

GAO

Resources, Community, and Economic
Development Division

Transportation Reports and Testimony: May 1991 - April 1992



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Foreword

This country's transportation network is critical not only to Americans' personal mobility and U.S. economic growth but also to the nation's ability to compete in a global environment. 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 the transportation network is safe, functional, and environmentally sound, the federal transportation budget has grown to over \$30 billion annually.

The U.S. transportation system, although the world's finest, faces a number of challenges. Transportation-related accidents result in almost 50,000 deaths annually. Considerable portions of the transportation infrastructure have become 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.

The Intermodal Surface Transportation Efficiency Act of 1991 and other recent legislation have begun to address some of the challenges. However, because the transportation system is an integral part of our society, safety, economic, and other public policy decisions will continue to be influenced by the challenges affecting transportation.

This index provides summaries of 159 U.S. General Accounting Office (GAO) products—110 reports and 49 testimonies—related to transportation that were issued from May 1991 through April 1992. The summaries are grouped chronologically under 10 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, Railroad Retirement Board, other transportation-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 issues that GAO has addressed. For information on GAO products on transportation matters issued from January 1989 through April 1991, please refer to Transportation Reports and Testimony: January 1989 - April 1991 (GAO/RCED-91-182, June 1991) 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).

Questions may be directed to me at the U.S. General Accounting Office, Room 1842, 441 G Street, N.W., Washington, D.C. 20548, (202) 275-1000. Readers interested in ordering documents or in requesting bibliographic searches on a specific topic should call the GAO Document Handling and Information Service, (202) 275-6241, or fax a request to (301) 258-4066. The forms included in 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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Abbreviations

ASDE	Airport Surface Detection Equipment
CFTC	Commodity Futures Trading Commission
CRS	computer reservation system
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FERC	Federal Energy Regulation Commission
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
4R	Resurfacing, Restoration, Rehabilitation, and Reconstruction
GAO	General Accounting Office
GOES	Geostationary Operational Environmental Satellite
GSA	General Services Administration
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
INS	Immigration and Naturalization Service
LCV	longer combination vehicles
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Administration
OMB	Office of Management and Budget
OPM	Office of Personnel Management
RRF	Ready Reserve Force
RSPA	Research and Special Programs Administration
SSA	Social Security Administration
TCAS	Traffic Alert/Collision Avoidance System
UMTA	Urban Mass Transportation Administration
VA	Department of Veterans Affairs

Aviation Safety

Computer Technology: Air Attack Warning System Cannot Process All Radar Track Data

GAO/IMTEC-91-15, 5/13/91

To provide the United States and Canada with accurate and timely warnings of aircraft attacks, the Department of Defense (DOD) is spending almost \$3 billion to upgrade and expand radar coverage in the Atmospheric Tactical Warning and Attack Assessment System. GAO assessed (1) the capability of the computer system used to process the radar data and (2) plans to integrate upgraded and new radars into the system. The system's computers do not have enough memory for processing and storing all the data from operational and planned radars. In addition, DOD's use of the computers to support the nation's counter-narcotics efforts overburdens them and is unnecessary because it duplicates functions being handled by the U.S. Customs Service. The report lists, among existing radars, the Joint Surveillance System radars, which detect aircraft entering U.S. airspace. The system uses 44 Federal Aviation Administration (FAA) and military long-range radars to provide air surveillance for the continental United States. The report also lists, among future radar systems, the FAA/Air Force Radar Replacement Program, under which the Joint Surveillance System radars are to be replaced. FAA will operate and maintain these radars, while the Air Force will provide technical guidance.

Aircraft Maintenance: Additional FAA Oversight Needed of Aging Aircraft Repairs (Vols. I and II)

GAO/RCED-91-91A and GAO/RCED-91-91B, 5/24/91

To ensure that 1,400 of the nation's oldest planes remain airworthy, the Federal Aviation Administration (FAA) is requiring that the aircraft undergo extensive structural modification. Aircraft operators have until 1994 to finish the job; if they do not, FAA could ground the planes. The first volume of this report describes that portion of the industry that performs heavy airframe maintenance on large transport aircraft. Specifically, the first volume examines increases in demand for heavy airframe maintenance; constraints on supply, including parts, skilled mechanics, and hangar space; and air carriers' efforts to comply with the new requirements for aging aircraft and the FAA's oversight of air carriers as they attempt to comply with the new rules. The second volume provides the questionnaire

responses of the 48 air carriers and 35 independent repair stations participating in GAO's review of the issues examined in the first volume.

**Airport Safety:
New Radar That Will Help Prevent Accidents is 4 Years Behind
Schedule**

GAO/T-RCED-91-78, 7/10/91

Testimony presented by Kenneth M. Mead, Director of Transportation Issues, before the Government Activities and Transportation Subcommittee, House Committee on Government Operations.

With a more effective ground radar, air traffic controllers could better prevent tragedies at U.S. airports. Accordingly, the Federal Aviation Administration (FAA) is planning to replace earlier ground radar models with a system—called Airport Surface Detection Equipment, or ASDE-3—that has a longer range, higher reliability, and clearer displays of the airport surface. GAO testified that the schedule to deploy this new technology has slipped almost 4 years and could slip even further, a performance question about the radar's screen display has been raised, and some airports with questionable ground safety records may not be considered for ASDE-3. Planning for FAA's umbrella effort to enhance airport ground safety is a good first step, but funding levels and project priorities need to be established.

**Aging Aircraft Maintenance:
Additional FAA Oversight Needed**

GAO/T-RCED-91-84, 9/17/91

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

Because of the public's concerns about aging aircraft and the safety of air travel, the House of Representatives passed the Aging Aircraft Safety Act of 1991 (H.R. 172), which would require a Federal Aviation Administration (FAA) safety inspection and maintenance records review of all airliners over 15 years old, and FAA issued new structural and corrosion rules. GAO testified that additional FAA oversight of the airline industry is needed during the next few years. This oversight would help ensure that reduced

air travel demand and some airlines' financial troubles do not jeopardize aviation safety and the industry's ability to comply with FAA's deadlines for completing the work. Although FAA could ground aircraft that do not meet the deadlines, this could affect some air carriers' financial survival. Other options exist, including a push to comply fully by the deadline, but they need to be explored and developed on the basis of FAA's full understanding of the U.S. airline fleet's condition.

**FAA Staffing:
Better Strategy Needed to Ensure Facilities Are Properly Staffed**

GAO/T-RCED-92-8, 10/16/91

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittee on Government Activities and Transportation, House Committee on Government Operations.

The Federal Aviation Administration's (FAA) air traffic controller staffing levels have been a problem since 1981 when more than 11,000 controllers went on strike and were fired. In looking at efforts by FAA to rebuild its work force in the 10 years since the strike, GAO found that FAA has updated its staffing standards. The standards indicate that FAA is about 700 controllers, or 4 percent, short of its overall staffing goal of about 18,300. However, GAO also found that at selected air traffic control facilities, actual staffing levels differ substantially from the levels the standards prescribe. Some of the country's busiest facilities have levels that are well below the staffing standards. GAO also found that FAA is developing a new plan to improve hiring, training, and placement of controllers. It remains to be seen how the plan will relate to FAA's current efforts and whether FAA can effectively implement the plan.

**Aviation Safety:
Emergency Revocation Orders of Air Carrier Certificates**

GAO/RCED-92-10, 10/17/91

The Federal Aviation Administration (FAA) issued 52 emergency revocations of operating certificates between January 1987 and May 1991 on air taxi or commuter operations; 5 were later overturned or reduced to a lesser penalty. No major airlines were issued emergency revocation orders during this period. FAA issues an emergency order—the most severe enforcement action it can take against any domestic air carrier—when it

determines that an immediate safety need exists. The order prevents an air carrier from conducting flight operations. Many of the revoked air carriers were established companies that had been in business for years. Air taxis accounted for 73 percent of the emergency revocation orders. The most frequent violations were for operating an aircraft in violation of the air carrier's operating certificate, operating unairworthy aircraft, and falsifying compliance records. FAA often learned of violations that led to emergency revocations during accident investigations or investigations done as a result of tips from employees, competitors, or customers, rather than as a result of inspections. According to FAA inspectors, key managers and owners who committed violations that led to nine emergency revocations returned to, or remained in, a similar position with an air carrier. Some of these individuals then committed more safety violations leading to another emergency revocation. While FAA lacks a formal system to track such key managers or owners, FAA plans to issue guidance by the end of fiscal year 1992 to help inspectors track key managers and owners.

**Aviation Safety:
Problems Persist in FAA's Inspection Program**

GAO/RCED-92-14, 11/20/91

To ensure the safety of the flying public, the Federal Aviation Administration (FAA) inspects airlines for compliance with aviation regulations. In fiscal year 1990, FAA inspectors identified about 300 regulatory violations and 1,900 unsafe practices on scheduled commercial airlines. Yet, GAO found that FAA's inspection program may be falling short in ensuring the safe operation of airlines. FAA lacks adequate information to help oversee its inspection program. In addition, FAA cannot effectively evaluate airlines' safety conditions because it does not (1) have adequate guidance for properly classifying airline problems, (2) assess the conditions inspectors found or evaluate their severity, and (3) know whether airlines are correcting problems. Since FAA will never have enough resources to inspect all carriers all the time, it needs to make more effective use of its limited resources. FAA's Program Tracking and Reporting Subsystem—a computer-based system designed to provide data for planning and overseeing FAA's inspection program—does little to help the agency decide which carriers need more inspections and which need less. A system to systematically and uniformly determine risk—similar to the system that the Department of Defense (DOD) has developed to effectively use its limited resources for assessing the performance of about 130 airlines that have contracts for transporting military personnel—could

provide FAA with information vital to enhancing its inspection program. Although FAA has monitored DOD's system for years, it has done little, until recently, to apply the concept of risk assessment to the management of its inspection resources.

Aviation Safety:

Air Taxis—the Most Accident-Prone Airlines—Need Better Oversight

GAO/RCED-92-60, 1/21/92

Air taxis—which the Federal Aviation Administration (FAA) defines as airlines that provide on-demand passenger and cargo service—have the highest commercial airline accident rate in the United States per 100,000 hours flown. From January 1990 through July 1991, air taxis had about 13 times and 5 times more accidents, respectively, than air carriers and commuters. (FAA defines commuters as airlines that provide scheduled passenger service of at least five round trips per week.) Yet, FAA information shows that more than one-quarter of air taxis did not receive required inspections in fiscal year 1990. Also, routine FAA inspections generally did not spot violations that resulted in emergency orders revoking air taxis' operating certificates. FAA could improve detection of safety problems and cut the potential risk of air taxi accidents by more effectively allocating the resources it devotes to inspecting the air taxi industry. For example, it could target resources on the basis of performance data and conduct additional special inspections. Also, because air taxi operators' financial problems and poor compliance attitudes have led to serious safety violations, the costs and safety benefits of economic oversight deserve more scrutiny and consideration. Although FAA has tried to improve its overall inspection program, fundamental problems remain. FAA does not track identified problems to see if they have been corrected. Also, since the financial distress of some airlines can lead to shortcomings in safety, FAA's inspector handbook should be revised to provide for special oversight of such airlines. Additionally, the agency lacks a formal process to track those who commit violations resulting in emergency revocation of an operating certificate, raising the possibility that such individuals might return to the airline industry as key managers and owners. FAA needs to perform (1) a minimum level of required inspections and (2) industrywide special inspections periodically.

Aviation Safety:

FAA Needs to More Aggressively Manage Its Inspection Program

GAO/T-RCED-92-25, 2/6/92

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

The Federal Aviation Administration (FAA) has yet to address GAO's concerns about shortcomings in its airline inspection management and oversight. The agency is unable to ensure that (1) airlines are complying with safety regulations and (2) its limited resources are targeted to inspecting airlines that pose the greatest risk to the flying public. Furthermore, because FAA is not tracking corrective actions for identified problems, serious problems may go uncorrected, putting airline passengers at risk. The National Transportation Safety Board has criticized FAA for not ensuring that airlines take corrective action and found that FAA's lack of aggressive action and ineffective surveillance contributed to accidents. FAA acknowledges that improvements are needed in its inspection program and is taking some positive steps. Fundamental problems remain, however. FAA needs to correct problems in its inspection program now to increase the margin of safety before it is overtaken by newer challenges, such as aging aircraft, airline industry restructuring, globalization of the industry, and oversight of foreign air carriers. This testimony is based on a series of reports, including Aviation Safety: Problems Persist in FAA's Inspection Program (GAO/RCED-92-14, 11/20/91), Aviation Safety: Emergency Revocation Orders of Air Carrier Certificates (GAO/RCED-92-10, 10/17/91), and Aircraft Maintenance: Additional FAA Oversight Needed of Aging Aircraft Repairs (Vols. I and II) (GAO/RCED-91-91A and GAO/RCED-91-91B, 5/24/91), which are described above.

**Aviation Safety:
Better Oversight Would Reduce the Risk of Air Taxi Accidents**

GAO/T-RCED-92-27, 2/25/92

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

This testimony summarizes two GAO reports, Aviation Safety: Air Taxis—the Most Accident-Prone Airlines—Need Better Oversight (GAO/RCED-92-60, 1/21/92) and Aviation Safety: Emergency Revocation Orders of Air Carrier Certificates (GAO/RCED-92-10, 10/17/91), that were described previously.

**Aviation Safety:
Users Differ in Views of Collision Avoidance System and Cite Problems**

GAO/RCED-92-113, 3/16/92

The Traffic Alert/Collision Avoidance System (TCAS)—an airborne, aircraft-to-aircraft system that scans surrounding airspace, warns of potential intruders, and recommends evasive maneuvers—is intended to help prevent mid-air and near mid-air collisions. TCAS is now installed in a substantial portion of the U.S. commercial fleet, and both the Airline Pilots Association and the Federal Aviation Administration (FAA) believe that the system adds a margin of safety to air travel. However, problems that have emerged prevent the system from reaching its full potential. The aviation community is nearly unanimous in recognizing that TCAS needs to be improved because it issues too many unnecessary alerts, causes excessive altitude deviations (over 1,000 feet), and causes pilots to miss landing approaches. According to pilots and air traffic controllers, these problems reduce users' confidence in TCAS and the margin of safety that the system provides. FAA plans to modify TCAS to delay alerts until intruding aircraft are closer, but such modifications will be implemented before FAA completes all verification and validation steps. Some members of the TCAS review committee—comprising representatives of pilots, controllers, and avionics and airframe manufacturers—believe that FAA should fully verify and validate TCAS and the modifications before implementing the modifications. Other members and FAA believe that the modifications should be implemented immediately. GAO sees no clear-cut answer to this dilemma—both points of view have merits and entail risks—but believes

that, at a minimum, users should have an opportunity to review the modifications' interim test methodology and results. During the latter stages of GAO's review, FAA decided to give the review committee an opportunity to review and comment on the test methodology and results before modifying the system. GAO believes that such a step is critical to ensure that users' problems are identified and corrected and to bolster users' confidence in the safety of the modifications, even if addressing problems causes the TCAS installation schedule to slip.

**Aviation Safety:
Commuter Airline Safety Would Be Enhanced With Better FAA
Oversight**

GAO/T-RCED-92-40, 3/17/92

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

The millions of people flying on commuter airlines expect the highest level of safety. GAO testified that, although the Federal Aviation Administration (FAA) has significantly improved its inspection program, problems remain in oversight of airlines, including commuters. For example, FAA's routine surveillance has sometimes failed to detect serious safety violations. By strengthening its routine and special inspections, FAA may have greater assurance that safety problems will be identified and corrected. On a related matter, GAO noted that FAA still lacks a system to target its limited inspection resources to airlines that have the poorest safety performance—an issue GAO first identified in 1987. This testimony is based primarily on findings from three previously issued GAO reports, Aviation Safety: Problems Persist in FAA's Inspection Program (GAO/RCED-92-14, 11/20/91), Aviation Safety: Emergency Revocation Orders of Air Carrier Certificates (GAO/RCED-92-10, 10/17/91), and Aviation Safety: Air Taxis—the Most Accident-Prone Airlines—Need Better Oversight (GAO/RCED-92-60, 1/21/92), that were described previously.

**Aviation Safety:
Progress Limited With Self-Audit and Safety Violation Reporting
Programs**

GAO/RCED-92-85, 3/31/92

Concerned that some airlines have been paying more attention to profit than to safety and have been inadequately monitoring compliance with safety regulations, the Federal Aviation Administration (FAA) announced two major initiatives to improve air safety. The self-audit program encourages airlines to voluntarily develop improved ways of evaluating all basic areas—maintenance, flight operations, and security. The voluntary disclosure program urges airlines to report safety problems with the promise of amnesty from any fine or penalty if they take corrective actions approved by FAA. While FAA's objectives are laudable, and the programs reflect improvements long advocated by industry observers, GAO is concerned that basic incentives for the airlines to act on their own are uncertain. In addition, FAA has not clearly articulated basic implementation issues or adequately trained its inspectors. Furthermore, FAA's "hands off" approach to oversight does not convey a strong sense of commitment to the industry. Fundamental FAA oversight is needed if the programs are to have any chance of living up to their promise.

**Aviation Safety:
Slow Progress, Uncertain Future Threaten FAA Program to Measure
Safety**

GAO/T-IMTEC-92-12, 4/1/92

Testimony by JayEtta Z. Hecker, Director of Resources, Community, and Economic Development Systems Issues, before the Government Activities and Transportation Subcommittee, House Committee on Government Operations.

GAO testified that the Federal Aviation Administration (FAA) has made little progress in implementing a safety indicators program. In particular, management commitment and effective user involvement in the program have been lacking. While user involvement appears to be increasing, prospects for the program's future remain in doubt because of long-term funding uncertainties and the unreliability of source data. In sum, GAO concludes that one cannot manage what one cannot measure. FAA cannot ensure the safety of the millions of Americans who fly until it commits to a system that can accept and analyze cross-cutting data. Such a system must

include reliable data that can provide managers with validated indicators that measure degrees of safety—indicators that can warn of needed remedial action. While FAA is considering new initiatives to come to terms with these problems, sustained management support and attention will still be necessary if FAA is to realize the potential benefits that this program can offer.

Airport and Airway System Improvement

Airport and Airway System Improvement

FAA Budget:

Key Issues in Facilities and Equipment and Operations Accounts Need Resolution

GAO/T-RCED-91-58, 6/5/91, and GAO/T-RCED-91-63, 6/14/91

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

Continuing an upward trend, the Federal Aviation Administration's (FAA) fiscal year 1992 budget request of \$9.27 billion represents a 14-percent increase over its fiscal year 1991 budget. Since 1988, FAA's total request level has risen by 60 percent. The largest budget components are (1) the Facilities and Equipment account that funds air traffic control modernization and (2) the Operations account that provides salaries and training for the FAA work force. GAO testified that the FAA modernization program's costs continue to rise and that FAA faces a series of obstacles in completing this effort. FAA can take measures, however, to help minimize the risks and costs and to more efficiently use its work forces.

Delays in Critical Air Traffic Control Modernization Projects Require Increased FAA Attention to Existing Systems

GAO/T-IMTEC-91-14, 6/14/91

Testimony by JayEtta Z. Hecker, Director of Resources, Community, and Economic Development Systems Issues, before the Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations.

