U.S. DEPARTMENT OF TRANSPORTATION

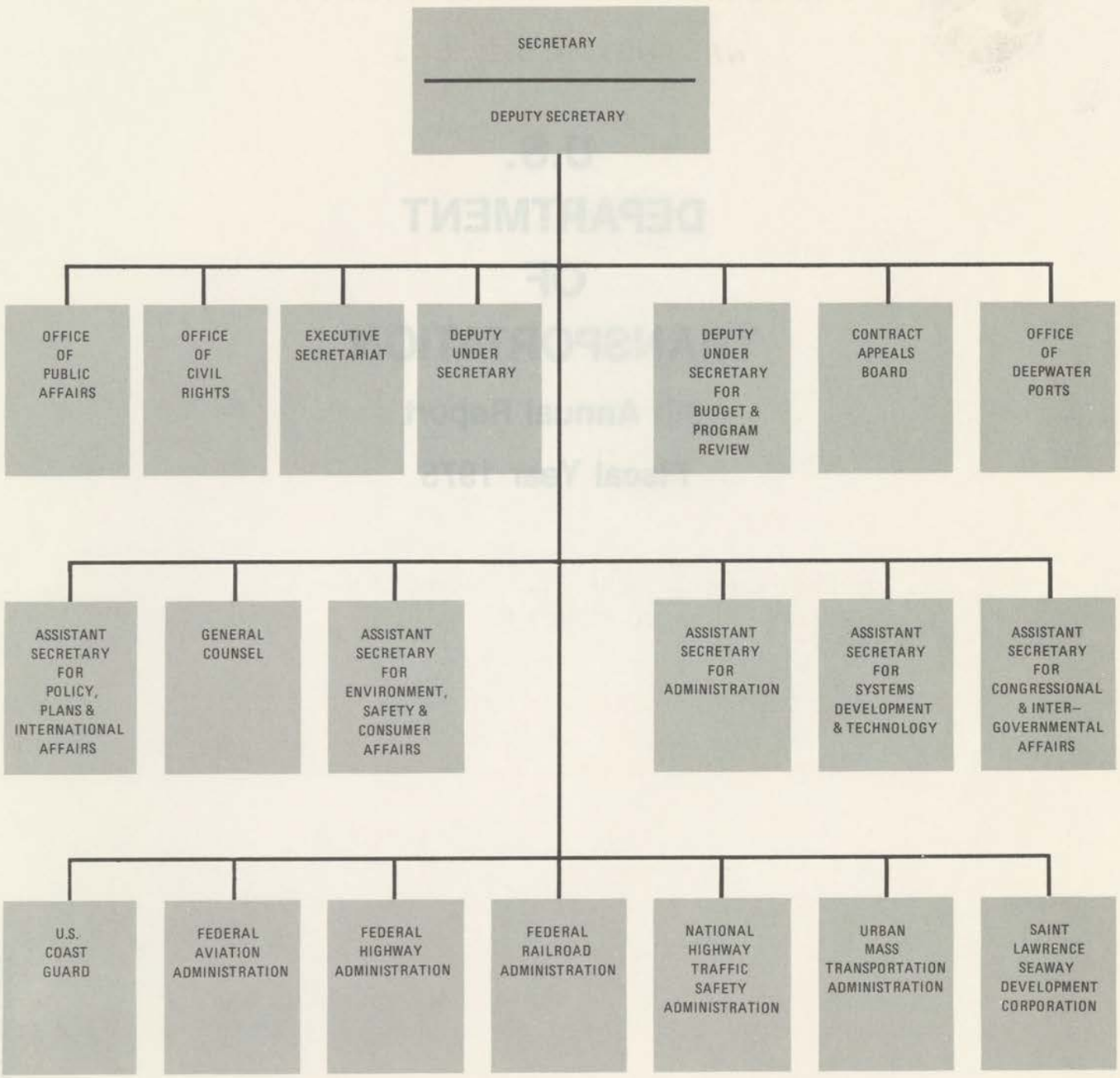
9th Annual Report
Fiscal Year 1975

U.S. DEPARTMENT OF TRANSPORTATION

9th Annual Report

Fiscal Year 1975

DEPARTMENT OF TRANSPORTATION



THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

I transmit herewith the Annual Report of the Department of Transportation for Fiscal Year 1975.

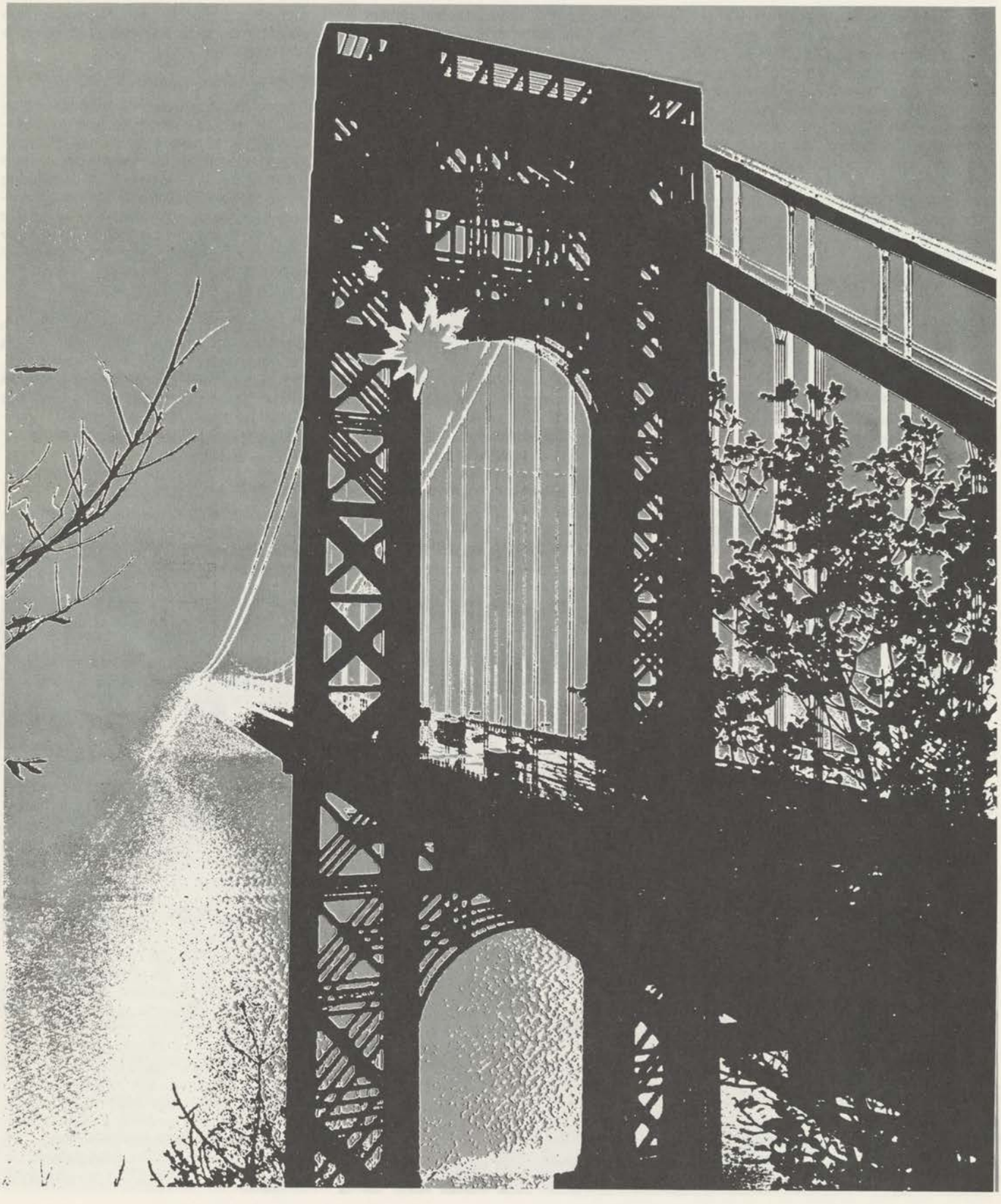
I recommend that you forward it to the Congress in compliance with section 11 of the Department of Transportation Act.

Respectfully,

William T. Coleman, Jr.

CONTENTS

PART I SUMMARY



The primary responsibilities of the U.S. Department of Transportation are to assure the coordinated and effective administration of federal transportation programs and to develop national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest possible cost. The following paragraphs summarize a few of the Department's fiscal year 1975 activities in carrying out those responsibilities. More detailed accounts of these and other departmental activities are given in Part II of this report.

Transportation Policy

Late in fiscal year 1975, the Secretary was engaged in the development of a statement of national transportation policy, to be issued early in fiscal year 1976.

Economic Regulation

During the year, the Department continued a major reappraisal of the effects of federal economic regulation of the transportation industry. As a result of this research, the Secretary concluded that many existing economic regulations result in inefficient use of equipment, limited service to users, and unnecessarily high costs. At the end of the year, proposals for regulatory reform were being prepared for submission to Congress. One proposal, the railroad revitalization act, was submitted before the end of the year.

International Air Carriers

The Department gave particular attention during the year to the economic plight of the U.S. international air carriers. The Department participated in many regulatory proceedings aimed at revising fare and route structures as well as at ending discriminatory practices by foreign governments and foreign airlines.

Research and Development

Research activities pursued during the year included projects concerned with auto energy efficiency, noise abatement, tunneling, and aircraft wake turbulence. The Department also pursued advanced research aimed at creating better techniques for the analysis of transportation networks and at developing better control techniques for large-scale transportation systems. Substantial progress was made in a number of related projects, including determining the feasibility of regional transit concepts, publishing state-of-the-art technology reports, and surveying the need for technical information at the state and local level.

Energy Conservation

Several significant actions were taken during the year to reduce transportation energy consumption. They included: establishing a program to monitor compliance with the 55 mph speed limit; developing plans for two nationwide carpool promotion programs; and reaching voluntary agreement with the automobile industry to achieve a 40 percent increase in auto fuel economy by 1980.

Civil Rights

Total minority civilian employment in the Department increased from 10.8 percent in June 1974 to 12 percent in June 1975. During the same period, the employment of women in general schedule positions rose from 17.5 to 17.7 percent. The aver-

...the need for more efficient management of the existing street and highway system...

...to help Amtrak do a more efficient job...

age grade of minority and female employees in classified positions increased; and the participation of minorities and women in predevelopment, beginning professional, and upward mobility programs also increased.

During the year, the Department reviewed approximately 22 percent of the employer facilities for which it has civil rights contract compliance responsibility. A total of 345 "show cause" notices for employer noncompliance were issued.

Maritime

For the first time, the U.S. Coast Guard succeeded in keeping the Great Lakes open for navigation throughout the entire winter. Coincidentally, the Coast Guard also reported an unusually low number of icebergs in the North Atlantic shipping lanes during the 1975 season, about one-third the usual number.

Eleven foreign vessels were seized during the year for violation of the U.S. fisheries zone; and four others were seized for taking shellfish or other animals from the U.S. continental shelf. In addition, four vessels were seized for violating an international agreement prohibiting salmon fishing off Alaska.

Vessel traffic systems were installed for the Houston-Galveston area and for Berwick Bay. Regulations were issued for the Puget Sound vessel traffic system, and an agreement was reached with Canada for maintaining traffic separation in the Strait of Juan de Fuca.

The Deepwater Port Act of 1974 gave the Department broad responsibility for the development and regulation of deepwater ports. Near the end of the fiscal year, as a first step in carrying out this responsibility, the Department published proposed deepwater port regulations.

Continued emphasis was given to shipboard environmental protection. The Coast Guard issued a final rule on shipboard sanitation devices and also issued guidelines for enforcement of pollution prevention regulations. The Coast Guard's Pollution Response Center became operational and provided assistance in three major oil tanker incidents which occurred during the year. Progress was also made during the year on the development of an airborne oil spill detection system.

". . . the Department continued a major reappraisal of . . . federal economic regulation of the transportation industry. As a result . . . the Secretary concluded that many existing economic regulations result in inefficient use of equipment, limited service to users, and unnecessarily high costs."

By the end of the year, construction of one of the Coast Guard's new 400-foot icebreakers was nearly completed and a second was scheduled for completion before the end of fiscal year 1976. Construction was also underway on two new 160-foot buoy tenders.

As part of its boating safety program, the Coast Guard initiated 153 recall campaigns for boats which did not comply with federal safety standards. The Coast Guard Auxiliary, a volunteer organization which plays a vital part in the boating safety program, completed nearly 13,000 rescue missions, assisted over 31,000 people, and was credited with saving 451 lives.

The Coast Guard Reserve also continued to play a major role in Coast Guard maritime activities. During the year, reservists contributed almost three million person hours in support of such Coast Guard missions as port safety and security, environmental protection, and law enforcement.

Railroads

As the year progressed, the operating cash position of the bankrupt northeast railroads worsened.

In 1974, amendments to the Regional Rail Reorganization Act had broadened the local rail service program. In 1975, additional amendments, which were a response to the worsening situation, expanded the grant and loan provisions. Grant funds were increased from the original $85 million to $283 million, and the funds available for loans were doubled, to $300 million. Agreements involving $169.2 million in grant assistance and $156.8 million in loans were processed during the

...highway beautification continues to receive attention...

year by the Federal Railroad Administration. The act was also amended to permit the Erie Lackawanna Railway Company to be included in the reorganization, and that railroad also began receiving grant assistance.

