration's (SBA) negotiating with executive branch agencies to set fiscal year contracting goals for such businesses. The goals—expressed as a percentage of the dollar value of each agency's total estimated procurement for the fiscal year—are nonbinding targets. In addition to having their negotiated goals, four agencies—the Departments of Transportation and Energy, the Agency for International Development, and the Environmental Protection Agency—are required by law to provide a minimum percentage of procurement funds to specific groups, including women-owned small businesses. GAO testified that the vast majority of agencies have

contracting goals, which should result in 1.2 to 1.4 percent of the value of prime contracts being awarded to women-owned firms. Furthermore, in fiscal year 1990, 14 of the 17 major procurement agencies met or exceeded their goals. (This testimony is based primarily on GAO's 7/28/92 report entitled Small Business: Efforts to Provide Federal Procurement Dollars to Women-Owned Businesses (GAO/RCED-92-185), which was described previously.)

**Postal Service:
Express Mail Hub Contract Award Was Flawed**

GAO/T-GGD-92-70, 9/24/92

Testimony by L. Nye Stevens, Director of Government Business Operations Issues, before the Senate Committee on Governmental Affairs.

This testimony summarizes GAO's 8/12/92 report entitled Postal Procurement: Eagle Air Hub Selection Not in Accordance With Solicitation (GAO/GGD-92-127), which was described previously.

**DOT Headquarters:
Unclear Whether Union Station Site Is Best Location**

GAO/GGD-92-126, 9/24/92

GAO is unconvinced that constructing a headquarters building for the Department of Transportation (DOT) using air rights over the railroad tracks directly behind Union Station in Washington, D.C., is the best solution to DOT's needs. The executive branch is unclear about whether the headquarters should be located at the Union Station site or the Federal Triangle Building. Neither option will fully consolidate the agency, and DOT has not shown a need for full consolidation. After determining the extent to which DOT needs to be consolidated, the General Services Administration (GSA) and DOT must decide where to meet that requirement—in the District of Columbia, the metropolitan Washington area, or possibly a combination of locations. Although initial studies suggest that the air rights site may be less environmentally harmful than other alternatives, building on that location may prove complicated. GAO also believes that GSA's estimate of the building's cost on the air rights site may be high. Furthermore, unless GSA and DOT solicit space for land, they cannot be sure that all possible sites in the District have been considered.

**Air Pollution:
Unresolved Issues May Hamper Success of EPA's Proposed
Emissions Program**

GAO/RCED-92-288, 9/25/92

To help cut motor vehicle emissions, a major source of urban ozone and carbon monoxide pollution, the Environmental Protection Agency (EPA) established a policy in 1978 for state inspection and maintenance programs. Because emissions were not reduced to levels set by EPA, legislation in 1990 required the upgrading of inspection and maintenance programs in the most seriously polluted parts of the country. EPA proposed a regulation in July 1992 that will require more stringent tail pipe exhaust emission tests, including the IM240 test (which involves testing vehicles on a treadmill-like device that allows the vehicle to simulate acceleration, cruise, and deceleration operating cycles), a move that EPA estimates will have over a \$1 billion economic impact on the inspection and repair industries. Because of many unresolved issues related to the IM240 test—ranging from doubts about the reliability of test results to difficulties in getting repairs done to vehicles diagnosed with emission problems—GAO questions why EPA did not look into alternative tests before issuing its proposed regulation. Studies by various groups suggest that another test option may yield results similar to the IM240 test but at a lower cost and possibly less inconvenience to the public. Although EPA has just begun to study this other option, when the study results will be available to the states is unclear. EPA said that it had proposed allowing states until November 1993 to settle on a specific inspection and maintenance test procedure, but this time frame is not clearly stated in EPA's proposed regulation. It is important for EPA to complete its study on alternatives to the IM240 test before then. Otherwise, states may be forced to adopt test procedures that may not be the most cost-effective and most convenient approach for motorists.

**Asbestos in Federal Buildings:
Federal Efforts to Protect Employees From Potential Exposure**

GAO/RCED-93-9, 10/6/92

Before the health risks of asbestos were recognized, thousands of buildings were constructed with materials containing asbestos. The full extent of the problem in federal buildings is unknown because no single agency has assumed responsibility for collecting information on this

situation. Furthermore, the agencies GAO reviewed—Department of Energy, Environmental Protection Agency, Forest Service, General Services Administration, and Soil Conservation Service—lack complete and accurate inventories of the buildings containing asbestos. The most comprehensive data available, dating from a 1984 Environmental Protection Agency (EPA) survey, suggest that nearly 40 percent of federal buildings contain asbestos that is loose to the touch. GAO discovered asbestos materials at all 14 federal worksites it visited; at 11 of these sites some of the materials were damaged or were deteriorating. The worksites visited were not fully implementing Occupational Safety and Health Administration (OSHA) requirements and EPA's recommendations for managing asbestos. Of the five agencies reviewed, only the General Services Administration (GSA) and the Forest Service had issued policies informing worksite managers about how to manage asbestos. In addition, only GSA routinely monitored the effectiveness of the asbestos programs at the worksites. Officials responsible for asbestos management at these agencies were either unaware of OSHA's asbestos requirements or believed that the requirements applied only under limited circumstances, such as when asbestos might be disturbed during renovations or repairs. (As of Sept. 30, 1989, the Department of Transportation owned 11,540 buildings and leased 5,161 buildings, and the Federal Communications Commission owned 65 buildings and leased 1 building.)