GAO testified on delays and problems in two of the Federal Aviation Administration's (FAA) most critical air traffic control modernization projects: the Voice Switching and Control System and the Advanced Automation System. Delays in these two major systems mean that FAA will operate existing automated systems longer than originally expected. In addition, because these aging systems have already experienced problems, increased FAA management attention is warranted.

**FAA Information Resources:
Agency Needs to Correct Widespread Deficiencies**

GAO/IMTEC-91-43, 6/18/91

The Federal Aviation Administration (FAA) invests billions of dollars annually in information technology resources. Wide-ranging and fundamental information resources management problems, however, have impeded FAA's ability to do its job. Again and again, the same problems keep cropping up—inadequate definition of requirements, failure to test systems sufficiently, ineffective management of computer capacity, and unreliable data. As a result, systems are delivered late, run millions of dollars over budget, and fail to meet their objectives. An effective information resources management program could have helped FAA minimize many of these problems; FAA's existing program, however, has had limited involvement by top management, lacks a completed strategic plan, and does not ensure that sound practices are implemented.

**Meeting the Aviation Challenges of the 1990s:
Experts Define Key Problems and Identify Emerging Issues**

GAO/RCED-91-152, 7/91

To better understand and deal with long-standing aviation issues and to examine emerging ones, GAO convened a conference in November 1990 that brought together leading aviation experts from the Congress, the administration, the aviation industry, and academia. The conference speakers addressed such topics as (1) the Federal Aviation Administration's organization and management, (2) airspace management and air traffic control, (3) aviation safety, (4) airport capacity and security, and (5) airline competition and consumer protection. This report summarizes the themes most often stressed by the speakers, provides information on past and ongoing GAO work in these areas, and contains complete remarks by all speakers.

**Aviation Noise:
Costs of Phasing Out Noisy Aircraft**

GAO/RCED-91-128, 7/2/91

Air traffic has nearly doubled in the last decade, and airports have come under increasing pressure to reduce the level of noise affecting

neighboring communities. The Airport Noise and Capacity Act of 1990 phases out the noisiest jets now in use (known as "Stage 2" jets) by the year 2000 and limits the discretion of airports to adopt their own noise restrictions. This report describes the likely effects of that legislation on the costs to the airline industry of aviation noise restrictions.

**Aviation Acquisition:
Further Changes Needed in FAA's Management and Budgeting Practices**

GAO/RCED-91-159, 7/29/91

Since 1981 the Federal Aviation Administration (FAA) has been trying to modernize the nation's air traffic control system by acquiring new systems capable of accommodating continued growth in air traffic without compromising air safety. Many of FAA's major modernization projects have experienced delays and cost overruns. To minimize such problems, the Office of Management and Budget has issued guidelines for the prudent acquisition of major projects. Under the guidelines, agency heads are allowed to make "go/no go" decisions after evaluating a project's costs, schedules, and performance at four key decision points. This report examines FAA's progress in incorporating federal acquisition principles in its acquisition process and FAA's budgeting procedures for its major acquisitions. Because the Department of Defense (DOD) has a history of acquiring major systems, GAO briefly compares FAA's appropriation account structure with similar account structures at DOD.

**Air Traffic Control:
FAA Can Better Forecast and Prevent Equipment Failures**

GAO/RCED-91-179, 8/2/91

Federal Aviation Administration (FAA) efforts to modernize the air traffic control system have been plagued with delays, and the agency has had to make do with antiquated equipment that is increasingly prone to failure as it ages. Yet, FAA has not done a comprehensive assessment of the reliability of its air traffic equipment at its en-route centers. Consequently, managers do not have the complete picture they need to adequately assess the gravity of problems that maintenance personnel and controllers are experiencing with the equipment. GAO believes that FAA should make use of available information on problems with equipment that supports critical air traffic control functions. FAA could better forecast how long it will be

able to sustain air traffic control systems at a high level of performance if it measured the reliability of its equipment. In addition, by using computerized equipment maintenance data in the national computerized Maintenance Management System, FAA can make decisions on the basis of more thorough measurement of equipment performance. To use maintenance data to their fullest extent, however, FAA needs to address several data base problems in the Maintenance Management System by refining data definitions and reporting guidelines.

**Air Traffic Control:
Voice Communications System Challenges Continue**

GAO/IMTEC-91-49, 8/5/91

After nearly 5 years of development, neither contractor (American Telephone and Telegraph Technologies, Incorporated, and Harris Corporation) for the Federal Aviation Administration's (FAA) Voice Switching and Control System has been able to successfully produce a prototype system that meets FAA's requirements. As a result, total estimated project costs, originally estimated at \$258 million in 1982, have soared to \$1.5 billion, and the system's implementation at the first operational site has been delayed from 1986 to 1994. Due to difficulties experienced by the contractors, FAA recently restructured the system's acquisition by extending the prototype contracts to December 1991 and exploring the development of alternative interim voice communication systems that could work with the new advanced automation system workstations. FAA's revised acquisition strategy is a positive step toward completing important testing at the contractors' facilities and avoiding delays in advanced automation system workstation implementation. However, demanding system requirements present formidable challenges to the contractors in building prototypes that will pass upcoming testing.

**New Denver Airport:
Safety, Construction, Capacity, and Financing Considerations**

GAO/RCED-91-240, 9/17/91

The city of Denver is building a new airport, scheduled to open in 1993, to replace its existing airport—Stapleton International. The Federal Aviation Administration plans to provide about \$615 million of the nearly \$4 billion needed to build the new airport, with most of the rest being financed by revenue bonds being issued by the Denver Airport System. GAO looked at

whether (1) the new airport site is more prone to adverse weather than Stapleton and therefore to greater flight safety hazards; (2) adequate design and construction methods are being used to protect airport runways and other structures from soils that expand when wet; (3) the new airport would reduce air traffic delays at Denver or systemwide; and (4) the project is financially viable, given current budgeted costs and revenue projections. The new airport's financial viability is the most problematic of the four issues raised. Several uncertainties, including the future level of United Airlines flight operations at Denver and the success of the plan to bring Continental Airlines out of bankruptcy, will affect the new airport's financial viability. GAO concludes that, although uncertainties exist, the city's financial assumptions for the new airport are reasonable and that it is improbable that the airport will be unable to generate enough revenue to meet operating expenses and service its debt. Nonetheless, the possibility of default always exists and would become more likely if cost overruns, schedule slippages, the loss of a hubbing carrier, and traffic shortfalls were to occur.

Air Traffic Control:

FAA's Transition of Communications System to Digital Technology

GAO/IMTEC-91-77FS, 9/26/91

The Federal Aviation Administration (FAA) recognizes that it needs to eventually convert its communications network to a predominantly digital architecture because of the obsolescence of analog technology. In August 1991, FAA began installing equipment on the Radio Communications Link system to enable the transmission of digital data over digital communications lines, while maintaining the current analog-based system. To plan for the transition to digital architecture, FAA began two contractor studies to (1) design a future all-digital architecture for FAA's communications system and (2) determine when to fully convert the agency's interfacility communications system, including the Radio Communications Link, to digital technology.

**Computer Operations:
FAA Needs to Implement an Effective Capacity Management
Program**

GAO/IMTEC-92-2, 11/27/91

To ensure safe air travel, establish regulatory standards, maintain security, and promote air commerce, the Federal Aviation Administration (FAA) requires vast amounts of information technology. Computers are especially critical in controlling over 200,000 flights across the nation daily. Although FAA has recently made some limited improvements, it has not implemented a comprehensive limited capacity management program for its major automated systems because such a program is not a priority. As a result, FAA lacks adequate computer capacity management policies, procedures, expertise, and tools. Without a comprehensive program, FAA does not know how long current systems, such as those air traffic controllers use to separate aircraft, will continue to meet capacity requirements, nor does it know its future capacity needs.

**Air Traffic Control:
Software Problems at Control Centers Need Immediate Attention**

GAO/IMTEC-92-1, 12/11/91

Software problems at air route traffic control centers continue to disrupt the air traffic control system. Since 1987, when the Federal Aviation Administration (FAA) installed new hardware to help control air traffic, almost 4,000 system software problems have been reported. As of June 30, 1991, more than 1,600 of these problems remained unresolved. FAA's efforts to resolve software problems have been neither timely nor effective. FAA attributes its backlog of software problems and continued reliance on temporary fixes to a lack of necessary resources. FAA has not, however, developed a plan to identify the resources needed to maintain the en-route system until modernization is completed, and it lacks key tools to estimate the resources required for such maintenance.

**Airport Capacity:
Synopses of Major Studies**

GAO/RCED-92-117FS, 2/5/92

Airspace and airport congestion have created major problems for U.S. aviation, delaying domestic flights throughout the country. To improve the capacity and safety of airports and otherwise enhance their facilities, up to \$1.9 billion in federal funding is available in fiscal year 1992 for current projects. The most recent extension of the airport and airway legislation authorizing this funding expires at the end of fiscal year 1992. To assist the Congress in its deliberations on reauthorizing the legislation, this fact sheet summarizes the major airspace capacity-enhancement studies produced since 1987—the year in which the last amendments to the act were enacted. Prepared by the Federal Aviation Administration, congressional agencies, universities, and others, these studies analyze the congestion problem and offer many recommendations to mitigate it.

**Airport Development:
Improvement Needed in Federal Planning**

GAO/T-RCED-92-30, 2/19/92

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

This testimony focuses on changes that GAO believes would help ensure the advantageous use of limited Airport and Airway Trust Funds. GAO testified that Aviation Trust Fund oversight could be enhanced if decisionmakers knew how various spending decisions would benefit or harm the national aviation system. This knowledge is, however, not now available through the Federal Aviation Administration's (FAA) national airport plan. While FAA's supplements to the National Plan of Integrated Airport Systems will make it more descriptive, these changes add little to the plan's value as an effective planning tool. GAO believes that more basic changes are needed, such as establishing goals, making the national airport plan content more credible, and developing feedback mechanisms. If the Congress believes that the airport development plan should include investment options, FAA might find the concepts and principles underlying the Secretary's highway and bridge report helpful. In particular, this report could help FAA identify the criteria and methodologies for quantifying

investment requirements both to preserve the airport system at current service levels and to improve the system to meet increased service levels.

**Aviation Research:
Information on Funding, Staffing, and Timing of FAA's Research
Projects**

GAO/RCED-92-108FS, 2/28/92

Although the Federal Aviation Administration (FAA) is spending billions to modernize the air traffic control system, accommodating increased air travel and maintaining air safety continue to pose long-term challenges. To help FAA meet these challenges, recent legislation required the agency to allocate at least 15 percent of its Research, Engineering, and Development Program funding to long-term research for fiscal years 1989 and 1990. In light of congressional oversight of FAA's fiscal year 1993 budget request, GAO studied the agency's research programs. This fact sheet provides information on project funding, staffing, and scheduling data for fiscal years 1988-91.

**Air Traffic Control:
Challenges Facing FAA's Modernization Program**

GAO/T-RCED-92-34, 3/3/92

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

To minimize continuing cost increases, scheduling delays, and performance problems in key air traffic control modernization projects, the Federal Aviation Administration (FAA) has taken important steps to reform its acquisition process. GAO testified, however, that FAA needs to follow through with its acquisition reforms to prevent new projects from experiencing the same problems. Despite its launching of acquisition reform, FAA still has not announced its new plan to consolidate major air traffic control facilities. FAA's decisions on consolidation will affect facilities and equipment funding levels because its current funding plans rely on a level of consolidation not operationally feasible. Additionally, the accomplishment of key tasks needed to make satellite technology useful for air traffic control may also affect facilities and equipment funding levels over the next few years. GAO doubts that these uncertainties will be

resolved before the Congress votes on the length and size of the facilities and equipment reauthorizations.

**Aviation Research:
Progress Has Been Made but Several Factors Will Affect Program
Success**

GAO/T-RCED-92-39, 3/10/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Technology and Competitiveness, House Committee on Science, Space, and Technology.

This testimony summarizes GAO's 2/28/92 report entitled Aviation Research: Information on Funding, Staffing, and Timing of FAA's Research Projects (GAO/RCED-92-108FS) that was described previously.

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

GAO/RCED-92-136BR, 4/3/92

This briefing report provides information on the Federal Aviation Administration's (FAA) air traffic control modernization program, which is acquiring equipment like radars, computers, and communications networks to make air travel more safe and efficient. Facilities and equipment appropriations, the main source of funding for air traffic control modernization, have risen 10-fold, from about \$260 million in fiscal year 1982 to almost \$2.4 billion 10 years later. FAA is seeking \$2.7 billion in its fiscal year 1993 budget request, a 13-percent increase over the fiscal year 1992 appropriation. To assist the Congress in its review of the fiscal year 1993 facilities and equipment budget and its continuing oversight of the Aviation System Capital Investment Plan, which is what the air traffic control modernization effort is now called, GAO provides cost and schedule information on the plan as a whole as well as on specific projects.

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

GAO/T-RCED-92-51, 4/6/92

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

In this testimony on the Federal Aviation Administration's (FAA) fiscal year 1993 budget request for \$9.4 billion, GAO touches on the agency's management of air traffic controllers, maintenance technicians, and aviation safety inspectors; modernization of the air traffic control system; changes related to satellites, support services, and the consolidation of air traffic control facilities; and the need for FAA to establish measurable program goals. While FAA has made great strides over the last decade improving the nation's air traffic control system and ensuring air safety, future progress depends on FAA's resolving 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 areas like modernization of the air traffic control system, airport development, and research and development. Through its planning, FAA should commit itself to appropriate goals that will help guide funding decisions and also act as benchmarks in measuring progress.

Surface Transportation Safety

Surface Transportation Safety

Highway Safety: Interim Report on Safety Belt and Motorcycle Helmet Effectiveness

GAO/RCED-91-158, 5/10/91

GAO evaluated 49 studies on motorcycle helmet laws. These studies consistently found safety and economic benefits from universal helmet laws, which apply to all riders. The studies comparing helmeted and nonhelmeted riders indicated that helmet use prevents deaths and reduces the severity of injury among surviving accident victims. Studies reported that helmet use ranges from 92 percent to 100 percent under universal laws versus 42 percent to 59 percent in states without a law or with limited laws applying only to the youngest riders. Studies also showed that fatality rates were generally 20 percent to 40 percent lower in states with universal laws in effect. The available studies on societal costs indicated that helmet nonuse increased the cost of caring for injured riders and that substantial indirect costs exist because nonhelmeted riders are more likely to lose earning capacity through disability or death. Of the 85 automobile safety belt studies GAO reviewed, 34 related to safety belt effectiveness. Like the motorcycle helmet studies, these studies were relatively consistent in their findings, with most estimating that belted occupants tended to survive crashes 50 percent to 75 percent more often than unbelted occupants. In addition, belted occupants were on average seriously injured 44 percent to 66 percent less frequently than were unbelted occupants. Finally, hospital admission rates were substantially lower for belted occupants.

Railroad Safety: DOD Can Improve the Safety of On-Base Track and Equipment

GAO/RCED-91-135, 6/20/91

The Department of Defense (DOD) owns locomotives and rail cars that are used to haul ammunition, explosives, or other hazardous material. A significant number of cars in DOD's "on-base" fleet (equipment that never leaves a military installation) do not comply with one or more standards issued by the Department of Transportation's Federal Railroad Administration (FRA) or its Research and Special Programs Administration. FRA officials said that, for the most part, the defects did not pose a serious safety risk because base equipment experiences less stress than does commercial equipment. GAO believes, however, that safety could be enhanced by improvements in safety appliances (such as handholds and

steps), components to reduce fire hazards, and brake system tests. DOD currently lacks safety standards in these and other areas. GAO also found that the track was generally safe, but that track maintenance and inspection frequency did not comply with FRA standards that have been adopted by the Army and the Navy. Furthermore, the Army lacks adequate procedures for securing hazardous material for on-base movement by rail. In contrast to the on-base fleet, maintenance cars of DOD's "interchange" fleet (equipment used in commercial service) is comparable to that found in the commercial sector.

**Trans-Alaska Pipeline:
Regulators Have Not Ensured That Government Requirements Are Being Met**

GAO/RCED-91-89, 7/19/91

The Trans-Alaska Pipeline System transports nearly 25 percent of the nation's domestically produced crude oil. Since operations began in 1977, the system has delivered over 8 billion barrels of oil to Port Valdez for shipment. Concerns have been raised about whether the system is meeting special engineering design and operations requirements imposed by federal and state regulators. GAO found that the five principal federal and state regulatory agencies, including the Department of Transportation's Office of Pipeline Safety, have not pursued a systematic, disciplined, and coordinated approach to regulating the Trans-Alaska Pipeline System. Instead, these agencies have relied on the Alyeska Pipeline Service Company, which runs the system, to police itself. It was only after the Exxon Valdez oil spill and the discovery of corrosion that the regulators began to reevaluate their roles and focus on issues, such as whether Alyeska's operating and maintenance procedures meet the pipeline's special engineering design and operating requirements or whether Alyeska can adequately respond to a large oil spill. In January 1990, the regulators established a joint office to provide more effective oversight of the system. GAO believes that central leadership and a secured funding source may help ensure that this office provides adequate oversight.

Highway Safety:

Motorcycle Helmet Laws Save Lives and Reduce Costs to Society

GAO/RCED-91-170, 7/29/91

Although the 46 studies that GAO reviewed on motorcycle helmet laws differed in the specific questions addressed and the methodologies used, they were consistent in pointing to a safety benefit from helmet use. The studies that compared helmeted with nonhelmeted accident victims all found that helmeted riders had lower fatality rates. In addition, surviving helmeted riders suffered fewer serious and critical injuries because they had a lower incidence of head injuries. The studies reported that under universal helmet laws (those applying to all riders), nearly all riders wore helmets, compared with roughly half of riders in states with limited or no laws. When universal helmet laws have been in effect, fatality rates have generally been 20 percent to 40 percent lower than during periods before enactment or after repeal. GAO estimates that, if those states not having universal laws had passed such legislation, between 350 and 700 fewer people would have died in those states in 1990. The data on the cost of motorcycle accidents were less complete, but the available studies did indicate that nonhelmeted riders were more extensive users of medical services and long-term care and were more likely to lose earning capacity through disability. In light of this evidence, the Congress may wish to encourage states to enact and retain universal helmet laws through the use of penalties (withholding of highway funds for noncompliance), incentives (making more funds available to states with universal laws), or a combination of both.

Hazardous Materials:

Chemical Spill in the Sacramento River

GAO/T-RCED-91-87, 7/31/91

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Government Activities and Transportation Subcommittee, House Committee on Government Operations.

As a result of a train derailment in California, about 20,000 gallons of a weedkiller and pesticide—metam sodium—seeped into the Sacramento River. While the ultimate damage to the environment is unclear at this point, the spill could threaten the region's major water supply and could cause long-term destruction of valuable scenic and recreation resources. All facts and circumstances of the accident's cause and the response's

adequacy will be established only when the National Transportation Safety Board and the Federal Railroad Administration (FRA) complete their investigations. One issue raised by available information is why two Department of Transportation agencies (the Coast Guard and the Research and Special Programs Administration), both operating under delegated authority to regulate hazardous materials transportation, classify the weedkiller differently, especially since it can be extremely harmful to marine life, regardless of whether the spill comes from a ship, train, or truck. GAO's work over the years has shown that rail safety in general and hazardous materials inspection in particular have problems, and FRA is trying to improve the situation. Also, while some actions have been taken to implement the Hazardous Materials Act of 1990, much more needs to be done.