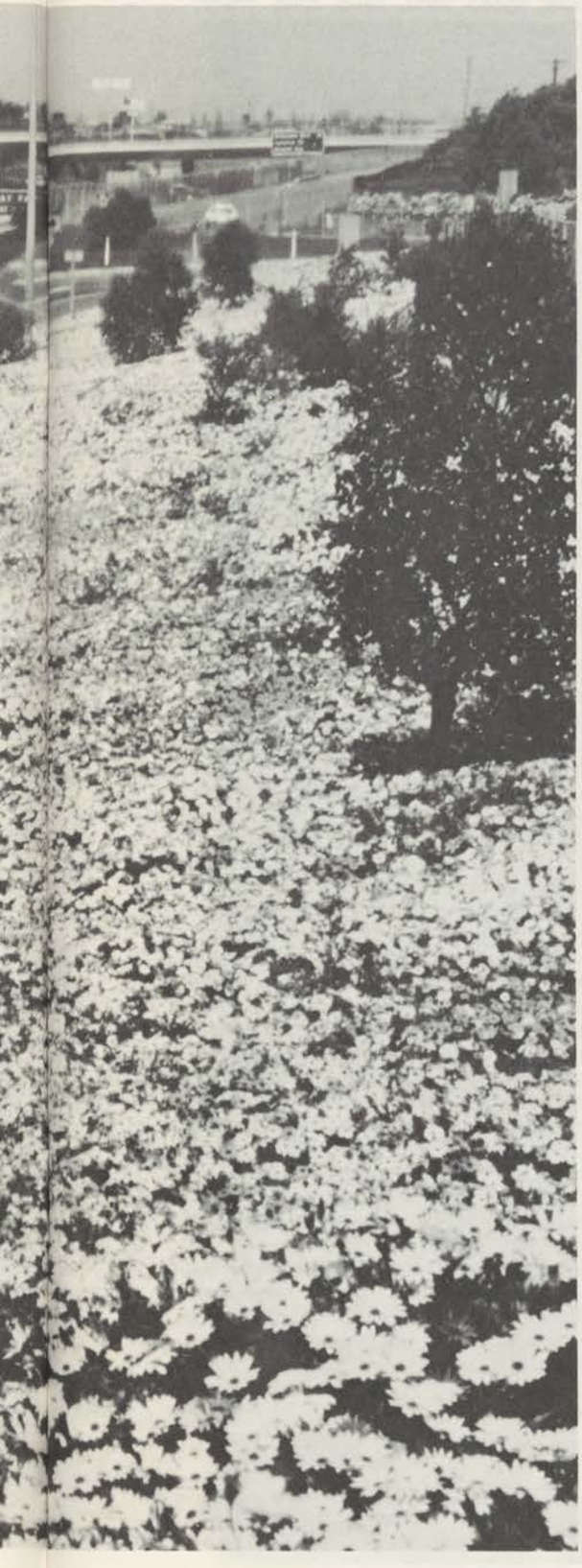
Congress included in the rail reorganization act a request for an evaluation by the Department of Transportation of the effectiveness of the United States Railway Association (USRA) and the Consolidated Rail Corporation (ConRail) in implementing the provisions of the act. At the end of the fiscal year, the Department was in basic agreement with the USRA reorganization plan, but had certain reservations with regard to its financial projections. A more detailed evaluation is included in the appendix to this report.

The act also directed the Secretary to begin engineering studies for improved high speed rail passenger service in the rail corridor between Washington and Boston. The first improvements recommended by the Secretary were repairs to relieve the worst track conditions and improve current service. The work is expected to be completed by the spring of 1977.

Improvement of the rail safety program was given high priority throughout the year. As part of a new safety improvement plan, a study of the 10 railroads with the worst accident records was initiated. In addition, a rule was proposed which would increase the enforcement powers of safety inspectors.

Some 15 proposed or final rules relating to railroad safety were published. These included protection of maintenance employees, adherence to signal indications, and installation of head shields on certain types of tank cars.

Federal Railroad Administration research and development activities have changed focus and are now directed toward solving the more important problems facing the rail industry. The major objective of the research on passenger systems is to help Amtrak do a more efficient job. Research on freight service includes programs related to classification yards, freight car components, track/train dynamics, and intermodal trailer on flat car (piggyback) service. Rail safety research is concentrating on three areas: improved track structures; rail vehicle safety; and the inspection, defect detection, and testing of track and rail vehicle components and systems.



Research efforts were also directed at assisting the industry to increase its efficiency and reliability. A national task force on freight car utilization was formed and issued recommendations for a research program and for research priorities. Work was begun on the implementation of those recommendations.

A successful demonstration program was initiated, involving rail labor and management, in an effort to modernize railroad operating practices, including labor work rules. The initial project resulted in permanent work rule changes which increased productivity.

Aviation

Progress continued during the year on modernizaton of the enroute air traffic control system. All but 2 of the 20 enroute facilities had been modernized by the end of the year. Automated radar systems had been installed at 61 of the nation's busiest terminals, and 29 of these, the highest density terminals, were scheduled for additional automation.

An experimental airport performance measuring system, designed to determine how well the air traffic control system is performing in terms of optimum runway utilization, has now been expanded to cover 16 airports.

"Total minority civilian employment in the Department increased from 10.8 percent in June 1974 to 12 percent in June 1975."

Ten flight inspection offices had been closed by the end of the year, leaving 7 field offices and a headquarters office, all of which will continue to operate. Eight new jet flight inspection aircraft had been delivered by the end of the year, with 13 more to come. These 21 new aircraft will replace 47 DC-3's. The conversion will reduce the number of hours needed to perform flight inspections and will result in a substantial reduction in flight inspection costs.

Research and development activities continued in an effort to improve further the air traffic control system. Among the activities underway were the development of an aircraft separation assurance system and an improved radar surveillance system.

A notable change in airman certification requirements became effective during the year. All pilots will now be subject to a biennial review of their skills. Simultaneously, another certification change required the upgrading of all pilot schools and established a standard curriculm for pilot training.

Because of the success of its biennial review of airworthiness regulations, the Federal Aviation Administration is establishing a similar biennial program for reviewing its operating regulations. Over 900 proposed revisions to the operating regulations are now being considered.

On April 30, 1975, the Federal Aviation Administration received the Secretary's task force report on aviation safety. The report contained 19 specific recommendations for improved management of aviation safety. Planning began immediately within the Federal Aviation Administration to implement the recommendations.

The aviation security program continued to be a success. Not a single U.S. air carrier aircraft was hijacked, and several potential hijackers were arrested. During the year, 5,041 air carrier passengers were referred to law enforcement officers for security reasons, and 2,714 were arrested.

Urban Mass Transportation

Fiscal year 1975 was historic in terms of the federal role in urban mass transportation. Landmark legislation, the National Mass Transportation Assistance Act of 1974, was signed into law by President Ford on November 26, 1974. The act gave the Urban Mass Transportation Administration (UMTA) six years of capital grant authority, established a formula for distribution of a significant portion of the grant funds, and established a program to provide federal financial assistance for mass transit operating expenses—all steps of major importance.

During the year, an UMTA policy on major mass transportation investments took shape, and Atlanta was notified of UMTA's intention to provide funding throughout the city's six-year transit program. Other major policy decisions were made as UMTA announced that it would test a new bus, the Transbus, in revenue service and that it would publish proposed regulations for elderly and handicapped transportation services.

The federal role in the development of mass transportation was further emphasized when UMTA cosponsored an international conference on light rail transit (new generation trolleys) designed to give participants a better knowledge of the potential for such vehicles. UMTA also sponsored a conference on transit marketing, designed to help the transit industry gain a better knowledge of transit marketing techniques.

With new legislation came new responsibilities, notably the responsibility for development and administration of procedures for implementing the new operating assistance program. A special task force succeeded in processing all the applications which were received, and grants totaling $162.3 million were made. The grantees chose to use $153.2 million of this total for operating expenses and the remainder for equipment.

Internally, UMTA continued to make progress in the decentralization of its technical studies and capital assistance programs. All 10 regional offices have now been staffed to administer technical studies programs. In addition, engineers have been placed in those regions with the heaviest construction workload. As an extension of the decentralization process, legal, civil rights, and administrative personnel have been assigned to Region III, with headquarters in Philadelphia, to test the effectiveness of regional involvement in capital assistance projects.

Highways

During fiscal year 1975, $7.5 billion were spent by the federal government for the construction or improvement of highways. Slightly more than one-half of this total was spent on the interstate highway system. As of the end of the fiscal year, almost 87 percent of the interstate highway system was in use and 99.2 percent of the system was either complete or underway.

The Federal Highway Administration gave increased attention during the year to the need for more efficient management of the existing street and highway system. More than $186 million were obligated for traffic engineering projects. Attention was also given to increasing the use of buses and carpools in congested areas. These programs, as well as the 55 mph speed limit, have been found effective in reducing motor vehicle fuel consumption.

A substantial portion of the total highway funds (more than $1 billion in 1975) is spent on safety programs. The programs include: the replacement of obsolete bridges; the elimination of roadside hazards; the elimination of hazards at rail-highway crossings; and the improvement of high-hazard highways.

A research project was initiated during the year in an effort to determine the effects on highway safety and highway maintenance costs of increasing truck sizes and permissible loaded weights. In addition, a study of state truck licensing and taxing laws was completed. Based on its results, a uniform registration plan which would reduce paperwork costs was being evaluated for adoption by the states.

A new program which began during the year provides funds for roads which have not previously been part of the federal-aid system. Congress authorized $200 million per year for this program.

As a result of the 1973 highway act, the Federal Highway Administration shares administrative responsibility for urban transportation planning with the Urban Mass Transportation Administration. During the year, regulations were issued which established a joint policy on urban transportation planning and improvement activities.

Continued emphasis was given to protection of the highway environment. Notable achievements in this area included the issuance of revised guidelines for the preparation of environmental impact statements and the training of over 2,000 people in environmental protection techniques. In addition, the Federal Highway Administration has now reviewed and approved an environmental action plan for each state highway agency.

Highway beautification also continues to receive attention. During the year, more than 88,000 advertising signs were removed and more than $12 million was obligated for junkyard control and scenic enhancement.

Highway Safety

The fuel shortage continued to affect highway safety as traffic deaths dropped to the lowest level since 1963. The drop was attributed to several factors, including lower speed limits, fewer miles driven, changes in driving habits and attitudes, and more efficient use of automobiles. No precise percentage of the total reduction can be attributed to any one factor, but reduced speed is given primary credit. Although the rate of decline was less substantial in fiscal year 1975 than in the previous year, total highway deaths continued to drop.

During fiscal year 1975, Congress increased the responsibilities of the National Highway Traffic Safety Administration. Legislative amendments established more stringent requirements for the correction of defective vehicles and more protection from unauthorized tampering with auto safety equipment. They also provided for improved safety standards for school buses.

Several amendments to the federal-aid highway act were also of particular interest to the National Highway Traffic Safety Administration. They included the establishment of a permanent 55 mph speed limit and the provision of funds for school bus driver training programs.

A regulatory milestone was reached during the year when final regulations were issued for the grading of passenger car tires in terms of treadwear, traction, and heat resistance. The regulations were to become effective on January 1, 1976, for radial-ply tires only. Regulations for bias-belted and bias-ply tires will be phased in later in 1976 and in 1977.

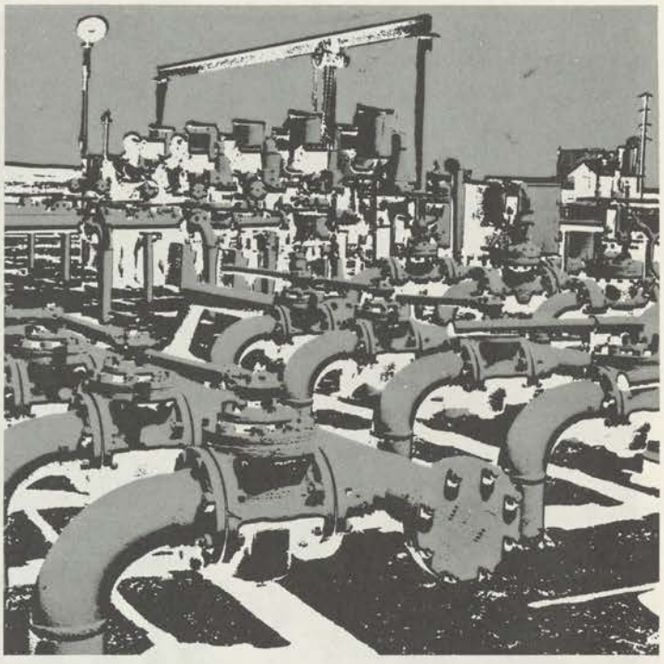
A new standard was established which limits the allowable intrusion of vehicle parts (such as the hood) into the windshield during a frontal barrier crash test.

The results of the first phase of the work done by five research safety vehicle contractors were presented at a conference late in the year. Briefly, the findings were that a safety vehicle weighing 2,000 to 3,000 pounds is practical, it could attain 30 miles per gallon and meet expected emission level restrictions, and it could protect its occupants in crashes up to 50 mph. The second phase of the project will cover the detailed design and development work. Actual prototype vehicles will be built during the third phase.

During the year, 2.5 million motor vehicles were recalled (in 1,847 recall campaigns) because of safety-related defects. This brings the total number of vehicles recalled since 1966 to 48.3 million.

...the Coast Guard reported an unusually low number of icebergs during the 1975 season...

PART II PROGRESS REPORTS



OFFICE OF THE SECRETARY

The primary responsibilities of the Office of the Secretary are to provide staff and advisory support for the Secretary and to support and coordinate the activities of the various administrations within the Department. In some cases, however, the Office of the Secretary has been given primary or sole responsibility for carrying out departmental programs. In the report which follows, emphasis is given to those programs, rather than to the more routine coordination and support functions.