Private Attorneys:

Information on the Federal Government's Use of Private Attorneys

GAO/GGD-93-17FS, 10/20/92

Overall, the federal government paid more than \$600 million during fiscal year 1991 for both contracted legal services and attorneys' fees awarded to prevailing parties. Fifty-nine agencies reported awarding about 4,500 contracts and paying \$587 million for legal services that year. Among the agencies reporting were the Department of Transportation, the Federal Maritime Commission, the Interstate Commerce Commission, the Panama Canal Commission, the Railroad Retirement Board, and the Federal Communications Commission. This report discusses in detail the number of contracts awarded and the amounts paid by each agency. The largest users of contracted legal services were the Federal Deposit Insurance Corporation and the Resolution Trust Corporation, followed by the Administrative Office of the United States Courts' appointments of private attorneys under the Criminal Justice Act.

**Personnel Practices:
Schedule C and Other Details to the Executive Office of the
President**

GAO/GGD-93-14, 11/6/92

This report looks at the detailing of executive agency employees by Cabinet-level departments and the Environmental Protection Agency to Executive Office of the President (EOP) agencies, including the White House Office, the Executive Residence at the White House, the Office of the Vice President, the Office of Policy Development, and the Office of Administration. Specifically, GAO determined (1) agency compliance with laws requiring that agencies certify that a Schedule C position is not being created solely to detail an employee to the White House; (2) compliance with reimbursement requirements for details to the EOP agencies lasting more than 180 days in a fiscal year; (3) the extent to which Schedule C detailees to the EOP agencies have converted to career positions there since January 1989; and (4) whether any other executive branch agencies performed duties at the EOP agencies.

**Operation Desert Shield:
Problems in Deploying by Rail Need Attention**

GAO/NSIAD-93-30, 11/13/92

To rapidly deploy its forces in wartime, the Army depends on the rail system to transport its equipment from installations to ports of embarkation. The rail facilities and loading operations at Army mobilization stations are therefore focal points for deployment, and they are expected to become increasingly critical as Army units in Germany, Korea, and other locations return to the United States. At the six mobilization stations GAO visited, the Army transported unit equipment to ports as scheduled during the 6-month period covered by Operation Desert Shield, but deteriorated rail facilities at some mobilization stations constrained loading operations. Future conflicts could easily require the deployment of even greater numbers of U.S. forces during shorter periods of time. The Army began a program in fiscal year 1986 to repair rail facilities, but the effort's effectiveness has been severely hampered by program management problems. Also, the Pentagon and the Army have not corrected many deployment problems that GAO identified in 1987.

**Rural Development:
Rural America Faces Many Challenges**

GAO/RCED-93-35, 11/20/92

Although many people still view a small-town America as an idyllic place to live, the economic underpinnings of this way of life—farming and natural-resource based industries—have either undergone major restructuring or are in decline. As a result, many of these communities are not thriving, and residents must often leave to find work. A GAO-sponsored symposium of experts working on issues affecting rural America highlighted a variety of approaches to overcome inherent rural characteristics that impede growth and to address rapidly changing economic conditions. This report presents the conclusions of that group, which included local and regional leaders; financial experts; representatives of nonprofit associations; and representatives from federal, state, and local government. Although the participants concentrated on economic problems and their solutions, associated issues of particular concern included infrastructure—roads, bridges, water resources, airlines, and trains—and telecommunications.

**Budget Issues:
Compliance With the Budget Enforcement Act of 1990**

GAO/AFMD-93-38, 11/23/92

In GAO's opinion, the reports issued by the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) complied with the Budget Enforcement Act of 1990 except for OMB's inflation adjustment to the fiscal year 1993 discretionary spending limits. This was incomplete because it did not cover personnel costs. Since OMB's judgments are binding, the spending limit for discretionary budget authority was \$2.5 billion higher than it should have been. GAO also discusses some implementation issues related to (1) classifying discretionary spending for domestic or defense programs (Coast Guard and Maritime Administration programs are among the examples used), (2) distinguishing between discretionary and mandatory spending, and (3) making cost estimates. Categorizing spending by such criteria is difficult and subject to interpretation. OMB's and CBO's disagreement over how they classified parts of 16 programs illustrates the difficulties in the formula approaches to budgeting represented by the Budget Enforcement Act and Gramm-Rudman-Hollings before it. In addition, OMB's and CBO's cost

estimates for three programs differ significantly because of varying technical and methodological assumptions.

**Employee Drug Testing:
Opportunities Exist to Lower Drug-Testing Program Costs**

GAO/GGD-93-13, 11/23/92

In increasing the cost-effectiveness of federal employee drug testing, the government might want to study those agencies that have opted to collect drug-testing specimens using agency personnel rather than contractors. Other cost-saving opportunities would require modifications to Department of Health and Human Services (HHS) guidelines on the (1) current level of blind proficiency samples as part of agencies' quality control programs and (2) submission of negative test results to medical review officers. Although both requirements may have been appropriate when the guidelines were first published in 1988, circumstances have changed, and it is reasonable to consider testing changes at this point. The frequency of drug testing—the percentage of individuals subject to drug testing who are actually tested each year—can also be studied. GAO found that agencies' testing frequencies vary widely, ranging from 4 percent to 100 percent of the employee population subject to testing. GAO believes that it is reasonable for agencies to review their selected test frequencies with a view toward reducing them where appropriate. In their oversight roles over federal agency drug-testing programs, HHS and the Office of National Drug Control Policy should take the lead in reviewing these and other possible cost-saving measures. (Department of Transportation drug-testing officials were among those interviewed during the review, and the Department's program for private sector transportation industry employees is discussed.)