**Highway Safety:
Have Automobile Weight Reductions Increased Highway Fatalities?**

GAO/PEMD-92-1, 10/8/91

Smaller cars, the argument goes, are less safe than larger cars, and the automobile fatality rate will therefore increase if more small cars appear on America's roadways. This projection about the negative consequences of future automobile downsizing derives from research on the effects of past automobile weight reductions among specific car makes and models or in particular types of accidents. This research has focused on "crashworthiness"—the protection that cars of different sizes afford their occupants in a collision. GAO reviewed the literature on automobile weight and safety and did its own analysis from fatal traffic accident data compiled by the National Highway Traffic Safety Administration. GAO's findings support the view that the automobile weight reductions since the mid-1970s have had virtually no effect on total highway fatalities. Fatality rates for all cars have declined in recent years, but the rate for light cars has improved more than for heavier cars. GAO found that an approach that focuses exclusively on crashworthiness neglects other important factors involved in the weight/safety relationship that may have had beneficial effects on highway safety during the 1970s and 1980s. One of these factors is the dramatic reduction in the number of heavy cars and therefore in the danger that these cars pose to occupants of other vehicles with which they collide.

**Hazardous Materials:
1990 Transportation Uniform Safety Act—Status of DOT
Implementing Actions**

GAO/RCED-92-55BR, 11/5/91

This report discusses the Department of Transportation's (DOT) progress in implementing the Hazardous Materials Transportation Uniform Safety Act of 1990. Implementation action is either in process or planned for all sections of the act except one that has been completed. Actions required by most sections do not have to be completed until fiscal year 1992 or 1993. In several cases, however, action was required but not taken in fiscal year 1991. Officials attributed this to insufficient funds—a situation that strongly affected hiring more hazardous materials inspectors and conducting various studies. The act imposed many new requirements, some of which were accommodated by reallocating 1991 funds that had been budgeted for other purposes. DOT officials said that the Department had not requested a supplemental appropriation in fiscal year 1991 for the act. Fiscal year 1991 funds could technically have been used for funding all of the act's requirements, but agency officials decided not to do so. Instead, each of the agencies amended its fiscal year 1992 budget to include funding for act requirements.

**Trans-Alaska Pipeline:
Ensuring the Pipeline's Security**

GAO/RCED-92-58BR, 11/27/91

The Trans-Alaska Pipeline System is responsible for transporting nearly a quarter of the nation's domestically produced crude oil. This report discusses (1) what federal and state agencies have done to assess the pipeline's vulnerability to terrorists and (2) what these agencies and the Alyeska Pipeline Service Company have done to protect the pipeline.

**Railroad Safety:
Accident Trends and FRA Safety Programs**

GAO/T-RCED-92-23, 1/13/92

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Government Activities and Transportation Subcommittee, House Committee on Government Operations.

This testimony discusses past GAO work on rail safety and pending legislation introduced in response to recent rail accidents involving the release of dangerous chemicals. GAO testified that although rail accidents have declined over the past 11 years for several reasons, GAO believes that they are still too high. The Federal Railroad Administration has been conscientious about responding to GAO reports, reflecting a sincere commitment to improve its operations and increase railroad industry safety. Many corrective actions, however, are still being implemented or are so new that GAO cannot comment on their effectiveness. Overall, pending legislation would also improve rail safety, particularly in the hazardous materials area. As GAO mentioned in earlier reports, one issue that still needs to be addressed is the problems associated with the Research and Special Programs Administration's hazardous materials data base. The Congress may want to focus on this issue when considering future legislation to improve hazardous materials transportation safety. (Among the past GAO work mentioned in the testimony are two products that were described previously: Hazardous Materials: Chemical Spill in the Sacramento River, GAO/T-91-87, 7/31/91, and Hazardous Materials: 1990 Transportation Uniform Safety Act—Status of DOT Implementing Actions, GAO/RCED-92-55BR, 11/5/91.)

**Financial Audit:
Trans-Alaska Pipeline Liability Fund**

GAO/AFMD-92-29, 1/17/92

The Trans-Alaska Pipeline Liability Fund, a nonprofit corporate entity created in 1973, pays claims for damages, including cleanup costs, arising from oil discharges from vessels transporting Trans-Alaska Pipeline System oil loaded at Alaskan terminals to ports under U.S. jurisdiction. This report presents the results of GAO's review of the independent certified public accountants' audit of the Fund's financial statements as of December 31, 1990. GAO also assesses progress toward disposing of the Fund's balances and terminating the Fund.

**Truck Safety:
The Safety of Longer Combination Vehicles Is Unknown**

GAO/RCED-92-66, 3/11/92

Twenty states, most of them in the West, allow longer combination vehicles (LCV) to operate but have very different restrictions on the types of vehicles allowed, the routes on which they can operate, and their length and weight. Although LCVs have been on the roads for more than 30 years, little definitive information on their safety is available. Due to data problems and different study approaches, existing studies on the accident rates of multiple-trailer trucks have reached widely different conclusions about their safety. Longer combination vehicles may be less stable and maneuverable than single-trailer trucks, which can affect their safety. However, the LCVs' operational characteristics can be affected by many factors, including the type of vehicle, the driver, the load distribution, the equipment used, and road conditions. Until data shortcomings are overcome, the actual impact of all LCV types on highway safety will remain unknown. The Congress has passed legislation prohibiting expansion of LCV use. Although this law also requires several actions to improve transportation data, it does not specify the kind of truck data required.

**Railroad Safety:
Engineer Work Shift Length and Schedule Variability**

GAO/RCED-92-133, 4/20/92

Despite rail safety improvements over the past 10 years, over 3,000 railroad accidents occurred in 1990 that were reported to the Federal Railroad Administration. In 1990, human factors caused the largest portion (36 percent) of such accidents, in contrast to the situation in past years, when track defects were the most prevalent cause. GAO reviewed railroads' compliance with the Hours of Service Act, as amended, which requires that employees (1) may work no more than 12 continuous hours without a minimum of 10 consecutive hours off duty and (2) be given at least 8 consecutive hours off duty in every 24-hour period. After analyzing human-factor-caused accidents, the time these accidents occurred, and engineers' work schedules, GAO concluded that the length of the work period allowed by the act may have little impact on rail safety. Reducing the maximum number of hours allowed per shift from 12 to 10 would at best affect only a small percentage of rail accidents, primarily because only 4.5 percent of the human-factor-caused accidents in 1989 and 1990 occurred after 10 hours in an engineer's shift. More importantly, such a

reduction would change the maximum work/off-duty cycle to something less than the current 22-hour cycle, which could increase schedule variability. The resulting variability would be greater over time for engineers who regularly work such cycles and, since humans are biologically adapted to a 24-hour cycle, might actually contribute to increased fatigue and thereby negatively affect performance. Because engineer fatigue is a factor that can influence performance negatively, GAO urges caution if any changes to the Hours of Service Act are considered that could introduce even greater engineer schedule variability and thereby increase the potential risk of fatigue, particularly in early morning hours.

Surface Transportation Infrastructure

Surface Transportation Infrastructure

Smart Highways: An Assessment of Their Potential to Improve Travel

GAO/PEMD-91-18, 5/1/91

Increased traffic congestion, accident fatalities, air pollution, and inefficient fuel consumption are some negative consequences of increased automobile ownership in the United States. One response to this problem has been the development and application of intelligent vehicle and highway systems, commonly known as "smart highways." The technologies involved range from centralized traffic control centers to driver information systems located in the vehicle to fully automated freeways. After reviewing 38 major studies completed over the last decade, GAO concludes that the empirical basis for judging the effects of smart highways is limited though promising. GAO identified three kinds of obstacles—cost, institutional, and technological—that could jeopardize the overall success of a domestic smart highway program. In particular, the proper mix of burden-sharing among private sector interests and federal, state, and local governments for the costs of smart highways must be determined. Furthermore, the ability of various levels of government to work together and with the private sector is central to the success of a smart highway program. GAO supports an aggressive research and testing program during the 1990s and makes several legislative recommendations to further such efforts.

Transportation Infrastructure: Issues for Congressional Consideration During Reauthorization of Surface Transportation Programs

GAO/T-RCED-91-56, 5/14/91

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Water Resources, Transportation and Infrastructure, Senate Committee on Environment and Public Works.

GAO testified on highway and highway safety reauthorization issues and the results of past and ongoing work at the Federal Highway Administration and the National Highway Traffic Safety Administration. GAO specifically discusses reauthorization issues relating to future federal spending, bridge deficiency determinations, intermodal funding for highways and mass transit, intelligent vehicle and highways systems, motorcycle helmet and automobile safety belt laws, and other highway safety matters.

**U.S.-Mexico Trade:
Concerns About the Adequacy of Border Infrastructure**

GAO/NSIAD-91-228, 5/16/91

The proposed U.S.-Mexico free trade agreement would undoubtedly affect the flow of commercial traffic across the U.S.-Mexico border. This report examines existing border infrastructure capacity and initiatives to facilitate the movement of commerce between the two countries. GAO discusses (1) the process for planning and expanding border inspection facilities, (2) steps taken by U.S. and Mexican authorities to expedite processing of border commercial traffic, (3) staffing patterns for the principal U.S. federal agencies involved in inspections along the border, (4) road and highway infrastructure needs at certain major border entry ports, and (5) transborder access for commercial trucks. To illustrate recent trends in trade and commercial traffic flows, GAO also provides information on the four southwest border Customs Districts.

**Highway Demonstration Projects:
Improved Selection and Funding Controls Are Needed**

GAO/RCED-91-146, 5/28/91

Although the federal funds authorized in 1987 for demonstration projects represented a three-fold increase over the previous authorization level, the funds will clearly fall far short of the amount needed to complete the projects. Equally important, the funds were often authorized for projects that were not a state or regional priority. In some cases, local road projects that are not a part of the federal-aid highway system would have been ineligible for federal funds in the absence of their demonstration designation. Since transportation needs far outstrip available resources, federal funds should be targeted to the most significant transportation problems confronting the nation. GAO believes that the way such projects are selected and funded could be improved. GAO also believes that funds authorized for projects that have been inactive since 1987, and are likely to remain so, should be directed to other transportation projects or be returned to the Treasury. About \$25 million authorized in 1987 for seven demonstration projects may never be used because there has been no project activity.

**Traffic Congestion:
The Need and Opportunity for Federal Involvement**

GAO/T-PEMD-91-10, 5/29/91

Testimony by Eleanor Chelimsky, Assistant Comptroller General for Program Evaluation and Methodology, before the House Committee on the Budget.

In this testimony, GAO makes five basic points: traffic congestion is a worsening problem, the federal government has a role in improving mobility, intelligent vehicle and highway systems are promising but need further testing, other low-cost approaches exist that need to be considered, and the Surface Transportation Act's reauthorization should contain mobility-enhancing provisions. Pending highway legislation represents a key opportunity to develop a comprehensive federal approach to congestion mitigation, and GAO makes several suggestions about elements that should be included in federal surface transportation policy.

**Mass Transit:
Significant Federal Investment Is Not Adequately Protected**

GAO/T-RCED-91-68, 6/12/91

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

GAO testified on the Urban Mass Transportation Administration's (UMTA) oversight of its grant programs and on proposals to increase funding flexibility between mass transit and highways and to reduce the federal share for transit assistance. (UMTA has since been renamed the Federal Transit Administration.) With the nation's mass transit needs outstripping available funding, it is particularly important that UMTA ensure that scarce resources are used judiciously, prudently, and effectively and that grant recipients manage federal funds in the most efficient and economical manner possible. UMTA needs to give close attention to program planning and oversight to avoid the present system's deficiencies and to ensure the best use of limited federal transit dollars in the future. GAO supports defining mass transit objectives in the context of a nationwide surface transportation system and sees merit in providing funding flexibility

between mass transit and highways. Nevertheless, the biases that favor highways over mass transit must be addressed and overcome for multimodal flexibility to succeed. Finally, GAO believes that caution must be exercised in immediately shifting significant cost-sharing responsibilities to transit authorities. Such a move may harm service levels or increase ridership costs.

**Mass Transit Grants:
Scarce Federal Funds Misused in UMTA's Philadelphia Region**

GAO/RCED-91-107, 6/13/91

GAO recently began a special audit to identify federal programs at high risk for waste, fraud, abuse, and mismanagement and to ensure that corrective action is taken. This effort encompasses 16 areas, one of which is the Department of Transportation's Urban Mass Transportation Administration (UMTA) grants. (UMTA has since been renamed the Federal Transit Administration.) Grantees are primarily responsible for ensuring that they properly spend scarce federal transit funds. Although it did not examine whether all grantees in region III—headquartered in Philadelphia, Pennsylvania—complied with federal requirements, GAO concludes that mass transit grants are vulnerable to waste and mismanagement. Since federal money is limited and mass transit demands are large, grantees need to have controls over fund usage to meet federal requirements and to ensure that funds are used appropriately, prudently, and effectively. While UMTA headquarters has acknowledged the need for more effective oversight of grantees, region III has continued a hands-off approach to monitoring of grantees. Until UMTA exercises stronger oversight and ensures better grantee management controls, the significant federal investment in mass transit will remain at risk.

**Mass Transit Grants:
Development Time Frames for Selected UMTA Projects**

GAO/RCED-91-184FS, 7/11/91

Since 1976, the Urban Mass Transportation Administration (UMTA), which has since been renamed the Federal Transit Administration, has had a structured process that state and local agencies must follow in developing federally funded major capital investment projects. A major capital investment is defined as a new fixed guideway system (a facility that uses or occupies a separate right-of-way or rails) estimated to cost more than

\$100 million or the extension of an existing system. During 1990 hearings, a flow chart was presented on UMTA's project development process. In response to congressional concerns about the length of the process—it has been reported that as long as 12 years could elapse before project construction began—this report compares the times shown in the flow chart's "status quo" column with the actual processing times for a number of proposed projects.

**Bridge Infrastructure:
Matching the Resources to the Need**

GAO/RCED-91-167, 7/22/91

The Department of Transportation's (DOT) current approach to determining the need for replacing or rehabilitating the nation's bridges does not effectively set priorities among deficient bridges. The methodology does not adequately consider a bridge's location, traffic volume, and detour length—important measures of how well a bridge serves public needs. As a result, many local bridges that are structurally sound and adequately serve existing traffic conditions are eligible for federal funds. Several states have been using variations of an alternative methodology based on "level-of-service" criteria. This methodology overcomes limitations of DOT's current approach because it rates bridges on criteria established for different types of highways and measures differences in traffic volumes and detour lengths. GAO's analysis showed that DOT's proposal to require states to spend at least 10 percent of their bridge funds on local bridges would divert federal dollars from those highway systems with the most critically deficient bridges. GAO believes that states should not be required to spend more than 1 percent of the proposed bridge funds on local bridges. While DOT has proposed using a level-of-service methodology to determine whether a bridge is deficient and warrants federal funds, DOT will use this approach only to categorize a bridge as adequate or deficient and not to measure the magnitude of deficiency. Consequently, DOT will be unable to provide the Congress with the information needed to target bridge funds to highway systems with the most critically deficient bridges.

**Transportation Infrastructure:
Preserving the Nation's Investment in the Interstate Highway
System**

GAO/RCED-91-147, 8/2/91

During the past 33 years, the Interstate Highway System's construction has been a main federal-aid highway program priority. Yet, the Federal Highway Administration (FHWA) reports that more than 40 percent of all Interstate pavement today is in fair or poor condition. The outlook for preserving the Interstate is bleak because (1) the Department of Transportation (DOT) projects that Interstate conditions are not expected to improve even if funding levels for the Interstate Resurfacing, Restoration, Rehabilitation, and Reconstruction (4R) Program are substantially increased; (2) Interstate capacity-enhancement needs will increasingly compete with preservation needs; and (3) DOT has not established goals for minimally acceptable Interstate pavement conditions or a strategy for achieving these goals. In addition, state maintenance practices and FHWA oversight are not ensuring adequate maintenance of the Interstate system. GAO found significant maintenance backlogs that could affect the integrity of Interstate roadways and structures and the safety of users in four of seven states reviewed.

**Transportation Infrastructure:
Highway Program Consolidation**

GAO/RCED-91-198, 8/16/91

In 1987, the Congress authorized a demonstration to test the feasibility of transferring more responsibility to the states for administering portions of the federal-aid highway program. The demonstration gives five participants—California, Minnesota, New York, Rhode Island, and Texas—greater flexibility in targeting federal-aid funds toward specific highway and bridge needs and also allows them to assume certain program functions usually done at the federal level. In a preliminary report (GAO/RCED-90-126, 6/8/90), GAO discussed how the five states initially benefited from the demonstration. This report includes a final evaluation of the demonstration as well as a review of the administration's reauthorization proposal as it relates to (1) defining highways of national significance and (2) funding the National Highway Program and the Urban/Rural Program.

**Traffic Management:
Federal Policies to Encourage Low-Cost Approaches Need to Be
Strengthened**

GAO/PEMD-91-26BR, 8/28/91

Traffic congestion on the nation's highways and streets continues to increase and affect mobility, energy conservation, and air quality. GAO evaluated federal efforts to encourage better management of the nation's highways through the use of low-cost transportation system management techniques. GAO found that, overall, the federal government plays an important role in facilitating the local implementation of such techniques to reduce congestion and improve air quality. This role includes funding assistance, planning requirements, and technical support. These current efforts have not, however, been fully successful in achieving widespread transportation systems management—and particularly transportation demand management—usage.

**Services for the Elderly:
Longstanding Transportation Problems Need More Federal
Attention**

GAO/HRD-91-117, 8/29/91

Three long-standing barriers—fragmentation of service delivery among multiple providers, confusion about program requirements, and inadequacies in data needed to manage and evaluate programs—impede effective delivery of special transportation services for the elderly in many communities. These barriers result in duplication of service in some localities at the expense of little or no service in others and higher unit costs per trip than necessary. Lower service quality could also occur for some clients. Some communities have been able to overcome special transportation barriers but many have not. Much is known about how to reduce barriers, yet many communities are poorly informed. Without improvements in the dissemination of information on how to successfully run programs and more technical help in applying this information to local circumstances, special transportation barriers will likely remain.

**Mass Transit Grants:
Improved Management Could Reduce Misuse of Funds in UMTA's
Region IX**

GAO/RCED-92-7, 11/15/91

In January 1990, GAO began a special audit effort to spotlight federal programs at high risk of waste, fraud, abuse, and mismanagement. This report looks at 1 of the 16 programs identified by GAO—the Urban Mass Transportation Administration's (UMTA) grants program in the Department of Transportation (DOT). (UMTA has since been renamed the Federal Transit Administration.) GAO found that the majority of grant recipients in UMTA's Region IX (headquartered in San Francisco, California) did not have adequate management controls to ensure compliance with federal grant requirements and to safeguard funds. For example, DOT's Office of Inspector General discovered about \$84 million wasted, misspent, or mismanaged by eight Region IX grantees, including instances of double billing and missing property. GAO found that region IX did not effectively use its monitoring tools and enforcement authorities to correct existing problems and prevent future abuses. According to region IX officials, limited staff resources prevented closer monitoring, and the region's oversight was consistent with UMTA's philosophy of relying on grantees to adhere to federal requirements and protect federal funds. In GAO's view, however, these inadequate internal controls and neglected oversight tools place federal mass transit funds at risk of waste, fraud, and abuse.