National Transportation Policy

Work continued during the year on the development of a substantive policy statement setting forth broad considerations that should underlie the federal government's response to the nation's transportation needs. The statement, to be issued early in fiscal year 1976, was expected to address federal responsibilities, multimodal issues, national concerns, international transportation considerations, and the range of policy instruments and alternatives available to the federal government.

International Cooperation

There were a number of significant developments during the year in the Department's continuing international cooperation activities, now involving about 25 foreign countries and multilateral organizations. Major developments included:

- Departmental coordination of U.S. participation in an international conference on Better Towns with Less Traffic, which exposed U.S. transportation officials to foreign experience with new urban traffic management techniques;
- Expansion of our cooperative relationship with the United Kingdom's Department of Environment;
- Development of a task-sharing program involving the loaning to the National Highway Traffic Safety Administration of British and Japanese anthropomorphic crash dummies for U.S. testing and evaluation;
- Expansion of the cooperative relationship with the Soviet Union to include urban transportation and transportation of the future; and
- Initiation of a reimbursable program to assist Iran in highway planning and development.

Economic Regulation

During the year, extensive research was done by the Department as part of a major reappraisal of federal economic regulation of the transportation industries. The Department is deeply concerned about regulatory constraints that originated decades ago and which no longer serve the needs of our economy. Such regulatory constraints have resulted in inefficient use of capacity, limited service to shippers and passengers, and unnecessarily high costs to consumers. Specific research was initiated or continued on air, rail, and motor carriers to document the extent of these problems and to develop legislative proposals for submission to Congress. One such proposal, the Railroad Revitalization Act, was submitted in May 1975.

The Department also participated extensively in proceedings before the three federal transportation regulatory agencies—the Interstate Commerce Commission, the Civil Aeronautics Board, and the Federal Maritime Commission. Participation focused on those cases having major policy significance to the transportation industry, shippers, and consumers. In particular, the Department participated in numerous cases where it believed major questions were at issue involving: (1) reformation of regulatory pricing and operating restrictions; (2) maintenance of competition; and (3) improvement of service.

The Department participated in many proceedings before the Civil Aeronautics Board directed toward improvement of the financial position of U.S. international air carriers. The subjects of the proceedings included: (1) revised fares and rates for international air carriers; (2) capacity control in the international market; (3) tariff enforcement; (4) route restructuring; and (5) service suspensions. The Department has also actively promoted a "Fly U.S." policy and has identified, prepared posi-

tions for, and participated in negotiations regarding discriminatory practices by foreign governments or airlines.

Advanced Research Projects

A program was started in fiscal year 1974 to identify and initiate advanced transportation research projects in critical multimodal core technologies and to encourage high caliber researchers to work on important transportation problems. By the end of that year, three research contracts had been awarded.

The initial problems selected for research were: (1) the development of analysis and control techniques for large-scale transportation systems; (2) the development of decomposition and aggregation techniques for transportation networks; and (3) the development of accurate and statistically reliable ride quality criteria for transportation vehicles. All of these problems are multimodal in nature.

During fiscal year 1975, the results of the research were received and the information obtained was disseminated to appropriate users.

Systems Research

During the year, the Department pursued its investigation of the feasibility of a regional transit concept. A regional system would consist of demand-responsive systems for suburban areas, a line-haul express system to connect suburban areas to the high-density areas, and circulation systems within the high-density areas. The Urban Mass Transportation Administration is now utilizing this concept in its planning for an area-wide demand-responsive transit program.

The Department continued to develop and publish state-of-the-art documents in crucial technical areas. A summary report on demand-responsive transportation, along with an introductory video tape, was released and widely disseminated. Similar activities were undertaken for bus priority systems, rural transportation systems, and light rail systems.

The Department also conducted a comprehensive survey of technical information needs at the state and local level. This information is being used to plan the Department's technology sharing program as well as to support joint Urban Mass Transportation Administration and Federal Highway Administration activities in urban transportation planning.

University Research

During the year, the Office of the Secretary contracted for $6 million in research at more than 90 universities. In general, the university research program focuses on problems of long range importance. During fiscal year 1975, several new projects were initiated. They included: (1) developing methods to ensure systems safety; (2) developing strategies for overcoming barriers to innovation in urban transportation; (3) determining the possible impact of alternative national transportation policies on intercity passenger and freight transportation; and (4) investigating alternative roles for the automobile in transportation systems.

Wake Turbulence

The Department has developed a system to provide a warning of the presence of wake vortices—the swirling air that spins off aircraft during flight. The system can be used to determine the minimum intervals needed between takeoffs or landings, thus contributing to the safe and efficient use of airport runways.

Tunneling

Progress was made during the year in the Department's tunneling program. The first Department-industry review of the tunneling program was held, and efforts to involve other federal agencies in the tunneling effort were also successful. As a result, further development of the water-jet assisted tunnel boring machine will now be funded by the National Science Foundation and the U.S. Bureau of Mines. A survey of geologic conditions pertaining to tunneling was completed for 34 major U.S. urban areas and a detailed geological study of two major urban areas is now underway.

". . . extensive research was done by the Department as part of a major reappraisal of federal economic regulation of the transportation industries. The Department is deeply concerned about regulatory restraints that originated decades ago and which no longer serve the needs of our economy."

A study of precast concrete tunnel liners was completed, and an agreement to install a demonstration test section was reached with the Metropolitan Transit Authority in Baltimore, Maryland. Use of these liners could save more than $5 million in the total cost of the Baltimore transit system.

Safety Information

The Office of the Secretary coordinates departmental responses to National Transportation Safety Board reports and recommendations. This procedure enables the Secretary to monitor departmental actions resulting from recommendations by the board. A computerized data tracking program is now providing a complete periodic accounting of the status of each recommendation issued.

Some time ago, a study of departmental safety data systems was undertaken in an effort to improve coordination between the Department and the National Transportation Safety Board.

The first phase of the study was completed in January 1973 and identified all the safety data elements and programs within the Department. The second phase, which is now underway, is to produce a plan which would provide common performance data and program information for all departmental safety programs.

Pipeline Safety

During the year, the Department expanded its pipeline safety capabilities, primarily through establishment of a division to carry out detailed compliance and enforcement duties. Regional offices were established in Philadelphia, Atlanta, Kansas City, and San Francisco, and the existing office in Houston was expanded. The increased staffing and closer proximity to the pipeline operations are expected to produce more effective pipeline safety compliance and enforcement activities, both by the Department and by those state agencies which cooperate in the national gas pipeline safety program. During 1974, the Department conducted 157 safety evaluations of gas and liquid pipeline systems. During the same period, state agencies cooperating in the Department's pipeline safety program conducted 12,504 safety evaluations of gas pipeline operators.

The largest single cause of pipeline accidents and failures is damage from outside force. In November 1974, the Secretary forwarded to all the governors and to the mayor of the District of Columbia a model statute for the protection of underground pipelines and utilities from excavation damage and other outside force hazards.

The Office of the Secretary devoted a major part of its fiscal year 1975 pipeline safety efforts to the trans-Alaska pipeline. In addition to evaluating the engineering, design, and planned operation of the pipeline, considerable attention was given to the environmental impact of pipeline construction and operation.

Hazardous Materials

During fiscal year 1975, the Department and the Nuclear Regulatory Commission

...the factual basis for interstate motor carrier noise emission standards...

(formerly AEC), provided funds to nine states and New York city, enabling their radiological health personnel to perform surveillance over radioactive material shipments at surface and air terminals. Valuable information was collected on compliance by shippers and carriers with departmental regulations as well as on radiation exposures to workers handling radioactive packages.

Significant progress was also made during the year in the continuing effort to consolidate and update packaging specifications for hazardous materials. Pressure-cylinder specifications neared the rule-making stage in a program to consolidate the specifications for seamless high-pressure cylinders, welded cylinders, and acetylene cylinders. In addition, a draft high-pressure cylinder specification was submitted by the U.S. to the United Nations for consideration as an international specification. Development work was also completed on proposed criteria for a performance-oriented packaging specification for drums and pails.

Amendments to the Department's hazardous materials regulations that were issued during the year included:

- An amendment which requires that shippers by rail comply with the requirements of all emergency orders of the Federal Railroad Administration.
- An amendment which prescribes standards to eliminate potential fire hazards resulting from overheated friction journal bearings, overheated and sparking brake shoes, and the presence of combustible material on the undersides of cars used to transport class A explosives; and
- An amendment which requires that uninsulated tank cars used for the transportation of flammable compressed gases have head shields affixed to each end.

Transportation Security

June 30, 1975, marked the end of the thirty-second consecutive month in which no large U.S. air carrier aircraft was hijacked.

Aviation security was further improved during the year by enactment of the Anti-Hijacking Act of 1974. This act provides, among other things, that the Secretary of Transportation (with the approval of the Secretary of State) may impose operational sanctions against the air carriers of nations which fail to meet the minimum security standards of the International Civil Aviation Organization. Further, the act specifically directs the Federal Aviation Administration to require passenger and baggage screening procedures whenever needed.

The Department's cargo security activities were formalized during the year by Executive Order II836, which directed the Secretary to continue overall leadership of the national cargo security program. The order also assigned specific functional responsibilities to the Departments of Treasury, Justice, and Transportation. The Department of Transportation's primary responsibilities are to provide technical assistance, to acquire and distribute cargo loss data, and to publish theft prevention information for use by the shipping and carrier industries. During the year, the Department instituted cargo security campaigns in 15 major metropolitan areas throughout the U.S.

Facilitation

During fiscal year 1975, the Department made notable progress in development of the cargo data interchange system, which applies the techniques of automation to the movement of goods from origin to destination. This system is expected to reduce the costly transportation paperwork that now burdens trade.

Another accomplishment was the completion of a study of the rules governing carrier liability for loss or damage to cargo. This study has provided a much-needed analytical basis for considering current proposals for the revision of the international rules defining carrier liability.

A comprehensive report was issued describing a workable system of symbol signs that is readily adaptable to the needs of all modes of transportation. The symbols themselves have received wide public acceptance.

In the international field, the Department has maintained leadership in expanding and upgrading the international facilitation standards sponsored by the International Civil Aviation Organization and the Intergovernmental Maritime Consultative Organization.

The Department has also achieved positive results in its program to support government-wide export expansion efforts by ascertaining the impact of transportation related trade barriers on individual exporters. A substantial number of problems have been identified and efforts to find solutions are being explored with satisfactory results already recorded in a number of cases.

Urban Corridor Program

In 1970, the Department initiated an urban corridor demonstration program to devise and demonstrate relatively low-cost ways (compared to new construction) of reducing peak-hour traffic congestion in urban commuter corridors.

The Department is currently evaluating the impact and effectiveness of projects in seven cities which are participating in the program. The projects include exclusive bus lanes, park-and-ride facilities, passenger shelters, carpooling programs, staggered work hours, dial-a-ride service, and traffic engineering improvements. The initial evaluation indicates that these methods do improve traffic flow significantly in commuter corridors; and, in some cases, they result in increased use of mass transit. The Department will complete its final evaluation of the program in 1976 and will distribute its findings to urban areas.

Northeast Railroads

The Department has been involved in reviewing the United States Railway Association's preliminary system plan and in developing options for solving the critical problems associated with reorganization of the bankrupt northeast railroads. It worked closely with the United States Railway Association on findings and recommendations included in the final system plan. Specifically, the Department was involved in the analysis of the financial implications of the various system plans, of private and public capital requirements, and of alternative means for financing the necessary rehabilitation.

The Department devoted considerable effort during the year to analyzing options for upgrading intercity rail passenger service in the northeast corridor. The results of the analysis were expected to provide

the basis for a proposal for improving rail passenger service in the northeast corridor.

Waterway User Charges

It is general departmental policy that, in the absence of overriding national interest considerations, the transportation users should pay for the public costs of transportation. Such a principle arises from considerations of equity and of the optimum use of economic resources. The collection of user charges from the beneficiaries of federal structures and services supporting water transportation would be a specific application of this policy. In this regard, the Department has taken the initiative in: (1) developing, through cooperative contact with the U.S. Army Corps of Engineers and the Water Resources Council, relevant expenditure data covering the activities of the various agencies involved; and (2) proposing methods by which cost recovery might commence on a reasonable share of those expenditures. This effort has been undertaken within the context of the executive branch's statutory study of cost sharing for water resources.

Deepwater Ports

The Deepwater Port Act of 1974 gives the Secretary responsibility for authorizing and regulating the location, ownership, construction and operation of deepwater ports in waters beyond the territorial limits of the United States.

Proposed deepwater port regulations were published on May 7, 1975. Public comments were allowed until June 23, 1975. Approximately 100 responses were received, containing about 1,200 separate comments. At the end of the year, the comments were being evaluated.

Auto Energy Efficiency

During fiscal year 1974, the Department began a multi-year automotive energy efficiency program to examine and evaluate the technological options that might be used to reduce the fuel consumption of automobiles and trucks. The program included an assessment of the capability of the automotive industry to implement alternative technologies. It also included an evaluation of the consequences (in terms of overall energy consumption, environmental impact, highway safety, and national economics) of introducing such improved cars and trucks into the population of highway vehicles.

During fiscal year 1975, the Department entered into an agreement with the automotive industry to undertake a voluntary program to improve automobile fuel economy by 40 percent by 1980, while maintaining the 1975 automobile emission control standards.