**National Aero-Space Plane:
Restructuring Future Research and Development Efforts**

GAO/NSIAD-93-71, 12/3/92

The National Aero-Space Plane Program, which during the past 7 years has been developing an aircraft that can achieve a low earth orbit using a single stage, has been fraught with turmoil, changes in focus, and unmet expectations. This joint Department of Defense/National Aeronautics and Space Administration program is again at a crossroads, with costs increasing, technical progress behind schedule, and insufficient program

funds. Although the program is supposed to be unconstrained by operational requirements, discussions about the program's utility or cost/benefit have prematurely evolved into efforts to justify the program by citing the potential benefits from future operational aerospace vehicles and spin-off applications. GAO believes that, in responding to pressures to successfully compete for funding and to show results in the face of reduced budgets, unrealistic expectations have been raised about the time and cost required to achieve the program's goals and objectives. Program officials, aware of the need to again redirect the program, have proposed several alternative development strategies, but no decision has been made on which, if any, of the proposals will be approved. GAO recommends delaying any decision to build and test the X-30—a manned experimental flight vehicle—until critical technologies are developed and proven and decisions on program restructuring are made.

**Federal Contracting:
Cost-effective Contract Management Requires Sustained
Commitment**

GAO/T-RCED-93-2, 12/3/92

Testimony by J. Dexter Peach, Assistant Comptroller General for Resources, Community, and Economic Development Programs, before the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce.

Loose administration of government contracts has resulted in contractors getting bonuses for mediocre performance and billing agencies for millions of dollars in unallowable or questionable costs, such as employee parties, tickets to sporting events, and liquor. Civilian agencies now spend about \$55 billion a year on contracts. Although contractors can play a key role in delivering needed services, once contracts are awarded federal agencies often give short shrift to overseeing the quality and cost of completed work. More thorough and timely contract auditing could help minimize the government's vulnerability to waste, fraud, and abuse. Currently, a significant backlog exists of audits of costs incurred by contractors. Civilian agencies could also beef up their audit effectiveness by clarifying which agency has responsibility for contractor audits, clearly spelling out unallowable and questionable costs, and making clear the government's position on the use of contractor discounts. At the core of contracting problems, GAO has discovered a lack of senior management attention to agency contracting. In some cases, senior officials have

remained blissfully ignorant of waste and abuse because agencies have no way of flagging contracting problems. In other instances, senior officials have neither made managers accountable for effective contract administration nor committed themselves to correcting contracting problems that have surfaced.

**Technology Transfer:
Barriers Limit Royalty Sharing's Effectiveness**

GAO/RCED-93-6, 12/7/92

Under the Federal Technology Transfer Act of 1986 (P.L. 99-502), the Congress provided incentives, such as royalty sharing, to reward inventors for reporting potentially patentable inventions. Despite the introduction of the royalty-sharing programs, federal scientists' interest in patenting has not increased. A comparison of the rates at which scientists reported inventions before and after the 1986 act became law showed no real improvement in the rates for 14 of the 21 agencies GAO reviewed. (Among the 21 agencies reviewed were the Coast Guard, the Federal Aviation Administration, and the National Highway Traffic Safety Administration.) Many scientists said that the small financial rewards, such as those paid under some royalty-sharing programs, offer little incentive to patent. For example, 17 of the 21 agencies use royalty-sharing formulas that often pay an individual only a few hundred dollars for an invention. GAO also found inadequate financial controls over payments to inventors. In addition, agency management is using virtually all of the laboratory's share of invention income to cover the administrative costs of transferring federal technology to U.S. companies, meaning that the benefits of royalty sharing are not visible to other potential inventors. GAO recommended that the heads of departments and agencies operating royalty-sharing programs under the Federal Technology Transfer Act adopt royalty-sharing formulas that establish an annual threshold of 100 percent of a set amount of invention income that would more adequately reward inventors for their work; establish procedures that routinely check records of payments to inventors against patent, license, and income records; channel a major part of the laboratory's share of invention income to areas in laboratories that are visible to federal scientists; require that the director of the laboratory where the invention originated be included in decisions governing the use of the laboratory's share of invention income; provide more information and training for scientists at their laboratories on the kind of subject matter that is patentable and on the approach that is appropriate for evaluating an invention's commercial demand; and

establish procedures for the timely and consistent selection of inventions for patenting.

**Federal Personnel Management:
OPM Reliance on Agency Oversight of Personnel System Not Fully
Justified**

GAO/GGD-93-24, 12/8/92

Because of reduced staff and resources, the Office of Personnel Management (OPM) has, for the last decade, been depending on federal agencies to shoulder much of the oversight of the civil service system. Personnel Management Evaluations (PME)—often on-site evaluations of personnel activities at an agency to ensure compliance with applicable requirements—are the main method of oversight used by OPM and the agencies. This approach would be reasonable if appropriate PME standards existed, if all agencies did PMEs regularly, and if the standards were followed. GAO believes that, due to the weaknesses in implementing this approach, OPM should not rely on current PME programs as heavily as it does. GAO recognizes that agency budget squeezes may limit the frequency and staffing of PMEs. GAO also realizes that OPM may be lacking a practical way of forcing agencies to do PMEs or to follow standards that are issued. Yet PMEs can be a useful source of information on the internal controls in place in agency personnel programs and, under certain conditions, can be used as alternative internal control reviews. Until recently, OPM saw no connection between PME programs and internal control programs. OPM needs to exercise greater leadership to strengthen PME programs if the risks of improper personnel actions—such as questionable appointments or promotions—are to be avoided.