**U.S.-Mexico Trade:
Survey of U.S. Border Infrastructure Needs**

GAO/NSIAD-92-56, 11/27/91

Trade and commercial traffic between the United States and Mexico has burgeoned in recent years. The existing border infrastructure's capacity to accommodate traffic is being strained, and anticipated trade expansion will likely intensify traffic pressures at the border. This report provides information on (1) current and anticipated staffing requirements of the U.S. Customs Service and the Immigration and Naturalization Service; (2) the General Services Administration's planning for border inspection facilities needs; (3) estimates for border highways and bridge projects and associated costs in Texas, New Mexico, Arizona, and California; and (4) coordination in border management and planning efforts.

**Transportation Infrastructure:
The Nation's Highway Bridges Remain at Risk From Earthquakes**

GAO/RCED-92-59, 1/23/92

The October 1989 Loma Prieta Earthquake in northern California devastated the Cypress Viaduct and a section of the Bay Bridge connecting Oakland and San Francisco, killing 43 people. The earthquake also damaged 95 other bridges. In assessing the threat that earthquakes pose to America's bridges, GAO found that bridges in 31 states are at peril from moderate- to high-intensity earthquakes. Yet, earthquakes need not be severe to damage bridges. For example, it is estimated that more than one-third of the bridges in Memphis, Tennessee—located near the New Madrid fault—would be damaged by a moderate earthquake; experts project the chance of such an earthquake along the fault at between 40 and 63 percent over the next 15 years. The Federal Highway Administration (FHWA) has encouraged states to identify and retrofit existing bridges along routes vital for national defense, commerce, or emergency evacuation. Despite such efforts, states have done little to identify and correct seismic-related bridge deficiencies. State officials attribute such inaction to limited funding, a lack of technical information available for seismic retrofit work, and a belief that their state has a low risk of earthquake damage. Furthermore, the seismic vulnerability of the nation's bridges is largely unknown. Although FHWA requires states to report annually on the overall structural condition of their bridges, they need not identify bridges subject to earthquakes.

**Mass Transit Grants:
Noncompliance and Misspent Funds by Two Grantees in UMTA's
New York Region**

GAO/RCED-92-38, 1/23/92

Grants management oversight by the Urban Mass Transportation Administration (UMTA)—which has since been renamed the Federal Transit Administration—is among the 16 federal areas identified by GAO as being at high-risk for waste, fraud, abuse, and mismanagement. This report examines compliance with federal requirements by grant recipients in UMTA's Region II, headquartered in New York City, and the effectiveness of UMTA's oversight of region II grantees. In reviewing two of the region's main grant recipients—the Long Island Railroad and the New York City Transit Authority—GAO found that region II oversight failed to detect and

correct problems highlighted by the Department of Transportation's Office of Inspector General, the New York State comptroller's office, and others. Region II did not aggressively enforce UMTA regulations or force grantees to take corrective actions. As a result, the two grant recipients remained out of compliance, and long-standing deficiencies went uncorrected. In addition, federal funds are at risk of further mismanagement because the region has not complied with UMTA's administrative requirements to review grantee overhead costs, close out inactive grants, and deobligate unused funds. Until the region undertakes more assertive oversight, funds will continue to be misspent, and the region will continue to send a message to grantees that federal requirements are unimportant.

**High-Speed Ground Transport:
Acquiring Rights-of-way for Maglev Systems Requires a Flexible
Approach**

GAO/RCED-92-82, 2/10/92

Magnetic levitation (maglev), a form of high-speed ground transportation, could relieve highway and aviation congestion, conserve energy, and reduce air pollution. Maglev technology relies on powerful electromagnets to lift vehicles above a guideway and propel them at speeds of up to 300 miles per hour. In the United States, a number of maglev systems are being considered, but problems in acquiring rights-of-way—the right to move across property and to erect associated facilities—may impede system implementation. This report identifies right-of-way alternatives and assesses the advantages and disadvantages of each.

**Mass Transit Grants:
Risk of Misspent and Ineffectively Used Funds in FTA's Chicago
Region**

GAO/RCED-92-53, 3/4/92

Financial losses in federally administered savings and loan and housing programs have raised questions about the adequacy of management and internal controls protecting federal programs. In response, GAO has been reviewing 16 federal programs to help ensure that areas vulnerable to waste, fraud, abuse, and mismanagement are identified and appropriate corrective actions taken. This report presents the results of one of several GAO reviews of the Federal Transit Administration (FTA)—formerly called the Urban Mass Transportation Administration—and examines (1) grantee

compliance—including compliance by the Chicago Transit Authority in FTA's Region V—with federal requirements and (2) the effectiveness of FTA's oversight of region V grantees. GAO concludes that grantees' inadequate controls and the region's ineffective oversight have left region V grants vulnerable to a myriad of problems. Region V's monitoring lacks the scope, depth, and timeliness to reasonably ensure the proper use of funds.

**Transportation Infrastructure:
Urban Transportation Planning Can Better Address Modal
Trade-offs**

GAO/RCED-92-112, 4/2/92

Almost 70 percent of peak-hour Interstate travel was congested in 1990, and 6 out of 10 people lived in areas that failed to meet national air quality standards. Recent legislation provides \$155 billion in federal assistance for highway and mass transit programs over a 6-year period ending in fiscal year 1991. States and localities will have unprecedented flexibility in addressing congestion and air quality problems, a critical issue in meeting the requirements of the Clean Air Act Amendments of 1990. For some areas, this means building high occupancy vehicle lanes and improving mass transit instead of widening lanes for single-occupant cars. This report examines funding flexibility between the highway and mass transit programs. GAO looks at (1) the extent to which highways and mass transit program funds have been used across modal lines and (2) the highway and mass transit planning processes to determine if improvements are needed to make more effective choices in addressing congestion and clean air problems.

**Impoundments:
Comments on Proposed Rescissions of DOD, HHS, HUD, and
Transportation Budget Authority**

GAO/OGC-92-6, 4/22/92

On March 10, 1992, the President submitted to the Congress his fourth special impoundment message for fiscal year 1992. This message reports 30 proposed rescissions of budget authority, including 1 on the Federal Railroad Administration's Local Rail Freight Assistance program. GAO has reviewed these proposals and found them to be in accordance with the Impoundment Control Act. GAO provides specific information with regard

to nine of the rescissions, including that on the Local Rail Freight Assistance program, which it believes will be useful to the Congress in its examination of the message.

**Amtrak:
Information on Amtrak's Operating Expenses**

GAO/RCED-92-177FS, 4/23/92

In response to congressional concerns about how the National Railroad Passenger Corporation (Amtrak) spends its federally allocated funds, this fact sheet provides information on Amtrak's operating expenses. GAO found that Amtrak pools its operating revenues with its federal operating subsidies and makes no distinction about the source of funds when allocating them to operating programs. Amtrak accumulates funds in anticipation of future costs like accident claims and upcoming labor agreements. Amtrak spent \$1.5 million on travel between October 1987 and February 1992 for its Board of Directors and other high-level officials and spent \$96.4 million during this same period on dues and memberships, travel, professional fees, courses and seminars, and meetings.

Competition and Consumer Protection

Competition and Consumer Protection

Airline Competition: Pending Legislation Helps to Address Serious Competitive Problems

GAO/T-RCED-91-54, 5/15/91

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

As a follow-on to earlier testimony on the airline industry's financial crisis (GAO/T-RCED-91-6, 2/6/91), GAO discusses four bills the Subcommittee is considering that embody possible long-run solutions to the competitive problems that have contributed to that crisis—House bills 2074, 2037, 782, and 66. GAO summarizes its findings on the airline industry's competitive problems, discusses how the various bills' provisions address those problems, and offers some observations on some specific provisions. GAO does not view the proposals as a draconian "re-regulation" of the airline industry but as being, for the most part, a reasonable response to demonstrated competitive problems in the industry. The proposed legislation in many cases requires review of a potential problem by the Secretary, with the Secretary having discretion whether to act or not. This approach should generally mean that the burden on the industry will be modest except in cases where action is clearly necessary. GAO views the proposed bills' cumulative effect as being to strengthen competition in the airline industry and to preserve the gains in reduced fares and improved service resulting from deregulation.

Air Travel: Passengers Could Be Better Informed of Their Rights

GAO/RCED-91-156, 8/12/91

GAO examined the rights of airline passengers when they encounter problems with lost or damaged baggage; compensation to passengers when they are "bumped" (denied boarding) because of overbooked flights; and services provided to passengers when a flight is delayed, cancelled, or diverted. Department of Transportation (DOT) regulations spell out passenger rights to compensation for lost baggage and denied boarding. For other concerns—such as services to passengers when flights are delayed, cancelled, or diverted—DOT regulations are silent. Some airlines' contracts have detailed rules on services to be provided to passengers

whose flights are delayed, while others are vague or silent on the subject. GAO found no support among the airlines, DOT officials, or consumer groups for greater standardization of these services. DOT has published a booklet to better inform passengers about their rights, but the booklet needs to be updated and made more widely available. DOT's complaint data base has shown a decline in consumer complaints filed against U.S. airlines, from a high of about 41,000 in 1987 to about 7,700 in 1990. DOT officials attribute the drop to service improvements (resulting from DOT publicizing on-time performance data, DOT enforcement activity, and service competition among carriers) and to more realistic customer expectations. DOT publishes a monthly report ranking airlines by mishandled luggage and denied boardings due to overbookings. Airline officials said that they pay a great deal of attention to this monthly report and that they are placing more emphasis on customer relations.

**Airline Competition:
Industry Competitive and Financial Problems**

GAO/T-RCED-91-89, 9/11/91

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

GAO testified that the most appropriate approach to resolving the airline industry's competitive and financial problems is to focus on long-term strategies to enhance competition. While government action by itself will not preserve a competitive airline industry, it can provide the structural preconditions for effective competition: equal access to the nation's publicly financed airports, a level playing field for marketing airline services, and better access to domestic and international markets. The government's interest in the survival of threatened airlines involves ensuring that enough airlines exist to provide effective competition. The primary goal of federal competition policy should be to protect competition, not to protect specific competitors. However, if additional airlines cease operation, the decline in the number of competing airlines will probably harm competition. It has been suggested that the survival of four or five airlines would be enough to achieve effective competition. This would be true if several airlines served most routes, but this is often not true. On routes with less competition, the loss of a single airline could have a serious adverse effect.

**Railroad Competitiveness:
Federal Laws and Policies Affect Railroad Competitiveness**

GAO/RCED-92-16, 11/5/91

Regulatory reform in the 1970s and 1980s allowed railroads to better compete with trucks and barges for freight. As a result, the rail industry stemmed the decline in its share of the intercity freight market. Yet, significant competitive challenges still face the industry. This report focuses on the federal laws that affect railroad labor costs and on the federal user fee policies that affect the costs of trucks and barges. Factors internal to the railroads, such as management, are not considered.

**Airline Competition:
Industry Competitive and Financial Problems**

GAO/T-RCED-92-28, 2/21/92

Testimony by John H. Anderson, Jr., Associate Director for Transportation Issues, before the Subcommittee on Consumer and Environmental Affairs, Senate Committee on Governmental Affairs.

GAO testified that the most appropriate approach to resolving the airline industry's competitive and financial problems is to focus on long-term strategies to enhance competition. Government action by itself, of course, will not preserve a competitive industry. If airlines are not soundly financed, they will remain vulnerable to the cyclical swings of demand for airline services and costs of aviation fuel. Nevertheless, a well-designed, broad program to reduce competitive barriers should both improve the long-term financial status of distressed airlines and make them more effective competitors in the airline marketplace. Government action can provide the structural preconditions for effective competition: equal access to the nation's publicly financed airports, a level playing field for marketing airline services, and better access to domestic and international capital markets. The government's interest in the survival of threatened airlines is one of ensuring that enough airlines survive to provide effective competition.

**Computer Reservation Systems:
Action Needed to Better Monitor the CRS Industry and Eliminate
CRS Biases**

GAO/RCED-92-130, 3/20/92

Since first offered to travel agents in the mid-1970s, airline-owned computer reservation systems (CRS) have come to be used for more than 90 percent of travel agents' domestic airline sales. Past GAO reports have raised concerns about the restrictive marketing practices of these systems. This report examines possible biases toward the airline whose internal reservation system is housed in the CRS it owns. Such a system is called a "hosted" CRS because the internal reservation system for the airline owning the CRS is located within the CRS and uses some of the same hardware, software, and data bases that operate the CRS. GAO found that differences exist in the way the design, or architecture, of CRSS treats host and participating airlines. These differences may make it easier and more reliable to obtain information and book flights on the host airline than on participating airlines. Although disagreeing on the extent and significance of existing differences, CRS vendors and airlines alike favor eliminating any differences. A lack of current information makes it hard to know whether dehosting would eliminate significant differences in CRS treatment of host and participating airlines more effectively than would current and proposed technologies. The Department of Transportation needs to ensure that CRSS offer equal opportunities for all airlines marketing their products through such systems, including requiring CRS vendors to remove all functional differences in treatment between host and participating airlines that can be removed without dehosting.

Coast Guard and Maritime Administration Efficiency and Effectiveness

Coast Guard and Maritime Administration Efficiency and Effectiveness

Coast Guard: Oil Spills Continue Despite Waterfront Facility Inspection Program

GAO/RCED-91-161, 6/17/91

About 16,000 oil spills involving the release of more than 46 million gallons of oil took place in U.S. navigable waters in 1988. Spills at waterfront facilities, where vessels load and unload oil, accounted for about half the spilled oil. While the Coast Guard acknowledges its responsibility for regulating and inspecting waterfront facilities, its efforts in this area have fallen short because it has not been inspecting portions of intrafacility pipes that transport oil between docks and storage tanks. Water pollution and noncompliance with federal oil pollution prevention regulations continue to be high at waterfront facilities. Yet, the Coast Guard cannot determine how effective its inspection program has been in reducing the risk of oil spills because information on program results, such as the types, severity, and frequency of deficiencies found by inspectors, is not compiled and linked with information on the causes of oil spills found by investigators. Until the Coast Guard collects this type of information, it will not be in a position to establish measurable goals or objectives to ensure that its current inspection strategy is making the best use of its resources.

Part of the National Defense Reserve Fleet Is No Longer Needed

GAO/T-NSIAD-91-44, 7/11/91

Testimony by Brad Hathaway, Associate Director for Navy Issues, before the Subcommittee on Merchant Marine, House Committee on Merchant Marine and Fisheries, and the Subcommittee on Regulation, Business Opportunities, and Energy, House Committee on Small Business.

While older ships in the National Defense Reserve Fleet probably could be activated, the continued need for all of these ships is questionable. GAO recommends that the Department of Transportation, through its Maritime Administration, which manages the fleet, sell off most of the older ships in the fleet as soon as practicable. Sale proceeds could be used to upgrade that part of the fleet that has been, and will continue to be, a more valuable asset: the Ready Reserve Force. GAO recommends that, if the Congress chooses instead to continue reliance on the older ships, the Maritime Administration try to better maintain them so that they can remain reliable as emergency sealift assets. (See subsequently issued GAO

report, Strategic Sealift: Part of the National Defense Reserve Fleet Is No Longer Needed, GAO/NSIAD-92-3, 10/7/91, which is described below.)

**Coast Guard:
Adequacy of the Justification for Heritage Patrol Boats**

GAO/RCED-91-188, 7/12/91

The Department of Transportation decided in the late 1970s to replace Coast Guard patrol boats nearing the end of their service lives. By 1987 the Coast Guard decided that—in addition to replacing these boats—it needed to increase its patrol boat fleet from 87 to 96 vessels by the year 2000. After assessing several patrol boat designs, the agency selected a 120-foot “Heritage Class” design. This report examines the adequacy of the Coast Guard’s justification for the Heritage vessels. GAO discusses the agency’s (1) justification for the type and number of patrol boats needed to carry out the agency’s missions, (2) evaluation of alternatives to the Heritage design, and (3) support for production schedule and cost estimates for the Heritage vessel. GAO found that the Coast Guard’s acquisition of Heritage vessels was not adequately justified and did not closely adhere to federal guidance for acquiring major systems. As a result, the acquisition has fallen behind schedule, and the vessels will not be available when needed, raising questions as to whether the Coast Guard will be able to effectively conduct its missions.

**Coast Guard:
Oil Spill Liability Trust Fund Not Being Used to Pay All Allowable Costs**

GAO/RCED-91-204, 8/12/91

In the wake of the Exxon Valdez oil spill in Alaska’s Prince William Sound, the Congress passed the Oil Pollution Act of 1990, thereby activating the Oil Spill Liability Trust Fund. This fund had been set up 4 years earlier with the proviso that no money could be spent until the enactment of comprehensive oil spill legislation. The Oil Pollution Act’s passage, which significantly expanded the nation’s oil spill prevention and response activities, meant that funds became available to federal agencies for the cost of oil spill prevention and response activities. This report provides information on the fund’s receipts and disbursements as of March 31, 1991, and the status of activities under way to fully implement the act’s provisions concerning the fund, including the development of regulations.

Drug Control:
Impact of DOD's Detection and Monitoring on Cocaine Flow

GAO/NSIAD-91-297, 9/19/91

Amid growing concern over the national security threat posed by illegal drugs, the Congress passed legislation designating the Department of Defense (DOD) as the lead agency for detecting and monitoring air and sea shipments of illegal drugs in transit to the United States. The U.S. Coast Guard and the U.S. Customs Service share overall leadership for air and maritime interdiction. They participate in detection and monitoring but also conduct the other interdiction phases—interception and apprehensions—that may lead to drug seizures. DOD has given detection and monitoring a high priority, adopting a cooperative, pragmatic approach to implementing this mission. Although this approach has allowed DOD to expand national surveillance of drug traffic through its significant commitment of aircraft, radars, and other resources, it has not produced fully integrated detection and monitoring operations. Moreover, DOD's detection and monitoring efforts have not significantly reduced drug supplies; the estimated cocaine flow into the United States did not decrease in either 1989 or 1990. Many smugglers will continue to ship cocaine into the United States with impunity unless (1) better search technology is developed and (2) the profit margin in cocaine trafficking decreases. Interdiction alone cannot raise cocaine traffickers' costs and risks enough to make a difference, regardless of how well DOD carries out its detection and monitoring mission.

Coast Guard:
Coordination and Planning for National Oil Spill Response

GAO/RCED-91-212, 9/25/91

The 11-million gallon Exxon Valdez oil spill highlighted deficiencies in the nation's ability to contain and recover spilled oil. The Oil Pollution Act of 1990 represents a major effort by the Congress to address these deficiencies and to clarify the private sector's and federal government's roles and responsibilities in preventing, preparing for, and responding to oil spills. This report examines (1) the Coast Guard's efforts to avoid unnecessary and wasteful duplication by coordinating with the private sector and others, including federal and state agencies, its plans to buy oil spill response equipment and (2) the new responsibilities the act places on

the private sector and the Coast Guard and if these responsibilities call for a shift in emphasis in Coast Guard oil spill response activities.