Late in fiscal year 1975, the Energy Resources Council asked the Secretary to establish an interagency task force on motor vehicle goals for the 1980's. The task force is to recommend fuel economy goals which are, to the fullest extent possible, compatible with environmental and safety standards.

Carpooling

The Emergency Highway Energy Conservation Act of 1974 authorized the Secretary to encourage the use of carpools in urban areas. A report on the effectiveness of measures which have been employed in carpool demonstration projects was submitted to Congress on March 3, 1975. The report concluded that carpooling programs can be successful if they are promoted effectively by employers and by the government.

Plans were made for two carpool promotion campaigns. One, a "Double Up America" media campaign, was being set up with the cooperation of the Advertising Council. The other, a "How to Pool It" campaign, will be aimed at establishing carpool programs at firms employing over 500 people.

". . . the Department pursued . . . a regional transit concept. A regional system would consist of demand-responsive systems for suburban areas, a line-haul express system to connect suburban areas to the high-density areas, and circulation systems within the high-density areas."

Bicycles

In March 1975, the Department submitted a report to Congress describing many problems associated with bicycle use. They included: (1) confusing laws; (2) absence of enforcement policies and procedures; (3) inadequate bicycle accident data; and (4) inadequate funding of safety programs and facilities. In addition, several reports were issued during the year concerning technical aspects of bikeway planning and development.

Consumer Hearings

The Department published the results of a series of consumer hearings which gave people an opportunity to express their views on all aspects of transportation. The information which was obtained is being used both to determine how well the Department is meeting consumer needs and to plan solutions for continuing problems.

The hearings revealed strong consumer concern for better transportation facilities and services for the elderly and the handicapped, greater emphasis on mass transit as part of the development of a balanced transportation system, and improved and uniform traffic safety laws as well as stricter enforcement of laws against the drunken driver. Consumers also expressed concern about land use in relation to transportation planning and environmental considerations and were most vocal about the need for citizen participation at an early stage in transportation planning.

Noise Abatement

Anticipating the environmental questions which would arise when British Airways and Air France sought formal approval to operate Concorde supersonic aircraft into U.S. airports, the Department made a series of measurements to compare the noise and structural vibrations induced in nearby buildings by the Concorde and by comparable long-range subsonic aircraft. These measurements provided data for use in assessing the environmental impact of Concorde operations.

As a result of the Department's quiet truck demonstration program, nine quiet trucks were introduced into revenue service on the nation's highways. Under this program, three major truck manufacturers demonstrated practical design changes for new heavy-duty diesel trucks, thereby reducing their noise levels to those of current standard passenger cars. The information and experience obtained in this program provided the factual basis for the interstate motor carrier noise emission standards which were published by the Environmental Protection Agency (EPA) and for the associated enforcement regulations which were proposed by the Department. In addition, this program provided the primary factual basis for EPA's proposed noise emission standards for new heavy-duty trucks, as authorized by the Noise Control Act of 1972.

Fiscal year 1975 also saw the initiation of a program to study railroad noise and its abatement. Measurements were made of locomotives and of hump yard retarders to document normal noise levels and to evaluate the effectiveness of a variety of barriers in reducing these noises.

No-Fault Auto Insurance

There was a good deal of discussion of possible minimum federal standards for no-fault auto insurance during the year.

...the Department submitted a report to Congress describing many problems associated with bicycle use...

The Department participated in a review of suggested minimum standards and compiled information on their potential impact. The Department also continued to monitor and encourage the progress of state no-fault programs and legislation.

Daylight Saving Time

The Department completed a study on the effects of the two year experiment with extended daylight saving time. The impacts on energy consumption, traffic safety, crime, commerce, agriculture, transportation operations, and radio broadcasting were assessed.

The study found that modest benefits, including reductions in electrical consumption, traffic fatalities, and violent crime, might be achieved by shifting from a six-month to an eight-month system. As a result, the Secretary recommended to Congress that the eight-month system be continued for two more years to permit further analysis of the benefits.

Environmental Impact Statements

The Department revised its procedures for consideration of the environmental effects of federal-aid transportation programs. Authority to approve most environmental impact statements was delegated to the Federal Highway Administration, the Federal Aviation Administration, and the Coast Guard. However, statements for major projects must still receive approval from the Office of the Secretary.

Historic Preservation

The Secretary, as a member of the Advisory Council on Historic Preservation, participates in the review of federally-funded activities which may have an impact on places or objects which are listed in the National Register of Historic Places. During the year, departmental liaison with the council increased substantially. The Department also responded to Executive Order 11593 which requires federal agencies to inventory historic properties under their jurisdicton and to nominate them to the National Register of Historic Places. Most of the historic properties within the Department are lighthouses belonging to the Coast Guard, which nominated 23 of them during the year.

American Revolution Bicentennial

The Department, as part of its bicentennial activities, completed a feasibility study to determine cultural resources relating to transportation skills, folklore, and traditions and how they might be presented within the framework of the "Working Americans" sector of the American Folklife Festival. Based on this study, the Department plans to participate in the 1976 Smithsonian Festival of American Folklife.

The Department is also preparing a historic transportation facilities catalog for distribution during the bicentennial year. The catalog will identify significant transportation facilities which have emerged throughout the nation's history.

Civil Rights

Equal employment opportunity continued to receive high priority during fiscal year 1975. Planned affirmative actions undertaken by the Department resulted in an overall increase in minority employment in the Department from 10.8 to 12 percent. The average grade level of minority employees in the Department rose to GS-8.3. Likewise, the employment of women in classified positions rose from 17.5 to 17.7 percent. The average grade level for women reached GS-6. Minority and female supergrade employment totaled 24, with 18 minority employees and 6 women occupying positions classified at GS-16 through GS-18.

Throughout the year, the Department concentrated on increasing the level of participation of minorities and women in predevelopment, beginning professional, and upward mobility programs.

An executive order providing for noncompetitive conversion of cooperative education program participants to GS positions contributed to the signing of over 250 "co-op" agreements between the Department and participating colleges and universities.

Under an agreement with the Department of Labor, the Department of Transportation is responsible for monitoring civil rights compliance at 46,197 employer facilities. During fiscal year 1975, the Department reviewed approximately 22 percent of these facilities. Ninety-six percent of the reviews involved construction projects.

A show cause notice is issued by the Department if a contractor's employment practices are found to be not in compliance with civil rights obligations. Since 1972, the Department has issued 1,322 show cause notices, including 345 issued during 1975.

As shown in the following table, annual surveys of highway construction contractor employment practices have shown consistent increases in the percentage of minority employees engaged in highway construction work.

MINORITY EMPLOYMENT IN HIGHWAY CONSTRUCTION

Year	*Total Employment*	*Minority Employment*	*Percent Minority*
1969	150,051	27,852	18.6
1970	176,157	34,732	19.7
1971	170,997	33,693	19.7
1972	165,139	33,891	20.5
1973	152,261	32,003	21.0
1974	141,923	30,480	21.5
1975	150,036	31,116	20.7

The Department's public accommodation compliance program is similar to the contract compliance program, except that it is concerned with discrimination in the provision of transportation related services to the public. During fiscal year 1975, the Department conducted 351 public accommodation compliance reviews of grant recipients.

Minority Businesses

The Department continued to stress assistance to minority business enterprises. New direction was given to the program through issuance of a departmental order which expanded the program to formally cover federal assistance programs. During the year, the Department awarded procurement contracts for $24 million to minority businesses.

Administration

Comprehensive personnel management reviews were conducted by the Office of the Secretary for several of the operating administrations and recommendations were developed for improvement of their personnel programs. Broad program seminars and single-issue seminars for departmental executives and middle managers were also developed and conducted.

At the request of the Federal Railroad Administration, the Office of the Secretary participated in a study to plan and implement a major reorganization of the Federal Railroad Administration headquarters. Additionally, the Office of the Secretary assisted in centralizing all of the Department's various administrative data processing functions into a single headquarters computer center.

A significant achievement during the year was the modernization of the Department's library catalogs. The card catalogs previously used were microfilmed in their entirety, and current cataloging operations use an automated system developed by the Ohio College Library Center. The Department also completed and issued an update to its bibliography, *Transportation for the Handicapped.*

The Office of the Secretary reviewed more than 340 departmental procurement contracts having a value of $265 million for conformity with departmental objectives and good procurement practice. Reviews were made of 18 major system acquisitions with a projected future cost of $478 million, and more than 500 grants totaling over $1 billion were reviewed for compliance with established policy and departmental objectives. Technical assistance was provided for developing and implementing grant administration and property management under the Regional Rail Reorganization Act.

The energy conservation program was given high priority throughout the year. The Department's own energy reduction performance exceeded its goals, with an estimated savings of $3 million or 800,000 barrels of oil.

The Office of the Secretary also expanded the scope of its audit activities during the year. More attention was given to determining whether desired program results and benefits were achieved and whether the programs or activities were being conducted economically and efficiently. Another major effort during the year involved audits of railroads receiving assistance through programs administered by the Department. During the year, 167 audit reports were issued to headquarters and field officials in all departmental elements. These reports contained over 400 recommendations for improving the programs and operations of the Department.

In the area of emergency transportation, the Department's emergency preparedness posture was significantly advanced by the publication of the final chapters of the *Departmental Continuity of Operations Plan*, by the development and publication of an emergency headquarters manning table, and by completion of a study of the impact of conventional and nuclear wars on the nation's transportation system.

...equal employment opportunity continued to receive high priority...

UNITED STATES COAST GUARD

The United States Coast Guard operates a fleet of 250 ships, 160 aircraft, and more than 2,000 boats. It also maintains more than 45,000 navigation aids and ensures the safety of the merchant marine, recreational boaters, and many of the nation's bridges. In addition, the entire U.S. icebreaking fleet flies the Coast Guard ensign.

The missions of the Coast Guard are carried out by approximately 37,000 military and 6,000 civilian personnel. The regular members of the Coast Guard are supported by the 23,000-member Coast Guard Reserve and by 46,000 civilian volunteers in the Coast Guard Auxiliary.

The Coast Guard last year responded to 70,000 calls for assistance. Approximately 4,200 people were rescued from life threatening situations and more than 140,000 were aided in other ways. The estimated value of the property which was saved exceeded $280 million.

International Affairs

One of the high points of the year for the Coast Guard was its participation in the Safety of Life at Sea Conference under the auspices of the Intergovernmental Maritime Consultative Organization (IMCO). This conference incorporated all outstanding amendments to the 1960 Convention and adopted a method of expediting approval of technical amendments. These actions will raise international maritime standards and expedite the introduction of new standards and developments. Another significant achievement of IMCO was the development of a liquefied natural gas carrier code.

At the request of the Department of State, the Coast Guard conducted surveys in Barbados, Iran, Jordan, and Saudi Arabia to suggest improvements to their existing coast guard or to recommend a basic procedure for the establishment of a coast guard.

International Ice Patrol

The Coast Guard began the 63rd season of the International Ice Patrol on March 4, 1975. The patrol, which was developed to protect North Atlantic shipping from iceberg hazards during the spring and early summer, is operated by the United States under an international agreement. The costs of the patrol are borne by signatory nations whose ships traverse the area.

The patrol utilizes C-130 aircraft and an oceanographic vessel to check iceberg conditions. Predictions as to the areas of iceberg danger, recommendations as to the best action to take to avoid such danger, and scientific data concerning both the oceanography of the area and the life cycle of the icebergs encountered are major products of this service. The 1975 season saw an extremely low number of icebergs in the shipping lanes, about one-third the statistical norm for the years 1946 to 1974. By June 30th, only about 100 icebergs had drifted south of 48 degrees north latitude.

Icebreaking

In fiscal year 1975, to administer the activities more effectively and efficiently, the Coast Guard's polar and domestic icebreaking activities were merged into a single ice operations program.

Coast Guard icebreakers continued to operate in the Arctic, in the Antarctic, and in the Great Lakes. For the first time, Coast Guard icebreakers, augmented by Coast Guard multipurpose vessels, succeeded in keeping the Great Lakes open for navigation throughout the winter.

In the eastern Arctic, in the vicinity of Greenland, one icebreaker assisted the annual resupplying of U.S. installations and another supported defense-related scientific investigations. Two icebreakers were deployed to the western Arctic, near Alaska, conducting ecological, oceanographic, and defense-related scientific research. Two icebreakers were deployed in the Antarctic for five months in support of the National Science Foundation's research program.

National Loran-C

The objective of the national Loran-C plan is to provide Loran-C navigation service to maritime users in the U.S coastal confluence zone. Because of the magnitude of

the program, it has been divided into two phases. The first phase began in 1975 with procurement of major equipment and selection of sites for eight transmitting stations which will provide coverage for the west coast and the Gulf of Alaska. These stations are expected to be in operation by January 1977. The second phase, to be completed in 1978, will provide Loran-C service to the Gulf of Mexico and improve service for the east coast.

Law Enforcement

Eleven foreign vessels found fishing in the U.S territorial sea or contiguous fisheries zone were seized by the Coast Guard during the year. Nine were released after paying penalties totaling $873,259, one was forfeited, and one was released on $450,000 bond.

Four foreign vessels were seized for violating a U.S. law that prohibits non-U.S. vessels from taking creatures of the U.S. continental shelf. The vessels were released after paying penalties totaling $615,000.

Four Japanese vessels were found fishing for salmon on the high seas off Alaska in violation of an internatonal agreement. Violation reports and evidence were turned over to Japanese authorities for prosecution.

The Coast Guard also participates in anti-smuggling operations along the southern coast. During the year, it was directly involved in the seizure of eight vessels carrying over 35,000 pounds of marijuana.