**NOAA Aircraft Operations:
Cost Analysis Does Not Support Decision to Relocate**

GAO/GGD-93-41, 12/21/92

The National Oceanic and Atmospheric Administration's (NOAA) desire to relocate its Aircraft Operations Center to better facilities at a government-owned installation is understandable. The Center is responsible for gathering atmospheric and oceanographic data for NOAA and other federal agencies. NOAA's cost analysis of the move from Miami to MacDill Air Force Base in Tampa, however, was neither thorough nor adequately supported by facts. NOAA (1) failed to include the cost of

running the MacDill airfield after the Air Force closes it in 1994 and (2) lacked support for estimated rental costs at commercial airports considered as alternative locations. Because it is unknown who will be responsible for running the MacDill airfield beyond 1994, the costs to operate there are uncertain. NOAA will likely be liable for some of the airfield's operating costs, which could exceed the costs of leasing space elsewhere. From a cost perspective, NOAA's decision to relocate was risky and potentially premature, mainly because of the cost uncertainties.

**Political Appointees:
Selected Appointees' Views of Their Federal Work Environment**

GAO/GGD-93-28FS, 12/28/92

To obtain the views of Senate-confirmed presidential appointees on their federal service, GAO surveyed more than 500 senior-level, nonjudicial political appointees in the executive branch and received completed and usable questionnaires from 182. This report provides information on their personal backgrounds, the orientation programs they attended upon being appointed, how they were recruited, relations with other executives, accountability, and job satisfaction.

**Military Airlift:
Changes Underway to Ensure Continued Success of Civil Reserve
Air Fleet**

GAO/NSIAD-93-12, 12/31/92

The Civil Reserve Air Fleet program, which uses commercial aircraft to augment military planes during emergencies, is an important, yet relatively inexpensive, component of the Air Force's airlift capability. If fully used, the program can provide more than 30 percent of the Air Force's cargo airlift capability and more than 90 percent of its passenger capability. The program allows the government to avoid the large costs involved in acquiring and supporting a substantial Air Force fleet during peacetime. The Pentagon pays for the airlift as it is used and at predetermined compensation rates. The fleet played a major role in Operation Desert Shield/Storm and is expected to be a big part of the Department of Defense's (DOD) airlift capability for the foreseeable future. (Among the carriers participating in Operation Desert Shield/Storm were United Air Lines, Northwest Airlines, Evergreen International Airlines, American Trans Air, Federal Express, and United Parcel Service.) Although the

fleet's efforts in the Persian Gulf were a success, the carriers have identified several problems with the program since the activation, and some have suggested that they may reduce future participation unless changes are made. The Air Force and the carriers are working to resolve many of those concerns in negotiations for the next series of fleet contracts. The carriers believe that future fleet activations are more likely because of the first activation's success. Also, while the carriers are more aware of the direct and indirect costs associated with the activations, the traditional incentive for program participation—peacetime DOD business—is decreasing.

Budget Issues

GAO/OCG-93-1TR, 12/92

This report, one in GAO's transition series, discusses one of the most urgent issues facing the new President and the new Congress—the federal budget deficit. Since GAO issued its 1988 transition series report on the budget deficit (GAO/OCG-89-1TR, 11/88), despite the passage of the Budget Enforcement Act, the budget deficit has grown. Unless the government gains control of this deficit, it will find it increasingly more difficult to address pressing national needs or to increase long-term economic growth. This report discusses the scope of the current deficit and describes the factors that must be dealt with to bring it down. Among transportation-related matters discussed in the report are the Federal Aviation Administration's program to modernize the nation's air traffic control system, the cost of maintaining and improving the nation's highways and bridges, and a gasoline tax.

Investment

GAO/OCG-93-2TR, 12/92

This transition series report discusses a topic critical to our nation's long-term economic future—the need to increase investment, both public and private. Investment is important because it increases the economy's long-term productive capacity. Within an overall fiscal policy emphasizing deficit reduction, federal priorities should shift toward investment and away from consumption. Structuring the budget to emphasize well-chosen investment would help to support this shift. Among the matters discussed in this report is the potential economic impact of investments in infrastructure, such as highways, bridges, airports, and water systems.

Information Management and Technology Issues

GAO/OCG-93-5TR, 12/92

This transition series report discusses widespread weaknesses in federal information resources management that underlie many of the problems found in individual programs. Despite heavy investments in computer technology, executive agencies still lack essential information for managing their programs effectively and achieving measurable results. Moreover, many agencies are not using information technology strategically to simplify and streamline their organization, management, and business processes—as well as to improve service to the public. One of the products on which the report is based is FAA Information Resources: Agency Needs to Correct Widespread Deficiencies (GAO/IMTEC-91-43, 6/18/91).

Program Evaluation Issues

GAO/OCG-93-6TR, 12/92

This transition series report discusses the need for sound, evaluative information on how programs are operating and what they are actually accomplishing. The report cites some examples of good work being done within executive branch agencies. More generally, however, GAO believes that the attention being paid to evaluation issues is inadequate either for managing programs efficiently or for providing the Congress with the data necessary for informed program oversight. Among the evaluation issues discussed are the quality and completeness of the analytical efforts supporting the National Highway Traffic Safety Administration's testimony regarding the impact of continued requirements for automobile downsizing on highway safety.

Commerce Issues

GAO/OCG-93-12TR, 12/92

This transition series report discusses major policy, management, and program issues facing the Congress and the new administration in the area of commerce. Among the transportation-related issues discussed in a section on investing in infrastructure to ensure mission effectiveness are (1) modernization of weather forecasting and warning services and (2) the Next Generation Geostationary Operational Environmental Satellite

system. The report also discusses the need to improve economic statistics to support efforts to revitalize the U.S. economy.

Energy Issues

GAO/OCG-93-13TR, 12/92

This transition series report discusses major policy, management, and program issues facing the Congress and the new administration in the areas of energy and science. Among the transportation-related matters discussed in a section on trade-offs in energy policy are vehicle fuel efficiency, motor vehicle emissions, gasoline taxes, tailpipe emissions taxes, subsidies for alternative fuels, and higher fuel economy standards.