Strategic Sealift:

Part of the National Defense Reserve Fleet Is No Longer Needed

GAO/NSIAD-92-3, 10/7/91

The National Defense Reserve Fleet, which is managed by the Department of Transportation's Maritime Administration, is divided into two components. One component—the Ready Reserve Force (RRF)—includes 96 ships that are routinely maintained so that they could be activated in 5, 10, or 20 days. The other component—the non-RRF—consists of 71 Victory-class ships built during World War II and 45 others of varying age and time in reserve status. These ships receive far less maintenance than RRF ships and would require much longer activation times—between 30 and 120 days. The Maritime Administration spends about \$2 million to retain these ships, some of which are being held for upgrade to the RRF or for other programs. Often referred to as “rust buckets,” they were not used during the Persian Gulf War, even though U.S. sealift capabilities were severely strained. These ships are no longer needed, given the availability and capability of other, quicker-response sealift assets, including the ships in the RRF. Scrapping the obsolete Reserve Fleet ships could (1) save about \$10 million in direct maintenance costs during the next 10 years and (2) generate an estimated \$38 million to \$42 million to improve the RRF if the ships were sold for scrap. Despite the non-RRF ships' physical appearance, they could probably be activated. However, they need to be better maintained and managed if they are to be relied on as viable sealift assets.

Coast Guard:

Inspection Program Improvements Are Under Way to Help Detect Unsafe Tankers

GAO/RCED-92-23, 10/8/91

The spill of more than 10 million gallons of crude oil into Alaska's Prince William Sound as a result of the 1989 Exxon Valdez accident increased attention on preventing tanker spills and on the Coast Guard program to inspect U.S. and foreign-flagged tankers operating in U.S. waters. The importance of these inspections has been further underscored by the dramatic aging of the world fleet. This report provides information on

(1) conditions and problems identified by the Coast Guard that are affecting its tanker inspection program and (2) actions being taken or considered by the Coast Guard to improve the inspection program. Given the tanker fleet's aging, reduced maintenance levels, and the current inspection program's unreliability, GAO concludes that improvements in vessel inspection are needed to ensure that tankers operating in U.S. waters are safe. Because the Coast Guard has only recently implemented some changes in its tanker inspection program, it is too soon to evaluate the effectiveness of actions taken thus far. However, until the Coast Guard strengthens its program management by involving industry in its planning process and developing strategies for planning, implementing, and evaluating changes, it will be unable to ensure the effectiveness of its corrective actions.

**Coast Guard:
Oil Spills Continue Despite Waterfront Facility Inspection Program**

GAO/T-RCED-92-12, 10/24/91

Testimony by Kenneth M. Mead, Director of Transportation Issues, before the Subcommittee on Oversight and Investigations and the Subcommittee on Coast Guard and Navigation, House Committee on Merchant Marine and Fisheries.

GAO testified that water pollution by oil remains significant and that noncompliance with federal regulations to prevent oil pollution continued to be great in the four ports GAO visited. Additionally, the impact of the Coast Guard's efforts to reduce oil spills is unknown because the agency does not compile and analyze inspection and spill data needed to make this determination. Furthermore, the Coast Guard has not been inspecting portions of pipes that transport oil between docks and storage tanks. Coast Guard officials now acknowledge this responsibility. (See previously issued GAO report, Coast Guard: Oil Spills Continue Despite Waterfront Facility Inspection Program, GAO/RCED-91-161, 6/17/91, which is described above.)

**Drug Control:
Communications Network Funding and Requirements Uncertain**

GAO/NSIAD-92-29, 12/31/91

The steep rise in federal drug interdiction activity during the 1980s generated demand for better communication among drug enforcement agencies, including the Department of Defense (DOD), the U.S. Coast Guard, the U.S. Customs Service, the U.S. Immigration and Naturalization Service's Border Patrol, and the Drug Enforcement Administration. Consequently, the Congress directed DOD to integrate U.S. command, control, communications, and technical intelligence assets used for drug interdiction into an effective communications network. DOD has contributed significant technical and financial support toward implementing the National Telecommunications Master Plan for Drug Enforcement and, by doing so, has made progress toward integrating an effective interdiction communications network. However, it is unclear when the network will be finished. Neither the master plan nor implementation plan specify a schedule or time goal for acquiring network equipment, most of the equipment the plan required has not been procured, budget constraints leave future funding for equipment uncertain, and equipment requirements have not been fully determined. GAO calculated that, at current equipment funding rates, it will take until fiscal year 2000 to complete the network. Furthermore, budget constraints and additional requirements could extend the completion time. DOD's Anti-Drug Network has enhanced communications among interdiction and intelligence organizations, and planned system improvements should further enhance the situation.

**Military Training:
Unexploded Ordnance Found in Lake Michigan**

GAO/NSIAD-92-95, 3/31/92

The Defense Department has been operating military training ranges over parts of Lake Michigan for more than 30 years. In April 1991, the Police Department in Sheboygan, Wisconsin, was notified of a suspicious-looking object on the shore of Lake Michigan, not far from a busy shopping center. Military officials later identified the object as a fully armed, air-to-air Sidewinder missile that fishermen had pulled up in a net and later discarded on the beach. Two months later, an unarmed aircraft rocket was retrieved from Lake Michigan, also near Sheboygan. The Coast Guard and the Federal Aviation Administration (FAA) are notified by an Air National

Guard unit of scheduled military exercises in the practice range. After receiving notification, FAA directs aircraft around the range and the Coast Guard issues radio warnings to mariners. If sufficient notice is furnished, the Coast Guard provides written notification in the weekly "Local Notice to Mariners." However, nautical charts published by the National Ocean Service of the National Oceanic and Atmospheric Administration, Department of Commerce, do not identify the location of the range. GAO recommends that applicable nautical charts for Lake Michigan be updated to identify the range, caution mariners on the possible existence of ordnance, and prescribe procedures mariners should follow if they find ordnance; the changes also be made to the U.S. Coast Pilot manual; and, until new nautical charts are published, the Coast Guard use the weekly "Local Notice to Mariners" bulletin to provide immediate information to the public on possible ordnance.

Refugees:

U.S. Processing of Haitian Asylum Seekers

GAO/T-NSIAD-92-25, 4/9/92

Testimony by Harold J. Johnson, Director of Foreign Economic Assistance Issues, before the Legislation and National Security Subcommittee, House Committee on Government Operations.

In the wake of the military coup in Haiti, the Coast Guard intercepted more than 18,000 Haitians. Although more than 10,000 Haitians were returned to Port au Prince, GAO estimates that about 2,500 arrived at Guantanamo Bay in Cuba to await transport to the United States. The Guantanamo Bay facility—a collection of tents erected on an old aircraft runway—is subject to extreme heat during the summer, and at times the water being piped in is virtually undrinkable. It is doubtful whether these temporary facilities could withstand the hurricanes that sometimes hit Cuba. While the Immigration and Naturalization Service's (INS) interviewing and screening procedures at Guantanamo Bay appear to be sound, GAO discovered weaknesses in the administrative procedures that follow the interviews, including many errors in the INS data base used to process individuals for return to Haiti or on to the United States. Due to these weaknesses, at least 54 Haitians were mistakenly repatriated and at least 7 others returned voluntarily, never knowing that their claims had been deemed credible and they were free to travel to the United States to have their cases heard. GAO also found that at least 50 Haitians lacking credible claims were mistakenly sent to the United States. Despite the

involvement of several federal agencies at Guantanamo Bay, no designated lead agency ever assumed responsibility for facility operations. Since March 1992, interdicted Haitians have been screened aboard Coast Guard cutters, a practice that may prove inadequate should another massive influx take place. Given problems in living conditions and shipboard screening procedures, GAO testified that contingency planning by U.S. agencies is urgently needed to handle a possible resurgence of Haitian refugees.

Cross-Modal Transportation Issues

Cross-Modal Transportation Issues

Transportation Safety: Information Strategy Needed for Hazardous Materials

GAO/IMTEC-91-50, 9/25/91

Information plays a critical role in the Department of Transportation's (DOT) regulation of hundreds of thousands of shippers, carriers, and container manufacturers handling hazardous materials. However, previous studies by GAO and others have noted that DOT lacks accurate, complete data to monitor this vast community. Department progress in improving this situation has been slow; two initiatives to improve DOT's information management of inspection and enforcement activities have floundered. As a result, DOT cannot use information to evaluate effectively improvements in safety accruing from its inspection and enforcement activities or support departmentwide hazardous waste enforcement activities. Information resources management strategies are designed to identify ways in which information and technology can be used to support effectively mission needs. Without such a strategy, DOT will have a hard time applying information technology departmentwide and in resolving long-standing information shortcomings.

Geographic Information Systems: Information on Federal Use and Coordination

GAO/IMTEC-91-72FS, 9/27/91

This report examines the use and acquisition of federal geographic information systems, which are digital computer systems designed to capture, store, display, analyze, and model data referenced to locations on the earth's surface. The Department of Transportation's (DOT) Federal Highway Administration is responsible for coordinating the data on ground transportation. Other DOT agencies, including the Federal Aviation Administration, the U.S. Coast Guard, the Federal Railroad Administration, the Transportation Systems Center, and the Saint Lawrence Seaway Development Corporation, reported or projected some form of system use for fiscal years 1990, 1991, and 1992. The number of federal agencies reporting widespread use of these systems is expected to more than double—from 18 agencies in fiscal year 1990 to 44 in fiscal year 1992. While individual agencies reported modest expenditures in fiscal year 1990, expenditures are expected to increase by about 60 percent by fiscal year 1992. The two largest uses for the systems governmentwide are the management of natural resources and environmental assessment and

monitoring. (Use for transportation planning ranks seventh.) In addition, several agencies use multiple system applications, like emergency planning and response, hazardous and toxic waste tracking, and tactical and strategic defense analyses. Many agencies have neither official mechanisms nor programs in place to coordinate their geographic information systems projects or cooperate with other federal, state, or local agencies. In addition, most agencies have not developed written policies on these systems or instructions for disposing of spatial data. Nonetheless, many federal agencies obtain system data from other federal, state, and local agencies.

**Highway Trust Fund:
Revenue Sources, Uses, and Spending Controls**

GAO/RCED-92-48FS, 10/16/91

The Congress is now considering ways to reauthorize federal-aid highway and mass transit programs for fiscal years 1992 through 1996. The Highway Trust Fund is the mechanism that provides financing for these programs. Revenues generated by highway user taxes, as well as the interest these revenues earn, accrue to the trust fund and are used to reimburse states and transit authorities for expenditures incurred on approved federal-aid highway and mass transit projects. This fact sheet provides information on four issues related to the Highway Trust Fund: (1) the sources and amounts of trust fund revenues generated during fiscal years 1987 through 1991, (2) the use of these revenues, (3) the estimated balance remaining in the trust fund when federal-aid highway and mass transit program expire at the end of the fiscal year 1991, and (4) the influence that the Budget Enforcement Act of the Omnibus Budget Reconciliation Act of 1990 could have on surface transportation spending during the next reauthorization period.

Railroad Retirement Board

Railroad Retirement Board

Debt Management: More Aggressive Actions Needed to Reduce Billions in Overpayments

GAO/HRD-91-46, 7/9/91

Over the past decade, both GAO and the Office of Management and Budget have pointed out serious, long-standing problems with the government's debt collection practices. Billions of dollars in overpayments—mostly by the Social Security Administration—have been delinquent, and millions have been written off as uncollectible. (As of Sept. 30, 1989, the Railroad Retirement Board, one of the four agencies covered by the report, reported about \$56 million due from overpaid people.) During the past 4 years, overpayment collections by the Social Security Administration (SSA) have remained a constant 28 percent of outstanding debt. SSA has written off almost a billion dollars of debt as uncollectible, making little progress in increasing the percentage of debt collected. SSA lacks an organizational focus for debt management, has insufficient information to control and account for the more than \$2 billion in overpayments, does not adhere to debt collection policies, and has been legally restricted from using certain collection methods that have been successfully used by other agencies. GAO believes that if SSA's debt management program is to become more successful, program responsibility should be centralized in the Office of the Deputy Commissioner for Finance, Assessment, and Management. During each of the past 4 years, the Railroad Retirement Board collected about 55 percent of its total outstanding payments, the Office of Personnel Management (OPM) about 55 percent, and the Department of Veterans Affairs (VA) about 30 percent. OPM and VA were not using all the collection methods required by law. In GAO's view, these methods should enable OPM and VA to increase their overpayment collections.

Other Transportation-Related Matters

Other Transportation-Related Matters

Employee Drug Testing: Status of Federal Agencies' Programs

GAO/GGD-91-70, 5/6/91

In September 1986, President Reagan signed an executive order establishing the goal of a drug-free federal workplace; all federal employees are required to refrain from illegal drug use, and federal agencies are to conduct drug testing to identify illegal drug users. The Department of Transportation is among the agencies covered. This report provides information on the approval and implementation of program plans for drug testing in federal agencies, personnel subject to testing, the drugs that agencies are testing for, program costs, and testing results.

Air Pollution: EPA May Not Fully Achieve Toxic Air Deposition Goals

GAO/RCED-91-102, 5/10/91

Toxic substances enter the atmosphere from various sources, including industrial processes, automobiles, pesticides, municipal waste incineration, and other combustion processes. Some toxics accumulate in various animal species (bioaccumulation) and may cause birth deformities and other adverse health effects. Research indicates that air deposition may contribute significantly to bioaccumulation. The Great Lakes, coastal waters, and other bodies of water are the areas most susceptible to bioaccumulation problems. The states surrounding the Great Lakes have issued warnings about the risks to human health of eating fish from contaminated areas. Bioaccumulation has occurred in the Chesapeake Bay and other waters but is not as widespread, and less is known about the extent of air deposition to those waters. The Environmental Protection Agency is concerned that data limitations will make it hard to develop a comprehensive report on air deposition in 3 years, as required by the Clean Air Act.

**Federal Buildings:
Actions Needed to Prevent Further Deterioration and
Obsolescence**

GAO/GGD-91-57, 5/13/91

Reports of deterioration in the nation's dams, bridges, and highways have become all too familiar. Less well known is the mounting evidence of deterioration in federally owned buildings. For example, the Pentagon—now 50 years old—needs a billion-dollar overhaul to overcome decades of neglect. Other federal buildings, though not in as bad a shape as the Pentagon, need at least \$3 billion worth of repairs and alterations. GAO's analysis of 25 federally owned buildings, including the Federal Aviation Administration headquarters building, showed that over one-third have had maintenance deferred, including repair and replacement of leaking roofs and plumbing systems, installation of fire alarms and sprinklers, and upgrading of electrical and heating systems. As a result, the value of federal assets has deteriorated, workers have had to endure poor quality work space, agency operations have been impeded, and employees' health and safety have been jeopardized. Funding limitations and ineffective General Services Administration management and oversight of identified repair and alteration requirements are the two main reasons why buildings have been neglected and gradually allowed to become antiquated and even unsafe.

**Cost of Operation Desert Shield and Desert Storm and Allied
Contributions**

GAO/T-NSIAD-91-34, 5/15/91

Testimony by Frank C. Conahan, Assistant Comptroller General for National Security and International Affairs Programs, before the House Committee on the Budget.

This testimony discusses the costs of Operations Desert Shield and Desert Storm and allied contributions to help defray this cost. While the cost estimate by the Department of Defense and by the Office of Management and Budget (OMB) through May 1991 is, for the most part, reasonable, GAO believes that the estimate of future costs is unsupported and appears high. (Among anticipated expenditure items is deactivation of Ready Reserve Fleet ships.) More importantly, GAO believes that incremental funding requirements will be substantially less than OMB's cost estimate and that

fiscal year 1991 incremental funding needs can be fully financed through allied contributions to the Defense Cooperation Account.

**Oil Prices:
Analysis of Oil Futures Market Prices Since Iraq's Invasion of
Kuwait**

GAO/GGD-91-73BR, 5/16/91

GAO reviewed a report by the Commodity Futures Trading Commission (CFTC) on the movement of oil prices between July 30 and September 28, 1990, the period roughly corresponding to the Iraqi invasion of Kuwait. GAO reaches the same conclusion that CFTC reached—that oil futures prices reflected actual changes in supply and demand conditions. Furthermore, the data since September point to the same conclusion. Significantly, this latter period includes the largest single-day price movement for crude oil on record (down \$10.55 on Jan. 17, 1991). This extreme movement did not lead to a breakdown or other problems in the futures market.

**Federal Aid:
Programs Available to State and Local Governments**

GAO/HRD-91-93FS, 5/22/91

This fact sheet provides information on federal financial assistance programs (grants and direct payments) for which state and local governments are eligible applicants. It discusses 606 federal programs, with estimated obligations of \$155.3 billion, available to such governments in fiscal year 1990. In addition, it includes the Catalog of Federal Domestic Assistance number identifying the federal funding agency, program name, types of financial assistance, eligibility, budget function, and estimated funds obligated. Listed in the fact sheet are 18 Department of Transportation (DOT) programs, including 4 in the top 20 in terms of funding in fiscal year 1990. The DOT programs are administered by the Federal Highway Administration, Urban Mass Transportation Administration (now named Federal Transit Administration), Research and Special Programs Administration, Federal Railroad Administration, Maritime Administration, Coast Guard, and Federal Aviation Administration. Fiscal year 1990 funding for the 18 DOT programs totaled about \$19 million.

**Alternative Fuels:
Increasing Federal Procurement of Alternative-Fueled Vehicles**

GAO/RCED-91-169, 5/24/91

The Alternative Motor Fuels Act of 1988 encourages the development and widespread use of methanol, ethanol, and natural gas fuels as alternatives to gasolines and the production of vehicles to use these fuels. (One program the act required is a bus testing program, in which the Federal Transit Administration—formerly the Urban Mass Transportation Administration—is involved.) The Department of Energy's progress in implementing the legislation has been slower than expected since funding was first provided in October 1989, and this report discusses the reasons why. GAO agrees that federal leadership in the procurement of alternative-fueled vehicles is desirable. In GAO's view, however, a gradual approach, coupled with performance and emissions data collection and incentives for developing a fueling infrastructure, might provide a more balanced and less risky strategy. In the final analysis, the extent to which alternative fuels are competitively priced with gasoline will determine their use.

**Diffusing Innovations:
Implementing the Technology Transfer Act of 1986**

GAO/PEMD-91-23, 5/29/91

Technology transfer refers to the government's development of products and processes that have had commercial applications. Past examples of successful technology transfer have included computer advances arising from Department of Defense research and NASA's creation of freeze-dried foods. GAO assessed the extent to which federal departments and laboratories have implemented provisions of federal legislation and of a related Executive Order addressing technology transfer. These provisions called for the establishment of programs that would provide federal laboratory scientists, engineers, and technical staff with incentives to engage in technology transfer, such as royalty sharing. GAO surveyed 297 laboratories in 10 federal departments (including 3 Department of Transportation laboratories) and found that the level of implementation of the technology transfer legislation has been uneven. Nearly one-third of the laboratories have not received implementing instructions from their parent departments, and slightly over one-half of the laboratory directors have not been delegated authority to enter into cooperative research and

development agreements with universities and the private sector. Overall, while more federal laboratories and their personnel are working on technology transfer activities and are being rewarded for their efforts, a concerted commitment to both the substance and the spirit of technology transfer legislation by the parent departments of federal laboratories is needed for full implementation.