Military Readiness

The joint Coast Guard/Navy anti-submarine warfare modernization project, begun in 1970, has been completed. In all, 12 ships have been outfitted with Navy-procured anti-submarine warfare systems. They represent a significant part of the nation's surface anti-submarine forces.

The Coast Guard has adopted two new weapons (single-barrel 20mm and 40mm machine guns) to provide its cutters with increased firepower. In addition, a 60mm mortar has been approved to provide cutters with an improved capability to illuminate the scene of search and rescue operations under nighttime conditions.

Commercial Vessel Safety

The commercial vessel safety program has the objective of minimizing the lives lost, property damaged, and persons injured in commercial marine transportation. To accomplish this objective, the Coast Guard develops standards for U.S. vessel construction, conducts periodic inspections, investigates casualties, and certifies the competence of operating personnel. The Coast Guard is also responsible for assuring that foreign vessels visiting the U.S. comply with certain international agreements and domestic requirements.

During fiscal year 1975, the Coast Guard inspected and certificated 10,121 U.S. flag commercial vessels and inspected 133 foreign vessels which carry bulk liquid cargoes. The foreign vessels, identified as presenting unusual potential risks, were inspected for issuance of letters of compliance.

More than 3,305 marine casualties, involving 1,704 inspected commercial vessels and 3,847 uninspected vessels, were investigated. Accidental deaths on inspected vessels totaled 185, while 353 died from accidents on uninspected vessels.

In response to continued concern over accidental and operational oil pollution, the Coast Guard and the U.S. Department of Commerce's Maritime Administration completed a joint study into proposed double wall construction requirements for tanker barges. Continuing emphasis on offshore mineral and oil exploration also affected Coast Guard responsibilities. At the end of the year, the Coast Guard had inspected 52 drilling vessels and 15 vessels currently under construction.

"The commercial vessel safety program has the objective of minimizing the lives lost, property damaged, and persons injured in commercial marine transportation. To accomplish this objective, the Coast Guard develops standards for U.S. vessel construction, conducts periodic inspections, investigates casualties, and certifies the competence of operating personnel."

Increased emphasis on the transportation of hazardous materials by water also had an impact. A total of 114 foreign vessels contacted the Coast Guard for authorization to transport bulk hazardous materials into U.S. ports.

Port Safety and Security

During the year, several milestones were reached in Coast Guard efforts to improve the management of vessel traffic in U.S. ports and waterways. The Houston-Galveston vessel traffic system was commissioned to reduce the likelihood of vessel casualties in the Houston Ship Channel and Galveston Bay. Regulations were issued for the Puget Sound vessel traffic system, requiring compliance with operating procedures by certain classes of vessels. The Berwick Bay vessel traffic system was established on the Atchafalaya River to protect bridges in the area from vessel rammings. A joint U.S.-Canada traffic separation scheme was established in the Strait of Juan de Fuca.

Substantial progress was made in improving the body of rules which govern the manner in which vessels should maneuver in various encounter situations (commonly referred to as the nautical rules of the road). Proposed legislation designed to implement the 1972 Convention on International Regulations for Preventing Collisions at Sea was transmitted to Congress. Assisted by the Industry Advisory Committee on Rules of the Road, the Coast Guard also completed a draft of unified rules of the nautical road for eventual applicability on all waters subject to the jurisdiction of the U.S.

The Coast Guard continued the development of regulations to protect vessels and structures on or near the navigable waters of the U.S. from damage, destruction, or loss and to protect the navigable waters themselves and their resources from harm resulting from vessel or structure damage, destruction, or loss. Emphasis was placed on improving vessel navigation by developing minimum equipment, testing, and personnel standards. In addition, regulations were promulgated which authorize district commanders or captains of the port to control vessel movements in emergency situations, and guidelines for the safe layup of foreign flag tank vessels in U.S. waters were developed and issued.

Environmental Protection

An IMCO meeting and a Marine Environmental Protection Committee meeting resulted in the development of techniques for implementation of the 1973 Marine Pollution Convention. Discussions conducted in Brest, France, between Coast Guard representatives and French officials resulted in a bilateral agreement to continue to exchange technical information experts and to continue to work on joint and cooperative programs. Discussions with Canadian officials resulted in the development of Canadian Arctic regulations.

During the year, the Coast Guard published guidelines and policy regarding enforcement of the pollution prevention regulations which became effective on July 1, 1974.

Early in the year, an Environmental Protection Agency (EPA) work group on marine sanitation devices recommended to the EPA Administrator that the "no discharge" standard be changed to a "flow-through treatment" standard. As a result, a

final rule on marine sanitation devices was issued on January 30, 1975.

The National Pollution Response Center became operational in August 1974. Due to the expertise developed by the Coast Guard, foreign governments requested assistance in pollution control in connection with three incidents which occurred during the year.

- An eight-man contingent, using special Coast Guard developed pumping systems, assisted in the offloading and refloating of the grounded oil tanker METULA in Chile in August 1974.
- A ten-man contingent assisted in the offloading of the oil tanker SHOWA MARU in Singapore in January 1975.
- An eight-man contingent assisted in the offloading and clean-up of the oil tanker MICHAEL C. LEMOS in the area of Limetree Bay, St. Croix, U.S. Virgin Islands, in January 1975.

Obstructive Bridges

Three orders to alter or agreements to relocate obstructive bridges were issued during fiscal year 1975. The bridges affected were the Seaboard Coast Line Railroad bridge across the Cooper River near Charleston, South Carolina, the Southern Pacific Transportation Company bridge across the Napa River at Napa, California, and the Popps Ferry Road bridge across the Back Bay of Biloxi at Biloxi, Mississippi.

Ship Construction

Construction continued on the 400-foot icebreaker POLAR STAR, which was 98 percent complete as of June 19, 1975. Commissioning was scheduled for January 1976.

Construction continued on another 400-foot icebreaker, the POLAR SEA. This vessel was 80 percent complete as of June 19, 1975, and was launched five days later. Delivery is scheduled for June 1976.

Construction also continued on the 160-foot buoy tender PAMLICO. Construction was 12% complete as of June 30, 1975. Launching was scheduled for December 13, 1975 and delivery is scheduled for June 1976.

The keel was laid for the 160-foot buoy tender HUDSON. Launching is scheduled for March 20, 1976, and delivery is scheduled for October 1976.

Boat Construction

Thirty 41-foot utility boats were constructed at the Coast Guard Yard, Curtis Bay, Maryland, during fiscal year 1975. By the end of the fiscal year, 52 of these boats had been delivered throughout the Coast Guard, where they are replacing the aging 40-foot utility boat fleet. Construction will continue at a rate of 30 per year. Present plans are to build a total of 188 boats.

Construction continued at AlumaShip Corporation, Jeanerette, Louisiana, on the new all-aluminum 63-foot aids to navigation boats. Manned by a crew of four, the boats will have a maximum speed of 15 knots and will be capable of lifting buoys weighing up to 4,000 pounds. The boat will be evaluated as a potential replacement for the older 45-foot and 46-foot buoy boats.

Twenty new 21-foot trailerized aids to navigation boats were delivered during the year. By the end of the year, a total of 90 of the 21-foot boats, which are being built by MonArk Boat Company, Monticello, Arkansas, had been delivered.

Boating Safety

The boating safety program is oriented to saving lives, reducing injuries, and minimizing property damage among the 8 million boats and 48 million people who go boating annually. All but three of the eligible jurisdictions (Alaska, New Mexico, and American Samoa) participated in the boating safety financial assistance program in fiscal year 1975.

"The Coast Guard continued the development of regulations to protect vessels and structures on or near the navigable waters of the U.S. from damage, destruction, or loss and to protect the navigable waters themselves and their resources from harm resulting from vessel or structure damage, destruction, or loss. Emphasis was placed on improving vessel navigation by developing minimum equipment, testing, and personnel standards."

During the year, the Coast Guard monitored 153 recall campaigns which were undertaken by various manufacturers to correct potential safety hazards or to modify boats which failed to comply with the applicable federal safety standards. At the close of the year, 76 campaigns affecting approximately 100,000 boats remained open. While the success of these campaigns varied, the majority of the campaigns saw 100 percent of the affected units inspected and corrected.

Fifty-six boats suspected of failure to comply with applicable federal safety standards were tested by an independent laboratory under contract with the Coast Guard. Forty-five failed to pass one or more of the tests.

Sixteen boating safety regulations or modifications of existing regulations were under development during the year. The National Boating Safety Advisory Council supported each of the regulations.

The boating safety program would be severely handicapped without the support of the Coast Guard Auxiliary, an all volunteer civilian organization of over 46,000 experienced boatmen, licensed aircraft pilots, and communicators. The members of the auxiliary do not have law enforcement authority and do not receive compensation for their services.

During the year, the auxiliary conducted courses in boating safety for over 413,000 people and made courtesy examinations of more than 277,000 boats.

In cooperation with regular Coast Guard forces, the auxiliary made nearly 4,000 patrols of regattas and more than 30,000 safety patrols. It was credited with saving 451 lives, completing nearly 13,000 assistance missions, assisting over 31,000 people, and saving property valued at more than $70 million.

Research and Development

The objectives of Coast Guard research and development are to apply the benefits of marine science and technology to Coast Guard missions and responsibilities, to ensure more effective operations at reduced cost, to improve service to the public, and to support the accomplishment of departmental objectives.

Marine environmental protection activities accomplished or in progress during the year included: installation of the first ocean dumping surveillance system prototype aboard the New York City dump vessel NORTH RIVER for test and evaluation; completion of the fast current oil removal system concept feasibility demonstration; and development of an advanced oil/water separator for use with oil spill recovery devices. During tests, an airborne oil surveillance system under development was able to detect, through a solid cloud layer, a tanker discharging oil in coastal waters.

In recreational boating, in addition to continuing efforts in explosion and venting criteria and stability criteria, level flotation schemes for lightweight boats in various sea states and the effects of environmental stress on boat operator performance were pursued.

In search and rescue, efforts continued to develop and flight test a forward-looking infrared system for helicopter application. The application of this technology to the marine environmental program is being tested through a demonstration of its capability to detect oil pollution.

In vessel traffic and navigation systems, work continued on automation techniques, fast-water buoy testing, solar-powered buoy battery packages, and buoy protective coatings.

In marine safety, work continued on crew survival systems, vessel maneuvering studies, fire safety criteria, flame arresting devices, and risk and vulnerability modeling techniques.

The Coast Guard is assessing various options for energy conservation and alternative energy sources. The first step toward conservation was the development of energy consumption profiles for Coast Guard ships, aircraft, and shore facilities. In the search for alternative energy sources, the Coast Guard cooperated with the U.S. Navy and the Maritime Administration in Great Lakes ore carrier tests involving the use of fuel derived from oil shale.

Interagency agreements were completed with the U.S. Army on protective clothing for use in hazardous chemical pollution response and with the U.S. Navy on energy research and development.

Coast Guard Reserve

The Coast Guard Reserve plays a dual role. It contributes to the Coast Guard's peacetime humanitarian operations and, at the same time, provides a foundation for the Coast Guard's capability to respond to threats to our national security. During the year, emphasis was placed on reserve participation in the peacetime missions of regular Coast Guard units. Reservists contributed approximately 2.8 million man hours in support of these regular units. Training activities included experience in port safety, environmental protection, law enforcement, search and rescue, and other missions.

The use of reserves to augment its regular forces enables the Coast Guard to use its resources more effectively and to reduce the excessive work week which would otherwise be required of some personnel. The effectiveness of the program in improving the reserve's readiness posture has been demonstrated by the many instances where Coast Guard reservists have responded on short notice and provided effective assistance during local emergencies such as waterfront fires, security and surveillance patrols of foreign flag vessels, oil and chemical spills, and floods.

Civil Rights

For the first time in Coast Guard history, a Spanish-speaking program coordinator has been assigned.

A service-wide standardization of the human relations program was initiated during the year. In anticipation of an increase in human relations billets, the Coast Guard is scheduling more military personnel for race relations training.

During the year, activities in equal employment opportunity were concentrated in four program areas: (1) site evaluations; (2) initiations of equal employment opportunity awareness training; (3) increased attention to the federal women's program; and (4) increased attention to the Spanish-speaking program.

The Coast Guard conducted 32 on-site contract compliance reviews of construction contractors, 33 on-site reviews of supply contractors, and several reviews of organizations receiving federal financial assistance through the Coast Guard. The scope of Coast Guard civil rights compliance responsibility was broadened considerably as a result of the assignment to the Coast Guard of responsibility for reviewing the compliance of all those companies engaged in the manufacturing of turbine and internal combustion engines other than automotive and aircraft.

Occupational Safety and Health

The Coast Guard occupational safety and health program was further expanded in fiscal year 1975 and is now structured specifically for the Coast Guard's operations and procedures. The Coast Guard experienced a substantial decrease in accidental deaths and injuries during the year. Fatalities and injuries from all sources, including off-duty activities, were down 27.0 and 4.4 percent respectively. Occupational safety and health statistics were similarly impressive. Fatalities were down 29.4 percent and injuries were down 13.3 percent.

...a significant part of the nation's surface anti-submarine forces...

FEDERAL AVIATION ADMINISTRATION

To accomplish what is essentially a dual mission, both to regulate for safety and to foster civil aviation, the Federal Aviation Administration (FAA) has recourse to a variety of programs and actions. It issues and enforces orders, rules, regulations, standards, and specifications; it certificates airmen, pilot schools, aviation mechanic schools, repair stations, and airports; it type-certificates aircraft, aircraft engines, aircraft propellers, and aircraft components; it issues operating certificates to airlines and airports; it provides planning grants and grants-in-aid for the development and improvement of airports; and it conducts research, engineering, and development programs calculated to improve safety and air traffic control and to protect the environment.