Weather Forecasting: Important Issues on Automated Weather Processing System Need Resolution

GAO/IMTEC-93-12BR, 1/6/93

To improve its weather forecasting, the National Weather Service (NWS), a part of the National Oceanic and Atmospheric Administration (NOAA), is spending an estimated \$4.6 billion to modernize its observational, information processing, and communications systems. The centerpiece of this effort is the Advanced Weather Interactive Processing System (AWIPS)—an information network that will analyze and display data received from radars and satellites, NWS field offices, and other sources. NOAA estimates the cost to develop and deploy AWIPS at about \$467 million, and it plans to have these systems installed at 115 planned weather offices and other selected locations by 1998. This briefing report discusses (1) how effectively NOAA has analyzed and defined its system requirements, (2) key risks associated with the AWIPS acquisition, and (3) whether any identified risks were severe enough to warrant delaying the scheduled award of the AWIPS contract in late 1992.

**Disaster Management:
Recent Disasters Demonstrate the Need to Improve the Nation's
Response Strategy**

GAO/T-RCED-93-4, 1/27/93

Testimony by J. Dexter Peach, Assistant Comptroller General for Resources, Community, and Economic Development Programs, before the Subcommittee on VA, HUD, and Independent Agencies, Senate Committee on Appropriations.

Several recent catastrophes—especially Hurricane Andrew in South Florida—have fueled growing dissatisfaction with how the nation responds to major disasters. In the aftermath of Hurricane Andrew, inadequate damage assessments, inaccurate estimates of needed services, and miscommunication and confusion at all levels of government slowed the delivery of services vital to disaster victims. The nation may well experience future disasters or emergencies even more devastating than Hurricane Andrew. GAO testified that the federal government's strategy for dealing with disasters is deficient. It makes no provision for comprehensively assessing damage or the needs of disaster victims, which would greatly speed the delivery of assistance. The federal government also lacks explicit authority to adequately prepare for a disaster when there is advance warning. Finally, state and local governments generally lack the training and funding needed to respond to disasters on their own. GAO discusses four organizational options for improving the federal response to catastrophic disasters by designating a person who could represent the President and ensure that needed resources are brought to bear. These options include (1) a key official in the Executive Office of the President; (2) a cabinet secretary, such as the Secretary of Transportation; (3) a key Department of Defense official, possibly the Secretary of the Army; and (4) the head of the Federal Emergency Management Agency.

**Space Transportation:
The Content and Uses of Shuttle Cost Estimates**

GAO/NSIAD-93-115, 1/28/93

The "average cost per flight" for the space shuttle, which the National Aeronautics and Space Administration (NASA) pegged at \$413.5 million in fiscal year 1993, includes most costs for shuttle operations but omits about \$30.2 billion spent through fiscal year 1992 to develop the shuttle as well as more than \$1 billion that will be needed annually for future shuttle

upgrades and for improvements like the advanced solid rocket motor. For fiscal year 1993, NASA estimated the marginal cost savings associated with deleting a single flight at \$44.4 million. Marginal cost includes consumable hardware and materials, along with personnel, that can be added or removed with temporary adjustments in the flight rate. It does not include any of the fixed costs required if NASA is to maintain the capability to fly the shuttle eight or nine times per year. NASA says that these fixed costs account for about 90 percent of the total operations cost of a flight. Although no single criterion is generally accepted for determining which costs to include when attributing shuttle transportation costs to payloads, GAO believes that the average cost per flight would better reflect the cost of transportation for payloads that are frequent shuttle users. Because the Space Station Freedom program will be the main user of shuttle services in fiscal years 1997 to 1999, it should be allocated a proportionate share of the shuttle's fixed operating costs when calculating transportation costs during those years.

Budget Issues:

A Comparison of Fiscal Year 1992 Budget Estimates and Actual Results

GAO/AFMD-93-51, 2/12/93

The critical issue for fiscal year 1992 budget projections was not whether any particular forecaster had more-accurate models or more-relevant data, but rather the capacity of any economic model to predict key turning points in economic performance. On this question, all forecasters to a large degree failed in 1992. The total budget deficit for fiscal year 1992 was \$290.2 billion—the highest in the nation's history, surpassing the previous record of \$268.7 billion set in fiscal year 1991. This result appears to track rather well with the original deficit estimate of \$280.9 billion. This rough comparability, however, masks (1) significant underlying variations between original receipt and outlay projections and actual results and (2) the impact of substantially lower deposit insurance spending than originally estimated. Actual 1992 receipts were more than \$73 billion less than original estimates. Receipts from almost all sources fell below original estimates, led by individual income taxes (\$53 billion) and social insurance taxes (\$15.7 billion), due largely to the economy's not performing as well as assumed in the original estimates. Total outlays also were less than original estimates by about \$64 billion. In 1992, the inherent difficulty of any economic model to accurately predict key turning points in the economy was clearly demonstrated, with significant implications for

the accuracy of receipt and outlay estimates. An appendix to the report shows, for major transportation and other budget accounts, including the highway and aviation trust funds, original and revised estimates and actual outlays for fiscal year 1992.

**Environmental Protection:
Implications of Using Pollution Taxes to Supplement Regulation**

GAO/RCED-93-13, 2/17/93

Pollution taxes would have to be carefully designed and implemented if they are to deliver the intended environmental and economic benefits. An accurate monitoring system would be needed to ensure that the tax was reducing pollution. Accurate monitoring technology exists for some smokestack emissions, but in other cases, such as those involving fugitive emissions of dust, monitoring could be very difficult. It would also be important to ensure that the tax led to an overall reduction of environmental risks. The regulator would need to be aware that taxing one pollutant might increase the use of other pollutants that are equally toxic. For example, a tax on lead alone could boost the use of cadmium in batteries. In addition, the tax rate that would be needed to reduce pollution to acceptable levels might not always be known. As a result, taxes might need to be introduced gradually and their effects monitored to determine whether pollution was being reduced to acceptable levels. The value of pollution taxes will depend on how well these issues are addressed. Pollution-tax revenues could be used to lower federal taxes that discourage economic growth or to reduce the federal budget deficit.