**Commercial Use of Space:
Many Grantees Making Progress, but NASA Oversight Could Be Improved**

GAO/NSIAD-91-142, 5/30/91

To encourage cooperation between government, industry, and academia in developing space-related technologies with potential commercial applications, the National Aeronautics and Space Administration (NASA) has been making grants and other support available to the Centers for the Commercial Development of Space. After a limited period of grant support of 5 to 7 years, NASA expects the centers to become self-sufficient. Since the program's inception in 1985, NASA has successfully established centers capable of attracting and sustaining industry interest and support. While it is too soon to gauge the extent to which the program may ultimately achieve its goal, clearly the centers will not become self-sufficient in 5 to 7 years. Such a fixed period of support fails to recognize differences among the centers. Recognizing such differences would require NASA to establish grant support goals for the individual centers primarily on the basis of the 3- to 5-years' operating experience each center has had. NASA also has opportunities to make improvements elsewhere in the program. The process for evaluating the centers' payload requests should be examined to ensure that it efficiently provides the desired mix of expertise to adequately review requests. Also, NASA needs to examine the adequacy of the internal controls it uses to ensure that its accounting system contains timely, complete, and accurate information reported by grantees on their uses of federal funds.

**Diffusing Innovations:
Implementing the Technology Transfer Act of 1986**

GAO/T-PEMD-91-5, 5/30/91

Testimony by Kwai-Cheung Chan, Director of Program Evaluation in the Physical Systems Area, before the Subcommittee on Technology and Competitiveness, House Committee on Science, Space, and Technology.

This testimony summarizes GAO's 5/29/91 report entitled Diffusing Innovations: Implementing the Technology Transfer Act of 1986 (GAO/PEMD-91-23), which is described above.

**War on Drugs:
Information Management Poses Formidable Challenges**

GAO/IMTEC-91-40, 5/31/91

In combatting illegal drug use in the United States, 24 civilian and intelligence agencies (including the Coast Guard and the Federal Aviation Administration) and 9 Department of Defense components are operating more than 100 drug control information systems. Effective management and sharing of the enormous amount of information in these automated systems are crucial to the success of the government's war on drugs. GAO reports that formidable challenges must be overcome before the administration's information management goals can be accomplished. First, central information resources management leadership is needed for directing agencies with drug control missions to commit the resources and take actions necessary to improve the use and sharing of drug-related information. Currently, no single entity has clear authority for carrying out this responsibility. Second, incompatibilities among agency systems mean that some systems cannot work together to exchange information. Third, data integrity problems must be solved—sharing inaccurate or unreliable information could misdirect interdiction efforts and incriminate innocent people. Fourth, systems need to better protect sensitive data about people, investigations, and national security. Finally, the proliferation of intelligence centers greatly complicates the management of this information. While the Office of National Drug Control Policy—created in 1988 to develop a national drug control program and oversee the federal drug control effort—has started to address several of these issues, this work is far from complete, and it is unclear if its overall master plan will provide a workable framework from which to adequately resolve these issues.

**Air Force Stock Fund:
Hydrazine Sales Consistent With the Commercial Space Launch Act**

GAO/NSIAD-91-196, 5/31/91

The Air Force buys hydrazine propellants from Olin Chemicals and later sells this material to both government and commercial users. In a letter to the Department of Transportation's Office of Commercial Space Transportation, dated December 14, 1989, Olin, which would like to expand its direct commercial sales, alleged that the Air Force was competing with it by making hydrazine propellants available to private firms and depriving it of the chance to sell its product directly to commercial customers. GAO found no basis on which to conclude that the Air Force's sales practices were contrary to the requirements or the intent of the Commercial Space Launch Act, which seeks to encourage and facilitate commercial space launches by the private sector. (The act designates the Secretary of Transportation as principally responsible for promoting and overseeing commercial launch operations through the issuance of licenses to conduct such activities.) Furthermore, the Air Force has authority, separate from the act, for its sales practices in support of commercial space launch activities. In any case, the Air Force's sales of hydrazine propellants to authorized commercial customers do not compete with Olin's commercial sales. Olin lacks the Air Force's special approval to transport Aerozine-50, a hydrazine blend, and does not have access to NASA's Kennedy Space Center and the Cape Canaveral Air Force Station, where the storage facility is located. Olin's obtaining access to this facility would be particularly difficult because of NASA and Air Force concerns about government liability if commercially owned propellant were mishandled and because current policy prohibits storage of commercially owned hydrazine propellant.

**Coastal Pollution:
Environmental Impacts of Federal Activities Can Be Better
Managed**

GAO/RCED-91-85, 6/5/91

Stress on coastal resources arising from increased population growth has resulted in beach closures, declining fish populations, and destruction of wetlands. Concerns have arisen that even as the federal government spends millions of dollars to protect the coastal environment, it is involved in other activities (such as highway construction) that may inadvertently accelerate environmental degradation in coastal areas. Direct effects can include waste charges from federal facilities, while indirect effects can include encouragement of population growth. According to federal and state coastal zone managers, most federal agencies comply with environmental review requirements when their activities affect coastal areas. However, GAO discovered that state and federal agencies sometimes disagree about whether certain federal agency activities are subject to environmental review requirements. Even in cases in which there were no disputes about the need for an environmental review, GAO found that questions were sometimes raised about how well the review process accounted for the full range of environmental impacts. This was particularly true for federal activities with indirect effects, such as accelerated population growth. Such impacts are often more significant than direct impacts but are harder to quantify. Currently, little guidance is available on how indirect impacts should be assessed. Although strengthening the review process would help ensure that the environmental impacts of specific projects or activities are considered, comprehensive planning in coastal areas would help ensure that the cumulative effects of activities are considered in addition to their individual impacts. Little guidance exists, however, on developing comprehensive plans or on how such plans could be used to assess cumulative impacts.

Gasoline Marketing:

Consumers May Not Be Receiving the Octane They Are Paying for or May Be Unnecessarily Buying Premium Gasoline

GAO/T-RCED-91-65, 6/12/91

Testimony by Judy A. England-Joseph, Associate Director for Energy Issues, before the Subcommittee on Energy and Power, House Committee on Energy and Commerce.

Consumers may be unknowingly buying gasoline with lower octane than needed because octane ratings are mislabeled on gas pumps. At the same time, other consumers, believing that they may be getting better performance, may be buying higher priced premium gasoline when regular gas would meet their vehicles' needs. These practices could be costing consumers hundreds of millions of dollars each year. However, there have been developments in preventing octane mislabeling and premium gasoline overbuying: more states are instituting octane testing programs, the Federal Trade Commission is enforcing octane labeling and working with states to ensure octane labeling, legislation has been introduced in the Congress that responds to GAO's recommendations for providing greater assurances that posted octane ratings are accurate, and the Federal Trade Commission has recently started to notify consumers of their vehicles' octane needs. (See previously issued reports, Gasoline Marketing: Consumers Have Limited Assurance That Octane Ratings Are Accurate, GAO/RCED-90-50, 4/16/90; Consumers Have Limited Assurance That Octane Ratings Are Accurate, GAO/T-RCED-90-90, 6/20/90; and Gasoline Marketing: Premium Gasoline Overbuying May Be Occurring, but Extent Unknown, GAO/RCED-91-58, 2/26/91.)

Ongoing GAO Assignment Is Examining Luxury Excise Taxes

GAO/T-GGD-91-44, 6/12/91

Testimony by Jennie S. Stathis, Director of Tax Policy and Administration Issues, before the Subcommittee on Taxation and Debt Management, Senate Committee on Finance.

New luxury taxes went into effect on January 1, 1991, on the following items: boats costing over \$100,000, cars costing over \$30,000, airplanes costing over \$250,000, and jewelry and furs costing over \$10,000. The seller remits the tax to IRS. The tax is 10 percent of the price over these threshold amounts. This testimony discusses GAO's ongoing work in this

area, which includes evaluating IRS' current efforts and future plans to collect luxury excise taxes, identifying compliance and policy issues arising from the tax's design, estimating the relative tax incidence on producers and consumers of these products, and examining the impact on the boating industry. (See subsequently issued report, Tax Policy and Administration: Luxury Excise Tax Issues and Estimated Effects, GAO/GGD-92-9, 2/26/92, which is described below.)

**Environmental Protection:
Meeting Public Expectations With Limited Resources**

GAO/RCED-91-97, 6/18/91

Drawing on past GAO work, a symposium held in June 1990, and analyses prepared by the Environmental Protection Agency (EPA) and others, this report discusses ways in which the federal government can achieve environmental goals more efficiently and effectively. GAO believes that federal budget priorities should reflect an understanding of relative risks to the environment and public health, as well as the feasibility and cost-effectiveness of various approaches to reduce these risks, rather than relying so heavily on public perceptions of risk. Measuring changes in environmental conditions, rather than levels of regulatory activities, would provide EPA with a more meaningful indicator of the effectiveness of its environmental protection efforts. An environmental control strategy combining traditional regulatory approaches with pollution prevention and market incentives could be less costly as well as more effective in controlling pollution. In addition, the federal government needs to better understand the financial needs of small communities trying to comply with federal environmental requirements.

**Air Pollution:
EPA's Strategy and Resources May Be Inadequate to Control Air
Toxics**

GAO/RCED-91-143, 6/26/91

In 1988, American industry released over 2.4 billion pounds of toxic chemicals into the nation's air, creating health problems ranging from birth defects to cancer. To date, however, the Environmental Protection Agency (EPA) has regulated only seven of the hundreds of known toxic air pollutants. The Clean Air Act Amendments of 1990 require EPA to regulate another 189 of the most hazardous and pervasive air toxics within a

decade. This report examines whether EPA has (1) developed an adequate plan for implementing the act's air toxics provisions and (2) requested enough resources to meet its regulatory responsibilities within the time frames specified by the act.

**Natural Gas:
Factors Affecting the Time It Takes to Approve Construction of
Natural Gas Pipelines**

GAO/T-RCED-91-73, 6/27/91

Testimony by Victor S. Rezendes, Director of Energy Issues, before the Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations.

GAO testified on the Federal Energy Regulatory Commission's (FERC) certification or approval process for natural gas pipeline construction. GAO discussed the (1) time it takes FERC to process pipeline construction applications; (2) factors affecting the time it takes to process the applications; (3) potential impact of FERC's actions and proposed regulations, as well as currently proposed legislation, to expedite FERC's processing of natural gas pipeline construction applications; and (4) need for improvements in FERC's management information system. (See subsequently issued report, Natural Gas: Factors Affecting Approval Times for Construction of Natural Gas Pipelines, GAO/RCED-92-100, 2/26/92, which is described below.)

**Budget Issues:
RSPA Funding for Fiscal Years 1990 and 1991**

GAO/RCED-91-164BR, 6/28/91

The Department of Transportation's Research and Special Programs Administration (RSPA) is responsible for several programs involving safety regulation, emergency preparedness, and research and development. GAO found that in fiscal years 1990 and 1991, RSPA shifted funds that had been recommended by congressional appropriations committees for program activities to fund additional personnel compensation and administrative expenses. RSPA did not, however, obligate/allot funds in excess of its total appropriations for fiscal years 1990 and 1991. In the absence of specific statutory limitations, RSPA is legally free to move funds within its appropriation.

Air Pollution:

New Approach Needed to Resolve Safety Issue for Vapor Recovery Systems

GAO/RCED-91-171, 6/28/91

Gasoline vapors from motor vehicles contribute to smog and can aggravate respiratory problems for millions of Americans. In 1987 the Environmental Protection Agency (EPA) proposed a regulation requiring that motor vehicles be equipped with onboard systems to control about 90 percent of refueling vapors. The Department of Transportation's National Highway Traffic Safety Administration (NHTSA), however, raised concerns about these systems' safety, thereby blocking the regulation's approval. EPA and NHTSA have not yet resolved their 4-year impasse over whether onboard vapor recovery systems will increase the likelihood of vehicle crash fires and fuel spillage. As a result, no agreement has been reached on the data and analysis needed to address the safety risk of onboard system. GAO recommends that EPA go forward with the onboard regulation by November 1991 as required by the Clean Air Act Amendments of 1990 unless EPA determines that onboard systems pose an unreasonable risk to public safety. GAO also recommends that, to identify and correct any safety defects or flaws well in advance of the 1996 model year so that an orderly phase-in occurs, EPA and NHTSA develop a joint approach to safety evaluations of manufacturers' onboard systems.

Full Disclosure of National Energy Strategy Analyses Needed to Enhance Strategy's Credibility

GAO/T-RCED-91-76, 7/8/91

Testimony by Judy A. England-Joseph, Associate Director for Energy Issues, before the Subcommittee on Regulation, Business Opportunities, and Energy, House Committee on Small Business.

GAO testified on the process the administration used to develop its National Energy Strategy, the analytical support for the policy proposals it sets forth, and factors that will influence its potential success. The administration has not published analyses of alternative packages of policy options that it examined in developing the strategy, such as those analyzed at the Economic Policy Council's request. Publication of these analyses could enhance the strategy's credibility and provide the Congress with information needed to consider the merits of various energy policy

proposals, including the National Energy Strategy. Among the proposals in the National Energy Strategy are ones related to electric vehicles and fuel-efficient automobiles.

Efforts to Improve Reception of Foreign Visitors at U.S. Airports

GAO/T-NSIAD-91-42, 7/10/91

Testimony by Allan I. Mendelowitz, Director of International Trade, Energy, and Finance Issues, before the Subcommittee on Foreign Commerce and Tourism, House Committee on Commerce, Science, and Transportation.

Approximately 39 million foreign visitors traveled to the United States in 1990, a 50-percent increase since 1985. A recent GAO report on the speed and ease of entry of foreign visitors at U.S. international airports found that routine clearance processing during peak times significantly exceeded the International Civil Aviation Organization's worldwide time goal. In addition, the quality and extent of airport services, like ground transportation, translation services, and currency exchange, varied widely, and many federal inspectors considered airport facilities inadequate. In this testimony, GAO discusses its recommendations for improving foreign visitor reception, including (1) speeding the federal inspection clearance process, (2) expanding the gateway receptionist program, and (3) developing model guidelines for airport services and facilities. This last recommendation was made to the Secretary of Transportation. (See previously issued report, International Trade: Easing Foreign Visitors' Arrivals at U.S. Airports, GAO/NSIAD-91-6, 3/8/91.)

The Effects of Budget Enforcement Act Discretionary Spending Limits in Fiscal Years 1994 and 1995

GAO/T-AFMD-91-8, 7/16/91

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

The Comptroller General testified that discretionary spending limits in fiscal years 1994 and 1995 will not allow funding for all programs potentially considered high priority. While increases in user fees and savings from greater program efficiencies may help to offset the reduction in real dollars available for all discretionary spending, the President and

the Congress will have to make hard choices about defense, international, and domestic spending. (The nation's surface transportation system is included as an example of areas where there is likely to be pressure for increased discretionary spending.) It is theoretically possible to postpone these decisions until fiscal year 1994 appropriations legislation is considered, but the Comptroller General believes that may be unwise in view of the severe constraints that will be faced at that time. Current funding decisions are affected by expectations of these future decisions, and decisions today will limit the range of options available in the future. Far sighted decision-making and careful planning today are the best ways of dealing with the constraints imposed by the Budget Enforcement Act limits in 1994 and 1995 and ensuring future progress in deficit reduction.

**Weather Satellites:
Action Needed to Resolve Status of the U.S. Geostationary
Satellite Program**

GAO/NSIAD-91-252, 7/24/91

The National Weather Service now has only one operational geostationary satellite—Geostationary Operational Environmental Satellite (GOES)-7—in orbit to provide data on severe storm conditions, and no replacement satellite is currently available. Although the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) have been working together to develop and build five new satellites (GOES-Next), the program is over 3 years behind schedule, has experienced a 134-percent cost overrun, and has been plagued by severe technical problems. GAO believes that design complexity, NASA's and NOAA's inadequate program management, and poor contractor performance contributed to the program's problems. GAO and NOAA identified several ways to minimize the risk of a complete loss of geostationary satellite coverage of degraded weather forecasting. These options range from making an emergency purchase of or using a foreign-owned satellite to doing nothing and hoping that GOES-7 does not fail before the launch of an operational GOES-next. The preferred option or options depend on whether NOAA decides to significantly delay the GOES-next program.

**Aerospace Plane Technology:
Research and Development Efforts in Europe**

GAO/NSIAD-91-194, 7/25/91

European countries are challenging U.S. leadership in the research and development of aerospace plane technologies. Their programs are intended to secure independent manned access to space, reduce the cost of launching payloads into orbit, and ensure a competitive role in future high-speed commercial transport aircraft markets. Congressional supporters of the National Aero-Space Plan Program—a \$5 billion effort to build and test the X-30 experimental plane—are concerned about foreign competition to the program and its impact on U.S. technological leadership. This report identifies indicators that measure the current state of aerospace plane technological progress in foreign countries. These indicators are (1) space policies and aerospace goals and objectives; (2) aerospace plane program objectives, design goals, schedules, and costs; (3) the current status and rate of progress in developing critical technologies; (4) the funding for and the number and type of people involved with the programs; (5) test facilities and their capabilities; and (6) the existence of and interest in international cooperation.

**Weather Satellites:
The U.S. Geostationary Satellite Program Is at a Crossroad**

GAO/T-NSIAD-91-49, 7/25/91

Testimony by Mark E. Gebicke, Director of NASA Issues, before the Subcommittee on Environment and the Subcommittee on Investigations and Oversight, House Committee on Science, Space, and Technology.

This testimony summarizes GAO's 7/24/91 report entitled Weather Satellite: Action Needed to Resolve Status of the U.S. Geostationary Satellite Program (GAO/NSIAD-91-252), which is described above.

**Alternative Fuels:
Experiences of Countries Using Alternative Motor Fuels**

GAO/T-RCED-91-85, 7/29/91

Testimony by Victor S. Rezendes, Director of Energy Issues, before the Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations.

In reviewing programs in Brazil, Canada, and New Zealand to encourage the use of alternative fuels, GAO found that each country was able, to some extent, to get motorists to use alternative fuels, although not without problems and setbacks. GAO also found remarkable consistency in the experiences and lessons reported. GAO testified that the experiences of these three countries provide useful insights that the Congress could consider as it deliberates legislation encouraging the use of alternative fuels. In addition, GAO's review of Department of Energy efforts to implement the Motor Fuels Act of 1988 revealed several related issues that the Congress could consider, including (1) the extent to which federal purchases of alternative-fueled vehicles should be accelerated before data are collected on how such vehicles perform and (2) resolving problems in placing federal vehicles, given the limited number of fueling and repair stations and the lack of incentives to build such vehicles. In the final analysis, GAO testifies, the extent to which alternative fuels are competitively priced with gasoline will determine their use.

**Federal Labor Relations:
A Program in Need of Reform**

GAO/GGD-91-101, 7/30/91

By law, most federal employees have the right to unionize and, thereby, participate with agency management in decisions affecting their working conditions. The large majority of experts GAO interviewed, which included a Department of Transportation official with labor-management relations responsibilities and a National Air Traffic Controllers Association representative, said that the federal labor-management relations program is not working well. In general, they said that (1) the program is too adversarial and often bogged down by litigation over procedural matters and minutiae; (2) some dispute resolution mechanisms are too lengthy, slow, and complex; and (3) ineffective Federal Labor Relations Authority management has weakened the program. GAO concludes that the problems in the federal labor-management relations program are so widespread and

systemic that piecemeal technical revisions would not be a workable solution. Accordingly, GAO is not making any specific recommendations for changes to the program but suggests that the Congress hold hearings on the program with a view toward establishing a panel of nationally recognized experts in labor-management relations and participants in the federal program to develop a proposal for comprehensive reform.