To carry out this mission, FAA had on its payroll on June 30, 1975, 57,678 employees (55,000 of them full-time permanent employees); it operated airway facilities valued at more than $1 billion; and it owned real property worth more than $650 million. Its budget for the year was just under $2.5 billion. This included an operating expense appropriation of $1.5 billion and five other appropriations—the airport grants-in-aid appropriation; the facilities and equipment appropriation; the research, engineering, and development appropriation; the construction appropriation; and the operations and maintenance appropriation for the two FAA-owned Metropolitan Washington airports.

International Activities

During the year, FAA personnel, serving as members of U.S. delegations, attended eight International Civil Aviation Organization (ICAO) meetings. The meetings included the 21st session of the ICAO assembly in addition to meetings dealing with the financing of long distance air navigation service in the North Atlantic and the Pacific, aircraft engine emissions, aircraft noise, automatic data exchange, supersonic transport problems, and aircraft separation criteria on air routes in the North Atlantic. The continuation of the Loran-A navigation service was taken up at an ICAO regional air navigation meeting. After a full discussion of the matter, the meeting concluded that the service could be continued for another two years in the North Atlantic and another four in the Pacific.

During the year, FAA had roughly $9 million available for its foreign technical assistance and training programs. The Agency for International Development (AID) sponsored and reimbursed FAA for an aviation assistance group working in Bolivia, and the Department of Defense sponsored and paid for the work of three FAA technicians in Iran. Assistance groups which were sent to the Republic of China, Venezuela, Kuwait, and Zaire were financed by those countries. At year's end, there were four aviation assistance groups abroad with an authorized staff of 10.

In addition to providing these full-time resident groups, FAA dispatched 54 technicians on short-term assignments to 18 countries. Eight of these assignments were sponsored and funded by AID, the remaining 46 by the countries concerned.

FAA also trained 422 individuals from 58 countries in various aviation specialties. AID reimbursed the agency for the training of 31, ICAO for 128, the Law Enforcement Assistance Agency for 22, and foreign countries for the remaining 241. In addition—and again under reimbursable agreements—FAA continued to provide flight inspection services to foreign governments, thereby helping to assure the safety of international air carriers operating in those countries. During the year, 28 foreign governments requested and were given this type of assistance.

Airspace System Modernization

FAA's program to modernize the national airspace system reached an advanced stage during the year. Eighteen enroute facilities were fully commissioned by the end of the year and the remaining two were expected to be fully commissioned by early August. All 61 automated terminal systems were in place and 60 were fully operational. The 61st, at Dallas-Fort

Worth, was also expected to be operational in August. A plan to install a less complex terminal system at 69 lower density terminals was proceeding on schedule, with first deliveries expected to begin in January 1976.

In addition, plans were underway for the further enhancement of terminal automation capabilities. Twenty-nine of the highest density terminals will be provided with primary tracking, improved beacon tracking, and continuous data recording capability. The remaining 32 facilities will be equipped only with continuous data recording capability. Procurement specifications for this equipment were being prepared as the year ended.

The most significant activities during the year in airspace management involved the designation of terminal control areas and the development of airport performance measuring systems. The basic concept of the terminal control area is to eliminate mid-air collisions in the airspace around and above the nation's busiest airports by assuring the separation of all aircraft entering or leaving that airspace. Three types of terminal control areas have been identified, numbered in descending order of traffic density. FAA's overall plan calls for the activation of 9 Group I areas, 12 Group II areas, and 42 Group III areas. All the Group I areas and 10 Group II areas are operational. The other two Group II areas were due to be activated early in fiscal year 1976. No Group III areas have been designated at this time.

The prototype airport performance measurement system, tested at Chicago's O'Hare Airport, has now been expanded to six major airports to gain an overall daily assessment of air traffic control system performance. The objectives are to determine how well the air traffic control system is performing during busy hours and to identify actions required to improve air traffic control system performance.

Flight Inspection

Significant progress was made during the year in implementing the agency's plan for more efficient and economical flight inspection of navigational aids. Seven flight inspection offices were closed, in addition to the three which had been closed during the previous year. This brought the plan to its final programmed configuration of seven flight inspection field offices reporting to the flight inspection headquarters at Oklahoma City.

...the emphasis is on the prevention of accidents...

Three new jets for the flight inspection fleet were delivered to Oklahoma City. This brought total light jet deliveries to 8, with 12 more jets and 1 turboprop to come to complete the program. There were still 33 DC-3's in the flight inspection fleet, but the efficiency of flight inspection operations already had improved noticeably. There was a reduction of approximately 10 percent in the number of flight hours required to do the inspection job as compared to the year before—and this with an increase in the number of facilities requiring flight checks. Additional savings are expected as more jet aircraft become operational.

Research and Development

In addition to improving the performance and reliability of the existing air traffic control system, FAA is working to develop future improvements to the system so that it will be capable of handling the requirements of the 1980's and beyond. Significant activities in this effort included the following:

- An aircraft separation assurance system, intended as a safety separation device in mixed airspace, is being developed in anticipation of greatly increased air traffic and airport congestion. Alternatives under consideration include an airborne collision avoidance and conflict alert system and an intermittent positive control system.
- An improved radar beacon surveillance system is being developed which will be compatible with the standard air traffic control radar beacon system. The new system will make it possible to discriminate among the responses from different aircraft with little interference and a high degree of accuracy. The system was well into the development stage by the end of the year and a request for proposals for an engineering model had been issued.
- The aeronautical satellite project is continuing. At the end of the year, FAA's portion of the international test program had been completed; the first meeting of the joint European, Canadian, and U.S. council had been completed; and procurement of equipment had begun.
- A microwave landing system is being developed to provide an improved approach and landing capability that is expected to satisfy the needs of both civil and military aviation well beyond the year 2000. It will be designed to support a variety of services through a family of airborne and ground-based elements. These services will range from simple straight-in approaches to curved approaches supporting noise abatement operations to automatic landings on closely-spaced runways under all weather conditions. During the year, a very extensive assessment of candidate techniques was conducted, with the assistance of experts from throughout the international community. The scanning beam technique was selected as the U.S. candidate for international standardization. Development of prototype models will be initiated in fiscal year 1976.
- A wake vortex avoidance system is being developed to permit a reduction in required aircraft separation distances. Wake vortices, strong rotating gusts of wind which trail behind large jet aircraft, serve to cut down airport capacity because of the need to maintain large distances between aircraft. A prototype vortex advisory system has been installed at O'Hare Airport.

"FAA continued its program to update the skills and training of the nation's aviation mechanics. During the year, FAA and the Aviation Safety Foundation of the Aircraft Owners and Pilots Association sponsored seven refresher clinics for aviation mechanics. FAA plans to expand this program during fiscal year 1976."

Certification

For certification purposes, there are two kinds of airmen: pilots and nonpilots. The pilot category includes student, private, commercial, airline transport, helicopter, glider, and other pilots. The nonpilot category includes mechanics, parachute riggers, ground instructors, dispatchers, control tower operators, flight navigators, and flight engineers. As of June 30, 1975, there were 1,042,678 certificated airmen in the country; 723,926 of them in the pilot category.

A new certification requirement, applicable only to pilots, became effective during the year. On November 1, all certificated pilots became subject to a biennial review, to determine whether they are in full possession of their pilot skills. Only if a pilot obtains a flight instructor's endorsement will his certificate be valid beyond each 24-month period.

During the year, a total of 30 new aircraft were type-certificated and supplemental type certificates were issued for 1,336 other aircraft. A total of 34 engines were type-certificated, including 18 nonturbine engines and 16 turbine engines. Also type-certificated were 82 propellers, four balloons, and one glider. Approximately 500 home-built airplanes were certificated, and thousands of original airworthiness certificates, export certificates, and similar aircraft certifications and approvals were issued during the year.

At the end of the year, there were 2,663 certificated pilot schools, 153 aviation maintenance technician schools, and 2,983 repair stations in the U.S. The most noteworthy development in this area was the upgrading of the pilot schools under a revised regulation which went into effect on November 1, 1974. The regulation provided that pilot schools granted examining authority by FAA could recommend graduates of their approved courses for pilot certificates or ratings with no further need for them to be tested by an FAA inspector or designated pilot examiner. The new rules also established a standard curriculum of approved training courses and provided that pilot school certificates could be renewed every two years if the school met prescribed standards for training activity and quality of instruction.

Regulatory Review

Early in 1974, FAA established a program to update airworthiness standards every two years. In August 1974, about 750 proposed changes received from the public and from within FAA were selected for dicussion at a conference which was held in December 1974. Based on the conference proceedings, seven notices of proposed rulemaking containing 670 proposed changes to the regulations were published near the end of the year.

In February 1975, FAA expanded its regulatory review procedure to include a biennial operations review program which would review the operating regulations (roughly a dozen in number) and bring them up to date. Approximately 1,600 proposals for changes to these regulations were received from the public and from within FAA. In late May, the agency sent out for comment a compilation containing 904 of these proposals. A conference to discuss the comments was scheduled for December 1975.

The Secretary's Task Force

In January 1975, the Secretary of Transportation established a special task force to examine FAA's organizational structure and managerial concepts and to recommend steps the agency should take to improve the way it performs its safety mission. The task force submitted a report on April 30 containing 19 specific rec- ommendations.

Among the recommendations were the following:

- That FAA should strengthen its long-

range research and development capability;

- That FAA should see to it that there is more effective monitoring of safety tasks delegated to industry;
- That the agency should be more responsive to National Transportation Safety Board recommendations;
- That FAA's rulemaking procedures should be expedited;
- That FAA and industry should cooperate in efforts to improve and standardize airline crew performance;
- That there should be more realistic airline flight checks and better guidelines for the conducting of biennial flight reviews; and
- That a joint standing group, representing FAA, the air carriers, pilots, general aviation, and military aviation, should be established to monitor air traffic control procedures and practices.

The Secretary of Transportation directed the Acting FAA Administrator to implement all the recommendations. FAA immediately implemented those recommendations that it could and drew up plans to proceed later in those cases where it could not act at once.

Safety Programs

The emphasis in FAA's safety-related engineering and development activities is on the prevention of accidents during the various phases of flight and during operations on the ground. The three principal areas on which FAA is currently concentrating include: (1) reducing fatal accidents; (2) reducing fatalities after accidents; and (3) reducing chances of explosions and fires in flight.

FAA continued its program to update the skills and training of the nation's aviation mechanics. During the year, FAA and the Aviation Safety Foundation of the Aircraft Owners and Pilots Association sponsored seven refresher clinics for aviation mechanics. FAA plans to expand this program during fiscal year 1976.

In September 1974, FAA published two national surveys on aviation mechanics. One was an occupational study of the job; the other was a compendium and critique of textbooks available for use by mechanics.

In addition to the foregoing safety activities, FAA:

- Completed "Operation Ground Assist," a highly successful 30-day nationwide safety program. From June 15 through July 15, 1974, FAA inspectors visited general aviation airports and engaged in a mutual exchange of ideas with pilots and mechanics on aviation safety. During the program, the inspectors talked to 8,176 mechanics and 54,957 pilots and inspected 28,309 aircraft.
- Conducted flight instructor refresher clinics at 85 locations throughout the U.S.
- Issued an advance notice of proposed rulemaking aimed at the development of flammability standards for flight attendant uniforms.
- Issued an amendment to the applicable regulations stating that, after December 1, 1975, no one would be allowed to operate a large turbine aircraft unless it was equipped with a ground proximity warning system that met specified performance and environmental standards. However, the amendment provided that under certain conditions the use of equipment not meeting those standards would be permitted until January 1, 1977.

Aviation Security

Not a single U.S. air carrier aircraft was hijacked during the year. There were, however, cases in which a potential hijacker was arrested while attempting to pass through compulsory preboard screening procedures. At general aviation airports, where no security programs were in effect, the hijackers of two small charter aircraft and one helicopter were later apprehended.

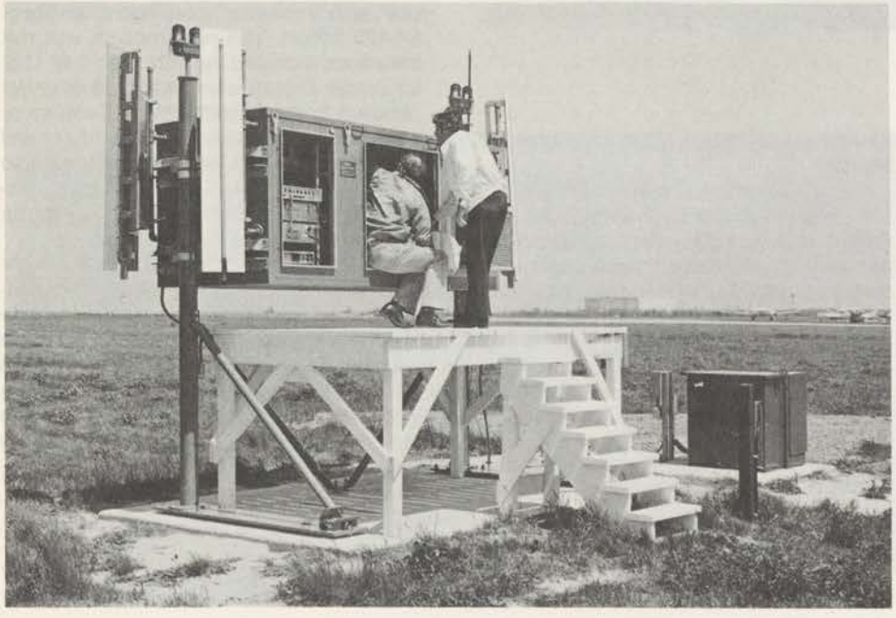
Preboard screening procedures continued to be highly effective. During the year, 5,041 passengers were referred to law enforcement officers for security reasons and, in most cases, were denied boarding; 2,714 passengers were arrested for violations of law; and 92,355 weapons and dangerous articles were detected.