**Disaster Management:
Recent Disasters Demonstrate the Need to Improve the Nation's
Response Strategy**

GAO/T-RCED-93-13, 3/2/93

Testimony by Judy A. England-Joseph, Director of Housing and Community Development Issues, before the Subcommittee on Investigations and Oversight, House Committee on Public Works and Transportation.

The federal government's strategy for responding to catastrophes like Hurricane Andrew, which is implemented through the Federal Response Plan, is deficient. The strategy lacks provisions for the federal government

to (1) comprehensively assess damage and the needs of disaster victims or (2) deliver quick, responsive assistance. The federal government also does not have explicit authority to adequately prepare for a disaster when there is warning. Finally, state and local governments generally do not have the training and funding needed to respond on their own to disasters. (The Federal Response Plan is a cooperative agreement signed by 26 federal agencies, including the Department of Transportation, and the American Red Cross for providing services, including transportation and communications services, when there is a need for federal response assistance after a disaster or emergency.) In the case of Hurricane Andrew, shortcomings included inadequate damage assessments, inaccurate estimates of needed services, and miscommunication and confusion at all levels of government—all of which slowed the delivery of vital services to disaster areas. On the other hand, the military proved that it can respond very efficiently to disaster victims' immediate needs. GAO outlines several steps that the Federal Emergency Management Agency and the Congress could take to strengthen the government's response to natural disasters. Discussed as one of the options for improving the federal response is placing a Cabinet Secretary, such as the Secretary of Transportation, in charge of catastrophic disaster assistance.

**Whistleblower Protection:
Agencies' Implementation of the Whistleblower Statutes Has Been Mixed**

GAO/GGD-93-66, 3/5/93

In its review of 19 federal agencies, GAO found patchwork implementation of the whistleblower statutes designed to protect government workers who report waste, fraud, and abuse. Some agencies had informed all of their employees of their whistleblower rights, while others had yet to inform any. Most agencies had not developed policies and procedures to implement the statutes. GAO believes that, if employees had adequate knowledge about the whistleblower statutes and understood the federal government's policy toward whistleblowing—one of encouraging disclosures and affording protection from reprisals—more employees might be willing to step forward to report problems. GAO also discovered that the statutes do not currently protect all federal employees against reprisals. The 19 agencies had mixed views on the effectiveness of the Whistleblower Protection Act of 1989. GAO summarized this report, along with other recent work on this subject, in 3/31/93 testimony entitled Whistleblower Protection: Employees' Awareness and Impact of the

Whistleblower Protection Act of 1989 (GAO/T-GGD-93-19). GAO concludes that employees are still having a hard time proving cases of reprisal and are often unaware of their right to protection.

Public Affairs:

Personnel Engaged in Public and Congressional Affairs in Federal Agencies

GAO/GGD-93-71FS, 3/8/93

On the basis of agency-provided data, GAO concludes that the number of full-time public and congressional affairs personnel is on the upswing. For example, agencies reported that public and congressional affairs personnel during fiscal years 1991 and 1992 totaled 6,382 and 6,673, respectively, compared with 6,293 in fiscal year 1985. Twenty-six agencies indicated either a 25-percent increase or a 25-percent decrease in full-time public and congressional affairs positions over fiscal year 1985 levels. These changes were due to either (1) agencies' increased or decreased involvement in public and congressional affairs or (2) differences in interpreting the 1986 and 1992 GAO questionnaires. Agencies reported that 320 and 329 political appointees worked in public affairs jobs in fiscal years 1991 and 1992, respectively; political appointees in congressional affairs positions totaled 372 and 366 during the same years. The report includes data on the Department of Transportation, the Interstate Commerce Commission, and the Federal Communications Commission.

Affirmative Employment:

Assessing Progress of EEO Groups in Key Federal Jobs Can Be Improved

GAO/GGD-93-65, 3/8/93

GAO reviewed the gender, race, and ethnic origin of people in 262 key jobs at 25 federal agencies, including the Department of Transportation. The analysis, which presents data in the aggregate for all 25 agencies, showed that women and minorities in these key jobs—positions leading to middle and upper management posts in the federal government—have made substantial progress in their levels of representation, particularly in the upper pay grades. All the minority groups GAO looked at, except for Native American women, were better represented among key jobs in 1990 than they were in 1984. Nevertheless, women and minorities continued to be more prevalent at lower grades. In addition, although the relative numbers

of minorities and women employed at grade 15 were quite low, the relative numbers being promoted to that grade were even lower. Furthermore, minority women, especially black women, were separated at a rate that greatly exceeded the rate of new hires, a trend that could erase gains made in the employment of minority women in key federal jobs. The Equal Employment Opportunity Commission (EEOC) disagreed with GAO's approach to data analysis, which computed the ratios of women and minorities to white men. EEOC also believed that the approach would prove too costly and burdensome for it and other agencies to use. In GAO's view, the approach is sound and useful and the Congress should consider requiring the periodic application of this analytic technique to affirmative employment data.