Revised Plan for the National Air and Space Museum Extension

GAO/T-GGD-91-60, 7/30/91

Testimony by L. Nye Stevens, Director of Government Business Operations Issues, before the Subcommittee on Libraries and Memorials, House Committee on House Administration.

In February 1991 testimony before the Congress (see GAO/T-GGD-91-5, 2/1/91), GAO reported that in considering an extension to the National Air and Space Museum, the Smithsonian Institution did not take a consistent and businesslike approach to siting and developing a facility under potentially competitive circumstances. As a result, the Smithsonian could not objectively defend the selection of Dulles International Airport as the preferred extension site. Smithsonian officials later requested that GAO meet with them to discuss the issues raised in GAO's testimony. Over the course of three meetings, the Smithsonian did further site analyses and revised its extension plans. The Smithsonian sent a letter to the Congress describing these revisions and included additional cost analysis. This testimony summarizes GAO's previous testimony and its response to the Smithsonian's letter to the Congress.

Long-Term Neglect of Federal Building Needs

GAO/T-GGD-91-64, 8/1/91

Testimony by L. Nye Stevens, Director of Government Business Operations Issues, before the Subcommittee on Water Resources, Transportation, and Infrastructure, Senate Committee on Environment and Public Works.

In March 1990 testimony before the Congress (GAO/T-GGD-90-24, 3/20/90), GAO noted that for nearly 2 decades, the federal government had been neglecting capital investment in modern, quality facilities that would enable federal agencies to carry out their missions more effectively. In

addition, in a May 1991 report (GAO/GGD-91-57, 5/13/91), which is described above, GAO discussed the mounting evidence of deterioration in federally owned buildings, including the Federal Aviation Administration headquarters building. In this testimony, GAO highlights various consequences associated with the federal government's failure to invest sufficiently in the public buildings infrastructure and the two key obstacles that most directly affect the General Services Administration's (GSA) ability to meet federal space needs effectively. These obstacles are (1) the Federal Building Fund's inability to finance needed capital investment in new as well as existing federal buildings, in part because the Office of Management and Budget and the Congress have periodically restricted the rent GSA charges tenant agencies, including the Department of Transportation, and (2) GSA's lack of a strategic concept of its public buildings role.

**Air Pollution:
Oxygenated Fuels Help Reduce Carbon Monoxide**

GAO/RCED-91-176, 8/13/91

Carbon monoxide replaces oxygen in the bloodstream and affects a person's vision and alertness; it can be especially harmful to people with heart and lung problems. Motor vehicles account for about 90 percent of all carbon monoxide emissions in the United States. Beginning in 1992, oxygenated fuels will have to be offered for sale in 41 cities identified by the Environmental Protection Agency (EPA) as exceeding national air quality standards. Officials in six cities—Albuquerque, Denver, Las Vegas, Phoenix, Reno, and Tucson—said that the use of these fuels has cut carbon monoxide emissions. However, these same officials believe that, by itself, the use of oxygenated fuels will not ensure compliance with national carbon monoxide standards. They believe that other measures, such as the mandatory testing of vehicle emissions and trip-reduction programs, are needed to ensure the most expeditious attainment of the standards. Information on the experiences of these six cities should be useful to EPA and other cities required by the Clean Air Act Amendments of 1990 to use oxygenated fuels and implement other carbon monoxide reduction programs.

**Travel Advisories:
State Needs Better Practices for Informing Americans of Dangers
Overseas**

GAO/NSIAD-91-249, 8/28/91

The State Department lacks an official written policy and procedures on issuing travel advisories and notices, especially those mentioning crime conditions. In practice, according to State officials, several factors are considered in issuing travel advisories. These include whether the crime is part of a pattern, how prevalent crime is against tourists, and whether economic and political concerns exist. Because of inconsistencies in reporting information on crime conditions in foreign countries and in distributing travel advisories and notices, State may not be adequately warning the public about the potential dangers of traveling to some foreign countries.

**Asset Management:
Governmentwide Asset Disposition Activities**

GAO/GGD-91-139FS, 9/27/91

The federal government has a fragmented approach to managing and disposing of assets targeted for disposition. Over time, authority for managing and disposing of these assets has been given to many agencies, and congressional oversight has been spread among numerous committees. The result is an absence of any central control over asset disposition activities as illustrated by the lack of a governmentwide inventory of these assets. This fact sheet provides such an inventory and describes the extent of federal involvement in asset disposition activities. Among the agencies mentioned are the Maritime Administration and the Coast Guard.

**Aerospace Plane Technology:
Research and Development Efforts in Japan and Australia**

GAO/NSIAD-92-5, 10/4/91

This is one of a series of reports examining aerospace investment in foreign countries. Congressional supporters of the U.S. National Aero-Space Plane Program are concerned about foreign competition to the program and its effect on U.S. technological leadership. Specifically, this report discusses investment in Japanese and Australian aerospace vehicle

research and technological development efforts. Japan is developing the technological basis for various concepts of future aerospace vehicles. Australia does not have a national program to develop and build an air-breathing aerospace vehicle, but it supports the technology development, and its test facilities are being used to conduct research and development of such vehicles by other countries and the European Space Agency.

**Formula Programs:
Adjusted Census Data Would Redistribute Small Percentage of
Funds to States**

GAO/GGD-92-12, 11/7/91

A total of 100 federal programs providing grants at the state and local level use population-related data in formulas that allocate all or part of program grant money. (These programs include seven Department of Transportation programs involving airport improvement, highway planning and construction, motor carrier safety, state and community highway safety, public transportation for nonurbanized areas, mass transit technical studies, and mass transit capital and operating assistance.) While the 100 programs had total estimated obligations of about \$116 billion in fiscal year 1991, the amount of funding influenced by population data was substantially less than that because some programs, such as the Federal-Aid Highway Program, allocated only a small portion of their total grants according to population data. Of the 100 programs, 30 use data elements for which the decennial census is the only source of information. While hard to predict precisely, the general effect of using adjusted 1990 census population data for federal funding purposes would likely be small as a percentage of total funding. Using 1990 adjusted population data in place of the decennial census figures, GAO simulated allocations for three major federal programs—Social Service Block Grant, certain Federal-Aid Highway Programs in which population is a factor, and Medicaid. GAO found that the use of adjusted data would redistribute less than one-half of a percent of total funding. Some individual states, however, would incur estimated changes of more than \$1 million in their allocations; the effect of such differences becomes more substantial when applied over an entire decade. Redistribution of funds to localities could have a greater impact. Because of the time involved to complete the necessary methodological research, the Census Bureau believes that any intercensal population estimates incorporating a correction for census undercoverage could not be made available before mid-1992 or early 1993.

Air Pollution:

EPA's Strategy and Resources May Be Inadequate to Control Air Toxics

GAO/T-RCED-92-11, 11/12/91

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.

Toxic air pollution is one of the most significant environmental problems in the United States today, with many toxic air pollutants still unregulated. The Environmental Protection Agency (EPA) is required to regulate 189 of the most hazardous and pervasive air toxics within 10 years. Referring to an earlier report (GAO/RCED-91-143, 6/26/91) and related work, GAO testified that it believes, as do many others, that good planning and adequate resources are essential to carrying out a program of this magnitude. GAO's work, however, calls into question both the adequacy of EPA's planning and the sufficiency of its requested resources for implementing the air toxics provisions of the Clean Air Act Amendments of 1990.

Potential Impact of Using Adjusted Census Counts for Federal Formula Programs

GAO/T-GGD-92-5, 11/13/91

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

This testimony summarizes GAO's 11/7/91 report entitled Formula Programs: Adjusted Census Data Would Redistribute Small Percentage of Funds to States (GAO/GGD-92-12), which was described previously.

**Japanese-Affiliated Automakers:
Management Practices Related to Purchasing Parts**

GAO/T-NSIAD-92-5, 11/14/91

Testimony by Allan I. Mendelowitz, Director of International Trade, Energy, and Finance Issues, before the House Committee on Small Business.

In this testimony, which is based on an earlier report (GAO/NSIAD-88-111, 3/7/88), GAO discusses trade in automobile parts. While there are concerns about the ability of U.S. automobile parts and component suppliers to sell to Japanese-affiliated automakers, explanations of these concerns are complex. The fairness of pre-existing relationships between Japanese automakers and parts and components suppliers has come under some scrutiny, although business considerations can also explain observed patterns. GAO concludes that U.S. government agencies involved in this issue must base their judgments and actions on a good analysis of the situation. The U.S. Department of Commerce and the Japanese Ministry of International Trade and Industry will undertake a detailed, jointly sponsored automobile parts sourcing study that will analyze parts sourcing at U.S.-based, Japanese-affiliated automakers. In GAO's view, such an analysis should help improve U.S. understanding of the issue and help guide any future action.

**Government Contractors:
Are Service Contractors Performing Inherently Governmental Functions?**

GAO/GGD-92-11, 11/18/91

Who—government employees or contractors—should determine the eligibility of government employees for security clearances, run prisons, or assess the effectiveness of weapons systems being developed? Such questions are central to the continuing debate over whether contractors should assume certain governmental duties and what controls or limitations should be placed on the government's authority to contract out these functions. GAO, which reviewed more than 100 contracts and contract task orders for consulting services at four agencies, including the Department of Transportation, reported that none of the documents clearly defined inherently governmental functions. The Office of Management and Budget (OMB) could improve its current guidance by defining governmental functions in terms of relative responsibilities of the

government and contractors. OMB, guided by this concept, should develop a short generic list of inherently governmental functions. In addition, agencies should develop their own supplemental guidance. Although most of the contracts GAO reviewed seemed appropriate for contractors to administer on the basis of existing OMB and agency policy guidance, GAO found that the Department of Transportation, the Department of Energy, and the Environmental Protection Agency may have contracted out for some activities that may have involved governmental functions. Because of the difficulty in defining governmental functions, however, GAO could not definitively conclude that these activities involved such functions. In addition, some agency officials said that the major reasons that agencies use contractors to administer functions that may be governmental in nature are the lack of authorized federal positions for employees and the lack of federal employees with sufficient expertise to do the work.

Blending of Hazardous Waste With Fuel Products

GAO/T-OSI-92-3, 11/21/91

Testimony by Houston Fuller, Assistant Director for Energy and Environmental Crimes Issues, before the Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations.

GAO testified that it uncovered only isolated incidents in which fuel products illegally blended with hazardous wastes had been transported, or were suspected of being transported, over roads between the United States and Canada. Furthermore, the consensus of officials GAO interviewed was that no one has reliable information on the extent to which such activity may be occurring. However, all these officials were concerned about the possible harmful environmental and health effects associated with the illegal blending of hazardous wastes into fuel products that are later used in the United States. U.S. Customs Service officials acknowledged that the opportunity exists for transshipment of illegally blended fuels. While Customs agents may inspect suspicious fuel shipments and other cargo, they typically rely on information contained in shipper-prepared certificates and manifests accompanying the shipments, in accordance with federal regulations. This testimony discusses an instance in which a hazardous waste fuel may have been misrepresented on its manifest by a shipper, Lilyblad Petroleum, Inc.

**Hazardous Waste:
U.S. and Mexican Management of Hazardous Waste From
Maquiladoras Hampered by Lack of Information**

GAO/T-RCED-92-22, 11/21/91

Testimony by Richard L. Hembra, Director of Environmental Protection Issues, before the Subcommittee on Environment, Energy, and Natural Resources, House Committee on Government Operations.

“Maquiladoras” are companies located in Mexico that use imported materials to produce finished goods. Located primarily along the border with the United States, these companies—some of which are owned by U.S. parent firms—are subject solely to Mexican laws and regulations. While some of these companies have been in existence for 25 years or more, comprehensive environmental protection laws and regulations have been on the books in Mexico for only the last 3 years. U.S. and Mexican officials have recognized the potential for problems caused by hazardous waste generated by the maquiladoras, which Mexican regulations require to be returned to the country of origin of the raw materials unless the waste can be recycled and reused. If improperly stored, transported, or disposed of, hazardous waste can seep into the soil and contaminate groundwater on both sides of the border. This testimony (1) compares U.S. and Mexican hazardous waste laws and regulations, resources, and enforcement practices and (2) assesses how the generation and ultimate disposal of hazardous waste from maquiladoras is being handled. (See subsequently issued report, Hazardous Waste: Management of Maquiladoras’ Waste Hampered by Lack of Information, GAO/RCED-92-102, 2/27/92, which is described below.)

**Natural Resources Damage Assessment:
Information on Study of Seabirds Killed by Exxon Valdez Oil Spill**

GAO/RCED-92-22, 11/27/91

In the wake of the March 1989 Exxon Valdez oil spill in Alaska’s Prince William Sound, a federally funded study sought to estimate the number of seabirds killed as a result of the accident. This study was 1 of more than 50 damage assessment studies that sought to determine the oil spill’s impact on natural resources and develop a restoration strategy. The seabird study’s most controversial aspect involved killing 219 seabirds, immersing them in oil, placing them in Prince William Sound, and tracking their drift

patterns to discover the number of birds recovered versus the number lost at sea. This report provides information on (1) the request and approval of the seabird damage study and (2) the study's methodology.

**Weather Forecasting:
Cost Growth and Delays in Billion-Dollar Weather Service
Modernization**

GAO/IMTEC-92-12FS, 12/17/91

The National Weather Service's ability to accurately forecast severe weather has consequences for every American. Hundreds of lives and billions of dollars are lost every year to thunderstorms and lightning, tornadoes, hurricanes, blizzards, and floods. During the past 10 years, the Service has been modernizing its systems so it can more accurately and quickly predict severe weather. The Service estimates that productivity and efficiencies gained from these systems will also allow a 50-percent reduction in the existing number of field offices and a 17-percent cut in overall staffing levels. More than 90 percent of the costs for this modernization and restructuring—nearly \$4.2 billion—are for acquiring four automated systems: the Next Generation Weather Radar, the Next Generation Geostationary Operational Environmental Satellite, the Automated Surface Observing System, and the Advanced Weather Interactive Processing System. Each of these systems is at a different stage of completion. Initially, the systems' estimated cost through deployment was pegged at under \$2 billion, with deployment to be completed through the end of October 1994. The latest cost estimates for the systems, however, have doubled, and the systems' deployment is not scheduled until 1998—almost 4 years later. National Weather Service officials attribute the cost growth and deployment delays primarily to expanded system requirements, an increased number of units to meet other agency needs, development problems, and inflation.

**U.S. Customs Service:
Limitations in Collecting Harbor Maintenance Fees**

GAO/GGD-92-25, 12/23/91

This report focuses on the U.S. Customs Service's effort to collect the fee for use of harbors and ports—the harbor maintenance fee. Cargo importers, exporters, domestic shippers of cargo between ports in the United States, foreign trade zone users, and passenger vessel operators are to pay the fee on the basis of the value of cargo and passenger fees. Collections from the fee are mainly used to pay the U.S. Army Corps of Engineers to improve and maintain ports and harbors. GAO found that Customs' controls over collecting the fee have not been fully effective and that the data needed for controlling collections are deficient. If these parties do not pay the fee, their nonpayment stands little chance of being detected, and risk of substantial revenue loss exists. Customs recognizes the benefits of better enforcement of fee collection requirements and has scheduled audits, plans to hire more staff to do matching and auditing, and is looking at improving its systems for detecting and billing nonpayers. According to agency officials, however, these actions are dependent on funding. The law now restricts Customs from using fee revenue to pay for activities associated with collecting the fee. Legislation has been introduced to allow fee revenue to help pay for the costs associated with collecting the fee. GAO supports such a measure.

**Desert Shield/Storm:
U.S. Transportation Command's Support of Operation**

GAO/NSIAD-92-54, 1/9/92

During Operation Desert Shield, actual deliveries of troops and supplies lagged behind the requirements of the Central Command, which oversaw the planning and movement of needed troops, equipment, and supplies. However, the Transportation Command, which supported the Central Command, was able to substantially meet requirements before the armed conflict with Iraq began. Due to the absence of hostilities during deployment, the Transportation Command had more than 5 months to overcome initial problems and deliver the needed supplies and forces before offensive operations started. The Transportation Command's support of the Central Command's deployment needs was not accomplished, however, as rapidly, efficiently, and effectively as intended. The Transportation Command's management of wartime theater transportation was hampered by the lack of (1) an operational plan for a

Desert Shield-type contingency; (2) agreed-upon operating procedures and lines of responsibility for a wartime situation among the Command, its components, and the services; and (3) a fully implemented central deployment data base with accurate and complete transportation information. Despite these problems, the airlift and sealift moved thousands of personnel and millions of tons of cargo. Overall, the component units of the Transportation Command—which managed a diverse fleet of over 200 Navy, Ready Reserve, U.S. commercial, and foreign-flagged vessels; transported the majority of deployed personnel on activated commercial aircraft; and coordinated the movement of thousands of railcars and trucks—performed responsively, at a high operating tempo, and with an overall high utilization and reliability of aircraft and ships. The Defense Department has prepared several proposals to address the problems it encountered during the deployment.

Air Pollution:

EPA's Actions to Ensure Vehicle Compliance With Emission Standards

GAO/RCED-92-94BR, 1/13/92

GAO followed up on the Environmental Protection Agency's (EPA) response to GAO's July 1990 recommendations on the effectiveness of EPA's motor vehicle testing program. (See GAO/RCED-90-128, 7/25/90.) EPA agrees overall with GAO's recommendations, some of which have been addressed by the Clean Air Act Amendments of 1990. Under this legislation, EPA can require states to deny vehicle registrations to owners who have not complied with recalls. EPA has also begun to address GAO's other recommendations, but several years will be required for comprehensive implementation. For example, changes to EPA's process for certifying that vehicles meet emission standards will not be effective until 1995. While EPA's acknowledgement of the problems and the Agency's initial steps are positive, it is also clear that EPA, the automobile manufacturers, and the states will need to continue working on vehicle compliance with emission standards over the useful life of the vehicle.

**Status of Open Recommendations:
Improving Resources, Community, and Economic Development
Programs**

GAO/OP-92-1B, 1/15/92

An annual GAO report to the congressional Appropriations Committees summarizes the findings and open recommendations resulting from GAO audits and other work in federal agencies for which satisfactory legislative or administrative actions have not been completed. To encourage prompt, responsive actions on its recommendations, GAO follows up on them. This year's report is presented in four parts. This part contains information on recommendations in five budget function categories: energy, natural resources and environment, food and agriculture, housing and community development, and transportation. Included are about 155 recommendations on transportation matters that were open as of September 30, 1991.

**Line Item Veto:
Estimated Potential Savings**

GAO/AFMD-92-7, 1/22/92

If presidential line item veto/line item reduction authority had been applied to all items to which the President objected during fiscal years 1984 through 1989, spending could have been cut by about \$70 billion. This would have reduced federal deficits and borrowing by 6.7 percent, from \$1,059 billion to \$989 billion. These estimates, however, are fraught with uncertainties, and other administration documents suggest that they may overstate savings. GAO found that more than 70 percent of the line item veto savings in fiscal years 1984 through 1989 would have occurred in five areas that account for 20 percent of discretionary spending: (1) transportation; (2) commerce and housing credit; (3) education, training, employment, and social services; (4) income security; and (5) natural resources and the environment. Conversely, only 2 percent of the possible savings would have come in four areas that account for 70 percent of discretionary spending: (1) science, space, and technology; (2) national defense; (3) international affairs; and (4) veterans benefits and services.