Other important aviation security developments during the fiscal year included:

- The development of a system to administer the air transportation security program which was established as a result of the anti-hijacking act. A total of 261 FAA employees (located in 33 air transportation security field offices, 11 regional offices, and Washington headquarters) plan, develop, and implement the program. More than 6,500 local police officers provide law enforcement support for the program.
- The issuance of two new rules bearing on the hijacking problem. One, issued in April, set standards for the installation and safe operation of X-ray machines used by the airlines to screen carry-on baggage. The other, issued in June, tightened regulations governing the carriage of firearms on airplanes by law enforcement officers and other authorized persons.

Hazardous Materials

During the year, FAA continued its efforts to assure the safe transportation of hazardous materials. In addition to intensifying its inspection and surveillance activities, the agency amended its regulations affect-



...a microwave landing system is being developed to provide an improved approach and landing capability...

...a rule setting maximum noise levels for small propeller-driven aircraft...

ing the transportation of dangerous articles and magnetized materials. These amendments: (1) prohibited the carriage of any dangerous article in an aircraft unless the outside container in which the article was packed was inspected to determine that it complied with the applicable packaging, marking, and labeling requirements; and (2) limited the carriage of radioactive materials on passenger aircraft to those intended for use in or incident to medical research, diagnosis, or treatment. The implementation of a further amendment (requiring the scanning of the exterior surfaces of packages containing radioactive materials and, when appropriate, certain parts of the aircraft by a radiation monitoring device) was delayed until after December 31, 1975, to permit further study of the design specifications of the instruments to be used.

Hazardous materials training was also stepped up during the year. One hundred and twenty FAA inspectors and 250 people from private industry took a hazardous materials training course and 1,200 people attended seven hazardous materials seminars. To date, a total of 393 FAA inspectors and 341 people from private industry have taken the hazardous materials training course and 4,800 have attended the hazardous materials seminars.

Emergency Operations Plan

By executive order, the Secretary of Transportation and the Secretary of Defense are required to prepare plans for the probable transfer of FAA to the Department of Defense in the event of war. Under a further executive order, the Secretary of Transportation is assigned certain national emergency air transportation functions, which he has delegated to the FAA Administrator. Specific operational requirements are contained in an FAA order which was published on May 12, 1975. The order contains both a detailed statement of FAA's operational responsibilities in a national emergency and detailed guidance as to the discharging of those responsibilities under radiological fallout conditions and similar emergency situations.

In October 1974, the Department of Transportation explicitly stated FAA's emergency functions during and following an attack on the U.S. and in certain regional transportation emergencies. FAA is to: (1) maintain the continuity of the national airspace system; (2) establish the air carrier, civil airport, and general aviation resources; and (3) assist the Department in the emergency management of the nation's civil airports, civil aviation services, and civil aircraft (other than air carrier aircraft).

War Risk Insurance

The FAA aviation war risk insurance program includes two types of policies—standby insurance binder policies and nonpremium war risk policies. Standby insurance binders, which would go into effect in the event of a major war, covered 47 aircraft with a minimum contingent liability of $4.425 billion. The nonpremium war risk insurance included insurance on 348 U.S. air carrier aircraft which were either under contract to the Department of Defense or committed to the civil reserve air fleet and on 60 aircraft which were under contract to the State Department. The contingent liability in the first case was $41.805 billion; in the second, $8.43 billion.

As a result of military activity in Southeast Asia, U.S. air carriers lost their commercial war risk insurance coverage while flying in that area. As a result, a premium war risk insurance program was activated on April 11, 1975, to provide the carriers with war risk insurance on reasonable terms. The program lasted only 90 days and was deactivated on June 30, 1975, without loss of any kind.

The Handicapped

FAA issued a notice on July 2, 1974, regarding the air transportation of handi-

capped people. Comments were received from more than 1,500 people and organizations, a number of them critical of the FAA proposals. As a consequence, tests were carried out to provide further information on the subject. The tests were completed just as the year ended.

Environmental Protection

Several significant steps to protect the environment were taken by FAA during the year. They included:

- Issuing a rule setting maximum noise levels for small propeller-driven aircraft;
- Holding hearings on the environmental impact of proposed operations in the United States by the British-French Concorde supersonic airliner;
- Issuing an advance notice of proposed rulemaking requesting comments on the mandatory use of two-segment landing approach noise abatement procedures as a way to reduce noise levels at airports; and
- Issuing a notice of proposed rulemaking requiring modification or phase-out, by July 1, 1984, of jets that do not meet noise standards.

Fuel Conservation

At the onset of the energy crisis, FAA developed and implemented a seven-point fuel conservation program designed to save up to 840,000 gallons of jet fuel per day. Subsequently, FAA developed additional steps to produce further fuel savings of up to 374,000 gallons of jet fuel per day. These steps, many of which have already been taken, include: (1) increasing instrument landing system capability on runways at major airports; (2) developing additional and improved runway exits; (3) expediting runway and taxiway construction; (4) constructing dual-lane runways; (5) optimizing descent profiles; and (6) decreasing minimum distances between runway centerlines for simultaneous approaches.

As a result of these steps, plus a reduction in flight schedules, the airlines were able to reduce fuel consumption from 10.7 billion gallons in 1973 to 9.6 billion in 1974, a 10.3 percent decrease.

Civil Rights

The more notable accomplishments during the year in civil rights and equal employment opportunity included:

- Promoting 204 women and minority group members to supervisory positions, GS-13 and above;
- Awarding $18,719,000 in contracts to minority firms—a two-fold increase over fiscal year 1974 when contract awards to minority firms totaled only $9 million;
- Developing nationwide upward mobility programs designed to provide career advancement opportunities for selected lower grade employees in jobs with limited advancement potential;
- Expanding the former "150 Program," now known as the predevelopmental program, by 100 additional positions;
- Increasing minority concessions at airports across the U.S. from 36 to 47; and
- Launching a program to encourage the airlines to purchase goods from minority firms.

Second Career Training

From September 1972, when the first enrollees began training, until the end of fiscal year 1975, a total of 773 controllers had entered the second career training program. A total of 61 had successfully completed their training and 596 were still in training. Of the remaining 116, most retired on disability before completing the training. The types of training being pursued by the 596 still in training were: university/college, 324; on-the-job (nongovernmental) 170; technical/vocation, 91; on-the-job (in service), 4; and other (various combinations of training programs),7. The length of the training programs ranged from 3 months to 24 months. The average time spent in training has been just over 22 months.

Labor Relations

Of the nine unions recognized by FAA, the two principal ones continued to be the Professional Air Traffic Controllers Organization (PATCO) and the National Association of Air Traffic Specialists (NAATS). PATCO, the exclusive bargaining agent for 17,400 air traffic controllers in the centers and terminals, continued to be FAA's largest union. FAA and PATCO signed a new 2-year labor agreement in July 1975. No new agreement was negotiated with NAATS because the National Association of Government Employees (NAGE) had challenged it for the right to be the exclusive representative of 3,500 flight service station specialists. The existing agreement continued in effect pending the outcome of the NAGE challenge.

The total number of employees represented by unions rose to 30,500 from 29,600 the previous year. Bargaining units fell from 151 to 148, and the number of employees on dues withholding rose from 16,400 to 17,200.

...conducts research, engineering, and development programs calculated to improve safety and air traffic control...

FEDERAL HIGHWAY ADMINISTRATION

The purpose of the federal-aid highway program is to provide financial assistance to the states so that they can construct and improve roads and highways. During fiscal year 1975, the nationwide total provided for this purpose was $7.5 billion. The funds were used for more than 30 different programs including planning, engineering, right-of-way acquisition, and roadway improvement as well as new highway construction.

More than one-half of the total, approximately $4.0 billion, went toward improvements on the interstate system. During the year, the total interstate mileage open to traffic was increased by 1,084 miles. As of June 30, 1975, 86.8 percent of the 42,500 mile system was in use. Adding those sections which were in various stages of construction, 99.2 percent of the system was either complete or underway at the end of the year.

Of the roughly $3.5 billion obligated for projects not on the interstate system, $1.1 billion, or 31 percent, were obligated in urban areas. Much of this activity was aimed directly at alleviating peak hour congestion on urban streets.

The major portion of the funds obligated in rural areas went for projects on the basic rural primary and rural secondary systems. These are the main highways and collector routes which are so important to the personal and commercial mobility of the country's rural and small town population.

In both rural and urban areas, considerable sums were obligated specifically for safety improvements. Highway safety has been given special emphasis by the Federal Highway Administration (FHWA).

FHWA administers several other major highway programs, including forest highways and public lands highways. In addition, highway engineering and construction services are performed by FHWA for other federal agencies, including the Department of Agriculture and the Department of the Interior. During fiscal year 1975, this work involved 94 projects and obligations totaling $92 million.

Special Programs

FHWA was also involved during the year in several special purpose programs. They included:

- Negotiating with Canadian officials over the reconstruction of sections of the Alaska Highway in Canada.
- Continuing construction on several sections of the 250-mile Darien Gap Highway in Panama and Columbia;
- Constructing access roads to defense installations;
- Providing technical assistance to the Federal Disaster Assistance Administration in 17 states and Puerto Rico; and
- Administering technical assistance and equipment procurement programs in Argentina, Brazil, Costa Rica, Kuwait, Laos, and Nicaragua. Steps were taken to establish a similar program in Iran.

Legislation

On January 4, 1975, the Federal-Aid Highway Amendments of 1974 became law. Along with increasing authorizations for existing programs, the amendments provided for:

- Establishing and enforcing increased vehicle size and weight limits and maximum speed limits on public highways;
- Broadening the scope of the Highway Beautification Act of 1965 to achieve effective control of signs to the limit of visibility from the highway rather than in an area only 660 feet from the edge of the right-of-way;
- Authorizing the construction or reconstruction of access highways to public recreation areas on certain lakes;
- Adjusting the amounts available for interstate substitution projects; and
- Providing grants to states for construction of off-system roads including the replacement of bridges and the elimination of high-hazard locations and roadside obstacles.

Later in the year, on June 4, more flexibility was introduced into the federal-aid funding process by the approval of H.R. 3786 (P.L. 94–30). This act provides

that the federal share of a federal-aid highway project may be as much as 100 percent, thus eliminating matching funds, with the provision that a state must repay any such increases in the federal share before January 1, 1977. The act also provides a temporary borrowing mechanism under which a state may use funds apportioned for a noninterstate project for another project subject to repayment from future apportionments of federal funds. This bill does not provide any additional highway funds above those which were already authorized by Congress.

Financing

Several changes occurred in the financial status of the federal-aid highway program during the year. The program level for fiscal year 1975 was originally set, in the President's budget, at $4.6 billion with a deferral of $10.7 billion. In a deferral message sent to Congress on September 20, 1974, the President justified the deferral on the grounds that release of all $15.3 billion of the obligation authority would be inflationary and would have to be offset by cuts in higher priority programs. Passage of the 1974 federal-aid highway amendments made $400 million of additional obligation authority available to the states and raised the amount deferred to $11.1 billion.

On February 11, 1975, the President directed that $2 billion of deferred obligation authority be immediately released to the states. The objective of this release, which permitted a $6.6 billion program for fiscal year 1975 and lowered the deferred authority to $9.1 billion, was to help reverse the growing trend in unemployment while, at the same time, making a useful and productive investment of federal funds. It was estimated that every billion dollars of federal highway funds generated about 55,000 jobs, with an additional 70,000 jobs induced throughout the economy.

In April 1975, the Senate, acting under new impoundment control procedures provided in the Congressional Budget and Impoundment Control Act of 1974, overturned the deferral of obligation authority, thereby releasing the remaining $9.1 billion. The states were able to obligate an additional $1.2 billion because of this release. As a result, by the end of the year, almost $7.8 billion had been obligated. This figure is $3.2 billion above the original fiscal year 1975 program level.

Highway Management

The increasing congestion on our urban streets during peak traffic periods, the necessity for conservation of energy, and increasing pollution levels (particularly in urban areas), have created a need for better management of our street and highway system. During the year, FHWA intensified its efforts to encourage those projects which improve the efficiency of the system.

Major goals of this effort include traffic engineering improvements (such as effective and proper use of traffic control devices, provision for turning lanes, and removal of bottlenecks) and increased vehicle occupancy rates (through provision of exclusive or preferential bus/carpool lanes, carpool assistance, and fringe and corridor parking programs).

A significant portion of the effort was directed at traffic engineering improvements. Obligations for such projects totaled $186.7 million during the fiscal year. These projects, usually involving relatively small capital investments, are often highly productive. Benefits, in terms of reduced accident frequency and severity as well as savings in travel time and vehicle operating costs, are often immediate and significant.

One of the most effective ways to reduce fuel consumption by automobiles is the attainment of higher average vehicle occupancy rates through carpooling and vanpooling. FHWA has provided funds and technical assistance to state and local governments to assist them in the establishment of carpool programs. Based on earlier experience, which indicated that carpool promotion programs sponsored by individual employers are the most effective in inducing carpooling, FHWA has been conducting a nationwide campaign to encourage employers to participate in ridesharing programs for their employees. The campaign, which involved the direct mailing of promotional material to over 72,000 employers, has generated considerable interest.