**International Air and Trade Shows:
DOD Increased Participation, but Its Policies Are Not Well-Defined**

GAO/NSIAD-93-96, 3/11/93

Since May 1991, the Department of Defense (DOD) has sent more personnel and equipment to major international air/trade shows than in past years. DOD pegged the cost of participating in six selected shows since May 1991 at about \$3.8 million. Half this amount involved training, with the rest arising from personnel support costs and the costs for technology display booths. DOD's contractors defrayed most of the incremental costs for service members transporting and supporting the equipment. Because the policies for participating in international air and trade shows were vague, GAO could not document whether DOD's policies had changed during the last 2 years. DOD policy on the leasing of equipment to defense contractors for these shows had remained consistent: contractors wanting to demonstrate DOD equipment must lease it from the military and pay all related costs. DOD's increased participation in international events and its use of waivers, however, had made more U.S. equipment available, sparing contractors from paying full leasing costs. In other leading industrialized nations, policies vary as to whether equipment sent to international air/trade shows should promote national security, foreign policy, or community relations goals and what costs contractors should shoulder in leasing equipment from the government.

**The Public Service:
Issues Confronting the Federal Civilian Workforce**

GAO/GGD-93-53, 3/16/93

The federal government will spend about \$150 billion on pay and benefits for civilian employees in 1993. The effectiveness and efficiency with which federal agencies carry out programs depends largely on the quality, motivation, and performance of these workers. Thus, the recruitment, hiring, training, management, and accountability of federal employees is critical to effective government. GAO issued 67 reports and 22 testimonies on federal public service during 1991. This report summarizes each of these documents, discusses agency responses to GAO's recommendations on everything from lobbying reform to health club memberships for federal workers, and examines key areas in which further action or monitoring is needed. (Among the summarized documents are three concerning FAA issues: FAA Staffing: New Pay Act Offers Options to Bolster Maintenance Work Force, GAO/RCED-91-92, 4/2/91; FAA Staffing: Better Strategy Needed to Ensure Facilities Are Properly Staffed, GAO/RCED-92-8, 10/16/91; and Aviation Safety: Problems Persist in FAA's Inspection Program, GAO/RCED-92-14, 11/20/91.)

**NASA Aeronautics:
Impact of Technology Transfer Activities Is Uncertain**

GAO/NSIAD-93-137, 3/16/93

The National Aeronautics and Space Administration (NASA), the focal point for the federal government's support of aeronautics technology, is responsible for preserving the United States' leadership role in aeronautical science and technology and for disseminating information resulting from its activities. These efforts are vital because the civil aeronautics industry, employing about 700,000 workers, plays a major role in commerce, transportation, and national security. In 1991, the industry provided a \$29 billion boost to the U.S. trade balance. The industry is also known for fostering spin-offs of advanced technology products useful in other sectors of the U.S. economy. This report identifies NASA's technology transfer activities and assesses their impact on the industry's international competitiveness.

**Energy Security and Policy:
Analysis of the Pricing of Crude Oil and Petroleum Products**

GAO/RCED-93-17, 3/19/93

During the first week following the Iraqi invasion of Kuwait in August 1990, crude oil prices in the United States shot up by more than one-third—from about \$22 a barrel to about \$30 a barrel. The prices of gasoline, home heating oil, and jet fuel also increased substantially. Yet, world inventories of crude oil were at their highest level since the late 1970s. This situation raised questions about how prices for crude oil and petroleum products are set, particularly during market shocks. This report (1) explains the pricing of crude oil and three products refined from it—gasoline, home heating oil, and jet fuel—under normal market conditions and during market shocks and (2) describes the federal government's authority to respond to disruptions in the oil supply and the government's use of this authority during the Persian Gulf war. (Among those interviewed about the jet fuel market were officials of the Department of Transportation's Office of Aviation Information Management.)

**Budget Policy:
Long-Term Implications of the Deficit**

GAO/T-OCG-93-6, 3/25/93

Testimony by Charles A. Bowsher, Comptroller General of the United States, before the Senate Committee on Finance.

This testimony discusses the consequences of action—or inaction—to reduce the federal budget deficit. Several scenarios are explained, including ignoring the deficit, “muddling through” by holding the deficit to 3 percent of the Gross National Product, balancing the budget, and achieving a budget surplus. The Comptroller General's central message is that, although putting the budget on a path toward balance or surplus will not be easy, delay will not eliminate the hard choices. Delay only guarantees that the choices will be even more difficult and the pain even greater when policy correction is finally made. The choice is not whether to act but when to act and how. (Among the issues discussed is the ignoring in budget projections of many future claims and the costs of unmet needs; one example cited is the cost overrun of the Federal Aviation Administration's modernization program.)

**Export Controls:
Issues in Removing Militarily Sensitive Items From the Munitions
List**

GAO/NSIAD-93-67, 3/31/93

With the opening up of the former Soviet Bloc, U.S. exporters are pressing to liberalize U.S. export controls to boost their export competitiveness. In November 1990, the President ordered the removal of dual-use items from the U.S. Munitions List and its licensing controls unless significant national security interest would be jeopardized. In response to congressional concerns that national security interests may not be adequately considered when weighed against the commercial and economic benefits of liberalized export controls, this report examines (1) items being considered for removal from the list and (2) the extent to which national security interests were being considered and protected in the decision process. Among the items discussed in the report are hot section technologies for commercial jet engines. The report also mentions noncontentious items, such as Coast Guard oceanography vessels and tugs, icebreakers, and buoy tenders and light ships.

**Whistleblower Protection:
Employees' Awareness and Impact of the Whistleblower Protection
Act of 1989**

GAO/T-GGD-93-19, 3/31/93

Testimony by Nancy R. Kingsbury, Director of Federal Human Resource Management Issues, before the Subcommittee on the Civil Service, House Committee on Post Office and Civil Service.

This testimony summarizes GAO's 3/5/93 report entitled Whistleblower Protection: Agencies' Implementation of the Whistleblower Statutes Has Been Mixed (GAO/GGD-93-66), which was described previously.