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

GAO/GGD-92-24, 1/24/92

This report addresses key issues affecting the federal public service as identified by GAO reports and testimony in 1990. These topics range from pay reform to drug testing. Transportation-related reports and testimonies cited include those on Federal Aviation Administration staffing, training, and funding issues (GAO/T-RCED-90-42, 3/14/90, and GAO/T-RCED-90-86, 6/6/90); Coast Guard project manager qualification criteria (GAO/RCED-90-178, 6/19/90); and Federal Railroad Administration inspector staffing standards (GAO/RCED-90-32, 11/21/90). This report also summarizes, for fiscal year 1991, significant improvements in federal human resource management and key recommendations not yet acted on that GAO made to the Congress, the Office of Personnel Management, and other agencies.

**Automotive Industry:
The Competitive Challenge to U.S. Companies**

GAO/T-NSIAD-92-7, 1/27/92

Testimony by Allan I. Mendelowitz, Director of International Trade, Energy, and Finance Issues, before the Task Force on Urgent Fiscal Issues, House Committee on the Budget.

This testimony, which discusses the competitiveness of the U.S. economy in general and the U.S. automobile industry in particular, is based on prior GAO work addressing (1) the causes of the U.S. trade deficit, (2) Japanese economic and industrial policies, (3) foreign investment in the U.S. automobile industry, and (4) management practices U.S. firms used to improve their competitiveness. GAO concludes that the federal government can do a much better job of establishing the underlying conditions affecting the U.S. economy's competitiveness. Some have called for the federal government to directly assist the U.S. automotive industry. However, the federal government lacks the power to transform individual companies into world-class competitors—only corporate management has that ability. Some firms have shown how to accomplish this. In GAO's view, any federal initiatives should encourage needed management changes rather than merely protect automobile industry firms from competition and necessary change.

Air Pollution:

Global Pollution From Jet Aircraft Could Increase in the Future

GAO/RCED-92-72, 1/29/92

Jet engines, having become cleaner since the Environmental Protection Agency (EPA) set hydrocarbon standards in 1982, continue to have a minimal impact on ground-level (defined as 0 to 3,000 feet) air pollution. Supersonic aircraft, however, can now fly in the upper ozone layer that protects all living things from the harmful effects of ultraviolet light. While few supersonic aircraft are in operation today, several hundred could be in service within the next 25 years, and their engine emissions could substantially reduce the ozone layer, making people more susceptible to skin cancer. In addition, preliminary but unproven research suggests that jet aircraft emissions may be adding to greenhouse gas problems. Because of these concerns, EPA must continue to closely monitor global pollution from jet aircraft so that it will be ready to develop a federal response to minimize any environmental consequences that arise.

Foreign Investment:

Issues Raised by Taiwan's Proposed Investment in McDonnell Douglas

GAO/NSIAD-92-120, 2/6/92

Taiwan Aerospace Corporation's proposed acquisition of a 40-percent equity share in McDonnell Douglas Corporation's commercial aircraft division raises important public policy questions about the interrelationships between U.S. commercial and national security interests. In a sense, this investment crystallizes a variety of questions about the government's role in enhancing the vitality of the U.S. technology base as the foundation of both U.S. commercial competitiveness and national security. This report identifies issues and questions relating to the acquisition's implications for U.S. national interests. GAO puts these questions, which it does not attempt to answer, into a framework useful for congressional consideration.

**Government Management:
Major Issues Facing the Congress**

GAO/T-AFMD-92-4, 2/6/92

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

In this testimony, the Comptroller General provides an overview of some of the major issues—including transportation-related issues—facing the Congress and the government. A number of events—from the continuing recession to the end of the Cold War to the increasing economic dominance of Japan—present both challenges and opportunities. Unfortunately, the ability of the United States to respond to these developments is constricted by the persistently high deficits that the government continues to ring up. In the Comptroller General's view, the government must address the deficit problem and better manage the nation's affairs if the United States is to maintain its standard of living and its influence in a changing world. In particular, the Comptroller General discusses the (1) current recession's impact on the federal government's receipts and the growth of the deficit; (2) major components of the President's 1993 budget submission, including issues related to defense, health care, and financial institutions; (3) status of progress on the government's high-risk list; and (4) progress in implementing the Chief Financial Officers Act. In addition, the Comptroller General highlights some domestic areas deserving close attention because of their long-term implication for the U.S. standard of living—deteriorating infrastructure and the quality of education.

**Information Resources:
Summary of Federal Agencies' Information Resources Management Problems**

GAO/IMTEC-92-13FS, 2/13/92

The magnitude and complexity of the federal government's information technology resources—hardware, software, data, and trained individuals—require effective and efficient management. Time and time again, however, GAO reports, including ones on the Federal Aviation Administration and the Coast Guard, have shown that agencies have problems managing these resources. Massive cost overruns, inaccurate data, and poor system performance are widespread. This fact sheet summarizes the information resources management problems documented

in reports issued by the Information Management and Technology Division between October 1988 and May 1991. The management and operational problems described tend to fall into 10 categories, with the most common being inadequate management of the information system development life cycle. Other problem areas include an inability to ensure the security and integrity of information systems; an inability of information systems to work together; and data that are inaccurate, unreliable, or incomplete. GAO summarizes the problem categories by type and frequency and provides examples for each category as well as a list of related reports.

**Natural Gas:
Factors Affecting Approval Times for Construction of Natural Gas Pipelines**

GAO/RCED-92-100, 2/26/92

During the period of GAO's review, the median processing time for the Federal Energy Regulatory Commission (FERC) to approve applications to build natural gas pipelines was about 1 year, but some approvals took much longer. FERC has tried to shorten the time it takes pipeline companies to receive approval to start construction, and the Congress is considering several bills aimed at speeding or eliminating the need for FERC approval. Nevertheless, FERC could further improve its timeliness and performance in processing applications by better informing and training its staff and others on policy changes, negotiating generic agreements with other federal agencies on their environmental reviews of pipeline applications, and strengthening its management information system.

**Tax Policy and Administration:
Luxury Excise Tax Issues and Estimated Effects**

GAO/GGD-92-9, 2/26/92

Beginning in 1991, a new excise tax was imposed on the sale of certain luxury items, including boats, cars, aircraft, jewelry, and furs. Diverse factors have influenced both supply and demand for these five luxury products, and GAO could not untangle the effect of the variables. For example, the recession probably harmed sales of all five items. Car sales, in particular, were probably affected by an increase in the gas guzzler tax, while aircraft sales fell during the 1980s as a result of product liability costs. This report examines in detail the tax's effect on all five luxury product markets and provides information on anticipated tax revenues,

the Internal Revenue Service's actual collections, and the costs and issues associated with administering the tax. GAO also discusses other products that have been taxed in the past as luxury items in the United States and abroad.

**Hazardous Waste:
Management of Maquiladoras' Waste Hampered by Lack of
Information**

GAO/RCED-92-102, 2/27/92

About 2,000 "maquiladoras"—companies that use materials imported into Mexico to produce finished goods for export—are now operating in Mexico, primarily along the U.S. border. Any hazardous substances resulting from U.S.-supplied materials are, by agreement, to be readmitted to the United States for ultimate disposal. While the maquiladora industry has been operating for 25 years, Mexico's comprehensive environmental protection law is only 4 years old. U.S. and Mexican officials recognize the potential risks from the hazardous waste generated by maquiladoras, including contamination of groundwater on both sides of the border. This report (1) compares U.S. and Mexican hazardous waste laws and regulations, resources, and environmental practices and (2) assesses how the generation and ultimate disposal of hazardous waste from maquiladoras is handled.

**Mexico Oil:
Issues Affecting Potential U.S. Trade and Investment**

GAO/NSIAD-92-169, 3/18/92

This report deals with issues affecting potential future U.S. trade with and investment in Mexico's petroleum industry. GAO discusses (1) recent trends in Mexican oil production and exports and the main factors affecting Mexico's ability to meet current production and export goals, (2) the views of U.S. oil-producing and oil service contracting companies on principal barriers to and possible benefits of U.S. trade with and investment in Mexico's oil industry and the response of Mexican officials, and (3) U.S. government efforts to help Mexico's petroleum sector.

**NASA Aeronautics:
Efforts to Preserve U.S. Leadership in the Aeronautics Industry
Are Limited**

GAO/T-NSIAD-92-14, 3/18/92

Testimony by Mark E. Gebicke, Director of NASA Issues, before the Government Activities and Transportation Subcommittee, House Committee on Government Operations.

This testimony examines the National Aeronautics and Space Administration's (NASA) efforts to preserve U.S. leadership in the aeronautics industry—a field vital to America's economic and military well-being. GAO discusses (1) the competitive position of the U.S. aeronautics industry and NASA's relationship to it, (2) NASA's funding of its aeronautics program, and (3) research and technology demonstration activities associated with the commercial aeronautics industry.

**Federal Workforce:
Agencies' Estimated Costs for Counseling and Processing
Discrimination Complaints**

GAO/GGD-92-64FS, 3/26/92

How much do federal agencies spend on discrimination complaint counseling and formal discrimination complaint processing? For this fact sheet, GAO surveyed 29 departments and agencies, including the Department of Transportation, to find out how much they spent to counsel people, investigate and reach decisions on complaints, and generally administer the discrimination complaint processing system. GAO found that they spent about \$139 million in fiscal year 1991, most of which went for counseling (\$40 million) and performing original investigations of formal complaints of discrimination (\$39 million). Most counseling took place before any formal complaint was filed. About one out of four individuals who were counseled later filed a formal complaint.

**Mexican Oil:
Mexican Policies Affect U.S. Trade and Investment Opportunities**

GAO/T-GGD-92-24, 3/26/92

Testimony by Allan I. Mendelowitz, Director of International Trade and Finance Issues, before the Subcommittee on International Economic Policy and Trade and on Western Hemisphere Affairs, House Committee on Foreign Affairs.

This testimony summarizes GAO's 3/18/92 report entitled Mexico Oil: Issues Affecting Potential U.S. Trade and Investment (GAO/NSIAD-92-169), which was described previously.

**Federal Research:
Small Business Innovation Research Shows Success but Can Be Strengthened**

GAO/RCED-92-37, 3/30/92

As a nation competing in a global economy, the United States depends heavily on research and development (R&D). The Small Business Innovation Research Program was created in 1982 to strengthen the R&D role of small, innovative companies. At present, 11 agencies, including the Department of Transportation, participate in the program. Even though many program projects have not yet had enough time to achieve their full commercial potential, the program is showing success in Phase III, which involves the use of nonfederal funds for commercial application of a technology. Most Phase III activity took place in the private sector, showing a trend toward one of the program's goals—increasing private-sector commercialization. Major federal agencies, however, differ in their responses to this goal, as shown by their wide variation in average sales per project and the percentage of sales to the private sector. GAO notes three issues that need to be addressed: (1) the extent of the Defense Department's commitment to the goal of increasing private-sector commercialization, (2) inconsistent practices in requiring competition for projects entering Phase III, and (3) the need to clarify the circumstances under which an agency may work on its own or continue working with the company through follow-on contractors after program funding ends.

Federal Research:

Small Business Innovation Research Program Shows Success but Can Be Strengthened

GAO/T-RCED-92-45, 3/31/92

Testimony by Jim Wells, Associate Director for Energy Issues, before the Subcommittee on Innovation, Productivity, and Technology, Senate Committee on Small Business.

This testimony summarizes GAO's 3/30/92 report entitled Federal Research: Small Business Innovation Research Shows Success but Can Be Strengthened (GAO/RCED-92-37), which is described above.

National Aero-Space Plane:

Key Issues Facing the Program

GAO/T-NSIAD-92-28, 3/31/92

Testimony by Nancy R. Kingsbury, Director of Air Force Issues, before the Subcommittee on Technology and Competitiveness, House Committee on Science, Space, and Technology.

This testimony provides GAO's interim assessment of the National Aero-Space Plane Program and addresses four issues confronting the program: Will the program include single-stage-to-orbit flight testing? How much will the program cost? How have changes affected the programs's schedule? How much progress has been made in developing key technologies?

Military Aircraft:

Travel by Selected Executive Branch Officials

GAO/AFMD-92-51, 4/7/92

GAO reviewed more than 200 trips that 11 executive branch officials, including a former Secretary of Transportation, took on military aircraft between January 1989 and March 1991, which sometimes mixed official, political, and personal business. This report (1) discusses the extent of travel by the officials on military aircraft, (2) identifies the policies governing that travel, (3) discusses compliance with travel policies, and (4) identifies the operating costs of military aircraft used for political and personal travel. GAO found that 10 of the officials generally followed the

travel regulation. The former White House Chief of Staff, however, often traveled without obtaining required authorization; in addition, the travel classification was changed for 21 of his trips, resulting in a reimbursement to the government of more than \$5,000. The White House has since taken several steps to strengthen controls over travel. The Secretary of State, on the other hand, was not initially billed for three trips that mixed official and personal business. As a result of GAO's review, the government was reimbursed about \$2,300, and the Secretary of State now flies commercial aircraft for personal domestic travel. For the 35 solely political and personal trips on military aircraft in which the official was the primary traveler, the estimated cost exceeded \$750,000; reimbursements for this travel totaled about \$61,500.

**Federal Workforce:
Agencies' Procurements of Private Health Club Services**

GAO/GGD-92-66, 4/7/92

It is generally recognized throughout the government that good health can improve performance and productivity. To develop information on the extent and practices of federal agencies' procurements of private health club memberships, GAO analyzed the results of a questionnaire it developed and administered to 80 departments and agencies, including the Department of Transportation, the Federal Maritime Commission, the Interstate Commerce Commission, the National Transportation Safety Board, and the Railroad Retirement Board. Federal agencies' policies on purchasing private health club memberships vary widely, ranging from limiting memberships to people having medical needs to providing membership to any employee. Some agencies pick up the full cost, while others require an employee contribution. Although such diverse policies and practices are not surprising given the broad discretion agencies have, it suggests the need for further guidance. Many agencies seem concerned about whether they are using appropriate practices and policies. GAO believes that the Office of Personnel Management (OPM) should take the lead in providing such guidance. GAO is also concerned about the use of administrative leave when employees use physical fitness centers. At many agencies, administrative leave can be routinely used for an indefinite period when employees go to a gym. GAO believes this practice could be expensive, potentially costing the taxpayers hundreds of million of dollars. Proposed changes to OPM guidance stress that use of administrative leave for fitness activities should be limited, involving only brief, specific

periods. GAO plans to review OPM's final guidance on this issue and will decide then whether recommendations are needed.

**Military Aircraft:
Travel on 89th Military Airlift Wing and Travel by Selected
Officials**

GAO/T-NSIAD-92-35, 4/30/92

Testimony by Frank C. Conahan, Assistant Comptroller General for National Security and International Affairs Programs, before the Subcommittee on Human Resources, House Committee on Post Office and Civil Service.

This testimony summarizes GAO's 4/7/92 report entitled Military Aircraft: Travel by Selected Executive Branch Officials (GAO/AFMD-92-51, 4/7/92), which was described previously, and Military Aircraft: Policies on Government Officials' Use of 89th Military Airlift Wing Aircraft (GAO/NSIAD-92-133, 4/9/92).

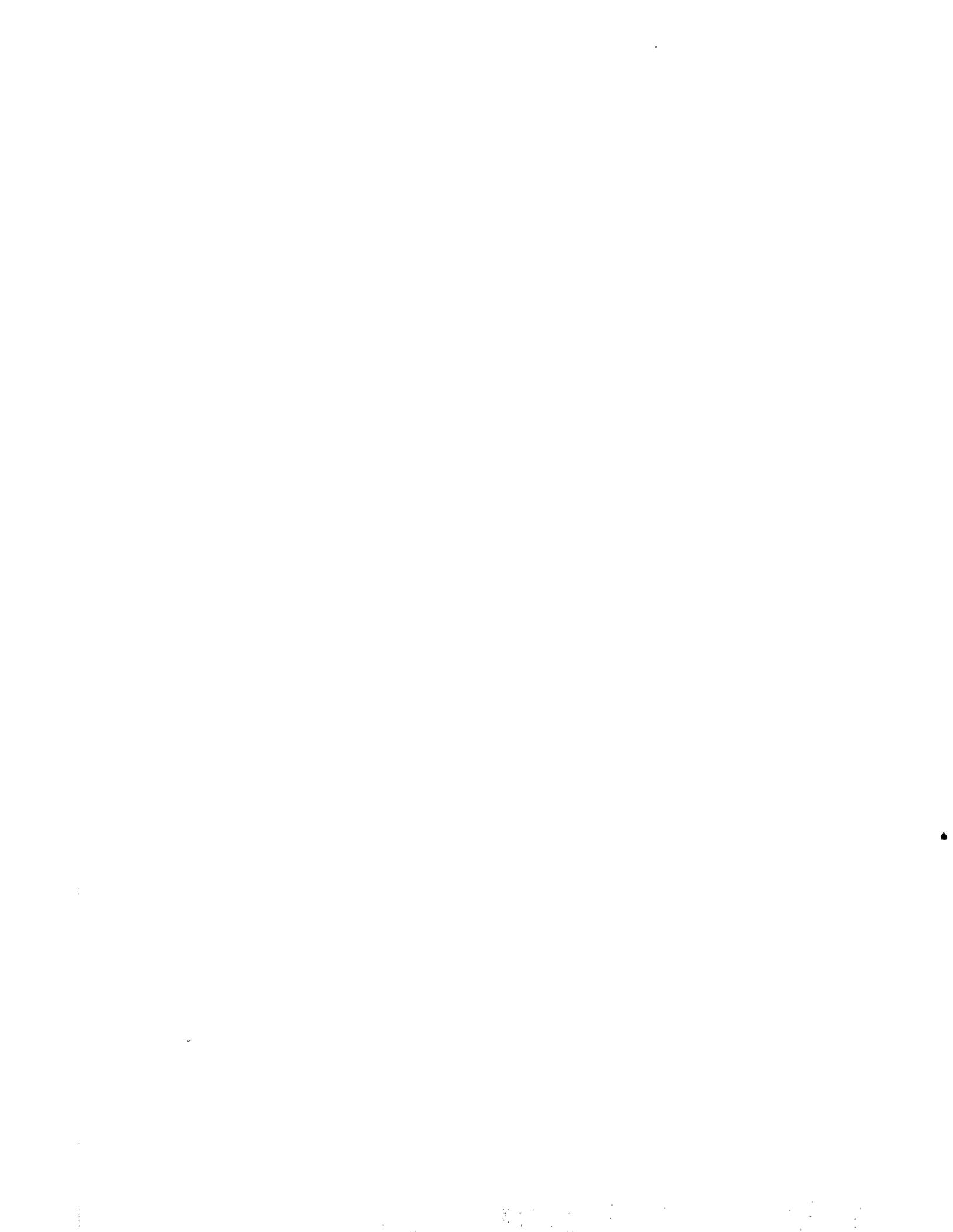
Special Publications

Special Publications

Transportation Reports and Testimony: January 1989 - April 1991

GAO/RCED-91-182, 6/91

This index provides summaries of 221 U.S. General Accounting Office (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. Information on GAO products on transportation matters issued from 1985 through 1988 is available in Transportation: Bibliography of GAO Documents, January 1985 - December 1988 (GAO/RCED-89-130, May 1989).



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