**Alternative-Fueled Vehicles:
Potential Impact of Exemptions From Transportation Control
Measures**

GAO/RCED-93-125, 4/19/93

To reduce air pollution and U.S. oil dependence, the Congress has passed legislation promoting the use of alternative-fueled vehicles. Several barriers, however, including higher vehicle costs and uncertainty about the availability of alternative fuels, may deter businesses and consumers from buying these vehicles. As a result, legislation has been introduced that would offer potential buyers exemptions from some transportation control measures, such as high-occupancy vehicle lanes. This report examines (1) how exemptions might affect achieving the transportation control measures' purposes, (2) how effective exemptions might be in increasing purchases of alternative-fueled vehicles and the use of alternative fuels, (3) whether government and industry officials believe that an exemption program should be controlled by the federal government or the states, (4) how the public might react to exemptions, (5) how exemptions are likely to affect the enforcement of transportation control measures, and (6) what specific kinds of alternative-fueled vehicles might receive exemptions.

**DOD's Mobility Requirements:
Alternative Assumptions Could Affect Recommended Acquisition
Plan**

GAO/NSIAD-93-103, 4/22/93

In the event of a crisis overseas, the U.S. military needs to be able to transport personnel, equipment, and supplies quickly. The first volume of the Department of Defense (DOD) Mobility Requirements Study, issued in January 1992, concluded that by 1999 the United States will lack sufficient mobility capacity in several areas. The report recommended that, to counter this projected shortfall, the United States acquire 20 large sealift ships, continue buying C-17 transport aircraft, and boost the number and readiness of ships in the Ready Reserve Force. GAO reviewed the key assumptions in the study affecting sealift and airlift to determine whether they support the conclusions and recommendations. This unclassified version of two classified reports summarizes GAO's findings on the key assumptions used and discusses the implications if these assumptions were changed.

**Energy Policy:
Changes Needed to Make National Energy Planning More Useful**

GAO/RCED-93-29, 4/27/93

The oil price and energy supply shocks of the early 1970s spurred the Congress to pass legislation in 1977 creating a permanent mechanism for developing and implementing a national energy policy. This legislation requires the President to submit a comprehensive national energy plan to the Congress every 2 years. (Placing this responsibility with the President recognizes that energy policy involves several federal agencies, including the Department of Transportation, which has responsibility for fuel-efficiency standards for motor vehicles.) GAO found that the six national energy plans submitted by three administrations since 1979 have varied significantly in responding to the law's provisions. Although most plans set objectives and outlined strategies to achieve them, no plan fully addressed the act's main provisions. For example, no plan established the specified 5- and 10-year objectives. Most plans included only general goals, and only three plans provided analysis supporting these goals. The administrations' differing views on the federal role in energy as well as new energy developments influenced the plans' content and the degree to which they addressed the law's provisions. GAO believes that although the law provides a useful framework for developing an energy policy, the frequency and timing requirements have not contributed to effective planning. As a result, plans are unlikely to involve the comprehensive planning exercise the Congress envisioned.

Special Publications

Special Publications

Transportation Reports and Testimony: May 1991 - April 1992

GAO/RCED-92-224, 9/92

The U.S. transportation network, critical to both personal mobility and overall economic growth, also bolsters the nation's ability to compete in a global environment. Almost 19 cents of every U.S. consumer dollar—\$800 billion annually—is spent on transportation goods and services, everything from cars to airplane tickets. The U.S. transportation system, despite being the finest in the world, faces several challenges, including nearly 50,000 transportation-related deaths each year, a deteriorating infrastructure, congestion, and harmful environmental effects. This index provides summaries, grouped chronologically under 10 subject headings, of more than 150 GAO reports and testimonies on transportation topics issued between May 1991 and April 1992. Order forms are included to obtain documents that are of interest.

Transportation Reports and Testimony: January 1989 - April 1991

GAO/RCED-91-182, 6/91

This index provides summaries of 221 GAO products—153 reports and 68 testimonies—related to transportation that were issued from January 1989 through April 1991. The summaries are grouped, chronologically by reports and testimonies, under 11 topical categories: aviation safety, airport and airway system improvement, surface transportation safety, surface transportation infrastructure, competition and consumer protection, Coast Guard and Maritime Administration efficiency and effectiveness, cross-modal transportation issues, Saint Lawrence Seaway Development Corporation, Railroad Retirement Board, other transportation-related matters, and special publications. The index is intended for general information and research purposes and for identifying transportation issues that GAO addressed during the period January 1989 through April 1991.

Transportation:

Bibliography of GAO Documents, January 1985 - December 1988

GAO/RCED-89-130, 5/89

This bibliography includes information on GAO documents directly or indirectly related to transportation that were issued from January 1985 through December 1988. Included are reports, speeches, testimonies, decisions, and other documents. An index section classifies information by subject, agency or organization, congressional affiliation, and document number. A citation section briefly describes the documents and often includes an informative abstract.

Monthly List of Reports and Testimonies

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GAO/RCED-92-180, 6/3/92

☐ Aviation Safety: Additional Actions Needed for Three Safety Programs
GAO/T-RCED-92-90, 8/4/92

☐ Aircraft Certification: Limited Progress on Developing International Design Standards
GAO/RCED-92-179, 8/20/92

☐ Aviation Safety: Progress on FAA Safety Indicators Program Slow and Challenges Remain
GAO/IMTEC-92-57, 8/31/92

☐ Aviation Safety: New Regulations for Deicing Aircraft Could Be Strengthened
GAO/RCED-93-52, 11/18/92

☐ Aviation Safety: Increased Oversight of Foreign Carriers Needed
GAO/RCED-93-42, 11/20/92

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