"The increasing congestion on our urban streets during peak traffic periods, the necessity for conservation of energy, and increasing pollution levels . . . have created a need for better management of our street and highway system."

The Federal-Aid Highway Amendments of 1974 included, as an energy conservation and safety improvement measure, a provision which requires that state speed limits not exceed 55 miles per hour if a state wishes to continue receiving federal highway aid. Since then, the procedures necessary for enforcement of that law have been developed. Under these procedures, states will be required to certify their speed limit enforcement efforts and to provide data on how speed limit enforcement is carried out as well as how speeds are measured.

Highway Safety

During the year, more than $1 billion were obligated for highway safety improvements. Over 40 percent of this total, $444 million, came from safety construction programs funded under the 1973 highway act, including the special bridge replacement program.

The special bridge replacement program was established to provide help for some of the 32,000 deficient and obsolete bridges throughout the nation. Under this program, 97 bridges have been improved and over 500 bridges are scheduled for improvement. More than $181 million were obligated during the year for this program.

Also noteworthy were the obligations under the five new safety construction programs authorized in the 1973 legislation. These programs provide funds which can be used only for safety improvements. Included are funds for the elimination of roadside obstacles, for the elimination of hazards at rail-highway crossings, and for improvement of high-hazard locations on highways. A pavement marking demonstration program and a program to make safety improvements to roads not on one of the federal-aid systems were also authorised. During fiscal year 1975, which was the first full year of availability of federal funds, nearly $263 million were obligated for the five programs.

The remaining safety obligations, $632 million, were financed from regular federal-aid highway funds. Of this amount, $344 million went for work on the interstate system.

While money is an essential ingredient in safer highway transportation, other factors are also important. FHWA worked during the year to improve the overall direction and management of state highway safety programs. Actions taken included a review of planning and programming requirements, provision of training courses and fellowships, and a complete examination of the concepts and format of the highway safety standards by the staffs of FHWA, the National Highway Traffic Safety Administration, and the National Conference of Governors' Highway Safety Representatives.

Motor Carrier Safety

There is a growing volume of hazardous materials moving on the nation's high-

ways, and FHWA has placed special emphasis on this area of their responsibility. Inspections, conducted at carrier and shipper facilities for compliance with federal safety regulations, were increased by more than 100 percent.

A national census of interstate carriers and shippers subject to federal safety regulations was conducted during the year. The census will be computerized and lists will be available in 1976.

Sizes and Weights

A provision of the 1974 federal-aid highway amendments requires the states to certify annually, beginning January 1, 1976, that all state laws concerning vehicle sizes and weights on all federal-aid highways are being enforced. On June 3, 1975, the Administrators of FHWA and the National Highway Traffic Safety Administration issued regulations to implement this provision.

A research project has been started to investigate all aspects of increasing the size and weight limits for motor vehicles. Some areas include the impact of diversion of freight traffic from other modes, the energy requirements of larger and heavier vehicles, and the effect of larger vehicles on the operation and safety of other vehicles in the traffic stream. Congress has already approved an increase in the allowable weights for vehicles using the interstate system. The increases were about 10 percent (i.e., 20,000 pounds per single axle, up from 18,000; and 80,000 pounds gross, up from 72,000 pounds).

Under the sponsorship of FHWA, a study of state truck license, fee, and tax laws was published in April 1975. A task force within FHWA is now considering actions which may be taken to remedy the problems which were identified in the study.

Off-system Roads

The off-system roads program is a new program created by the 1974 federal-aid highway amendments. The program expands federal aid to include improving rural roads which are not on a federal-aid system. Except for safety projects under the safer roads demonstration program, these roads have not previously been eligible for federal funds. Much local government involvement is anticipated in this program. Within the first two months after the program began, $2 million had been obligated for off-system road projects.

Rural Public Transportation

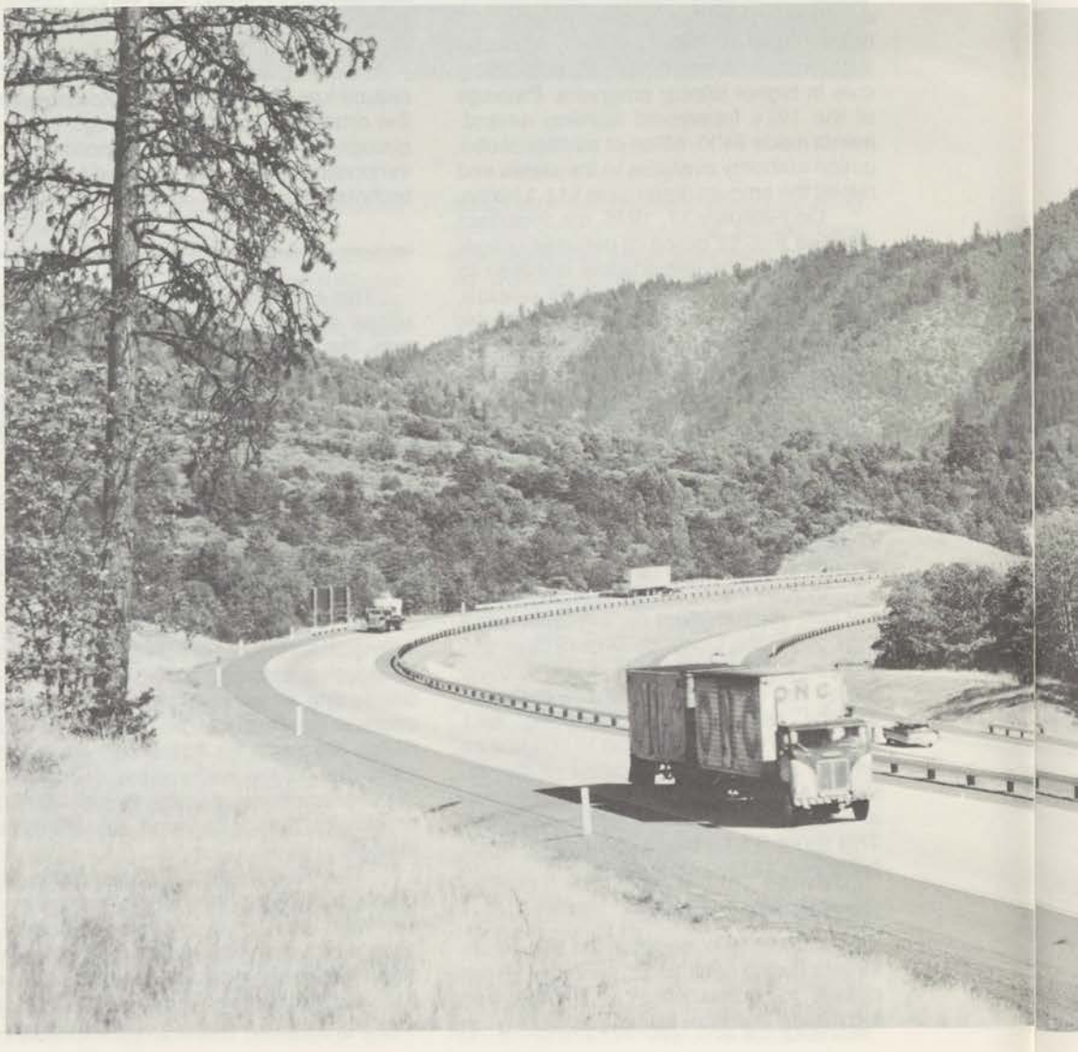
Congress appropriated $9.65 million for fiscal year 1975 for a demonstration program of rural public transportation projects. The program is administered jointly by FHWA and the Urban Mass Transportation Administration. A total of 354 proposals were submitted by the June 6 deadline. A panel of federal agencies in each region recommended approval for 96 projects. At the end of the year, a review panel was in the process of selecting 20 to 30 projects to be funded. The projects should get underway late in calendar year 1975.

Urban Public Transportation

The 1973 highway act provided an opportunity for states to use federal funds for needed non-highway urban transportation projects in lieu of urban highway improvements. Seven states took advantage of this provision during the year and used $123.5 million of federal urban highway funds to purchase buses and to improve fixed rail facilities.

Metropolitan Planning

Also as a result of the 1973 highway act, FHWA entered a new era of cooperation



...99.2 percent of the interstate system was either complete or underway at the end of the year...

with other Department of Transportation agencies. Significant changes stemming from the act were reflected in the writing of joint FHWA and Urban Mass Transportation Administration (UMTA) regulations on urban transportation planning and on transportation improvement programs. These two regulations now form the backbone of FHWA and UMTA policy on urban transportation planning.

The urban transportation planning regulation is more process oriented than its predecessors, in that the functions and duties of the metropolitan planning organizations conducting the planning are given in more detail. In addition, the elements inherent in the urban transportation planning process are better described. Emphasis is given to the need to analyze carefully the existing conditions.

The transportation improvement program regulation is basically a tool for implementing a transportation plan. It requires the cooperation of the planning and implementing agencies involved, and includes preparation of lists of the multimodal projects which are to be implemented during the next year as part of a positive program to bring the plan to life.

". . . interstate mileage open to traffic was increased by 1,084 miles. As of June 30, 1975, 86.8 percent of the 42,500 mile system was in use. Adding those sections which were in various stages of construction, 99.2 percent of the system was either complete or underway at the end of the year."

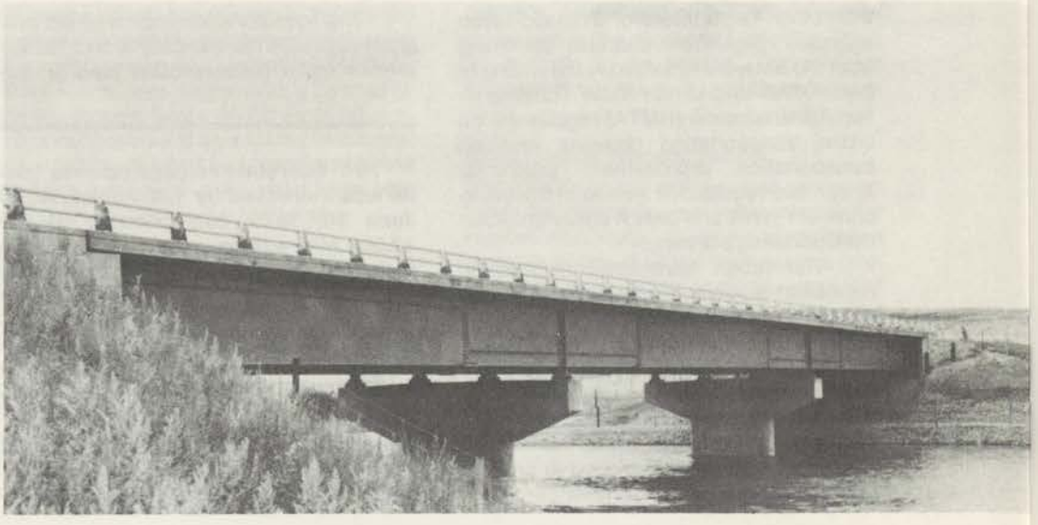
Relocation Assistance

FHWA is working with the Office of Management and Budget to achieve greater uniformity in the relocation assistance programs of all federal agencies. During fiscal year 1975, a total of 21,162 people, 116 farms, 2,186 businesses, and 103 nonprofit organizations were displaced as a result of highway construction. The grand total of all relocation payments for the year was $54,811,000.

Functional Replacement

Along with relocation assistance, FHWA has an ongoing program to replace publicly owned facilities which are required for

...97 bridges have been improved and over 500 are scheduled for improvement...



federal-aid highways. Since 1972, this program has resulted in FHWA approval of replacing 13 schools; 16 park, recreation, or wildlife facilities; 3 police facilities; 2 fire facilities; and 11 miscellaneous public facilities, including a state motor vehicle registry, an animal shelter, public housing, a filtration plant, and a city hall and fire station.

Environmental Protection

During the year, there was continued emphasis on developing environmental awareness within the highway profession. The interdisciplinary staff of FHWA was expanded, and training was provided for federal and state highway professionals. One week training sessions were given on highway noise, air quality, community involvement, and ecology. Training sessions were also held on techniques of community involvement, historic preservation, air quality monitoring, environmental impact statement analysis, and analysis of social and economic impacts. Approximately 2,100 people were trained during the various sessions.

Revised guidelines were developed and issued for (1) preparation and processing of environmental impact statements, (2) analysis of state environmental action plans to determine their social, economic, and environmental impacts, and (3) public hearings.

The revised guidelines for environmental impact statements place emphasis on concise, well written, and high quality statements. They stress the need for early and continuous coordination during the highway development process. The revised guidelines for state environmental action plans and for public hearings encourage the development of a total community involvement program.

FHWA has now reviewed and approved an environmental action plan for each state highway agency. Each plan identifies the unit within the agency which has responsibility for social, economic, and environmental studies and for reviews of proposed highways. The plan also outlines how the studies and reviews will be conducted and how coordination will be achieved, plus the level of multidisciplinary capability and staffing and the nature of the community involvement program.

This flexible approach is one of the first attempts by FHWA to permit states to develop their own procedures to meet legislative mandates. The concept, which has proven most successful thus far, is aimed at reducing federal red tape.

Areas of special environmental concern this past year included air quality, noise, water quality, ecology, historic preservation, archeology, socio-economics, energy conservation, and esthetics. Methods used to contribute to the awareness of highway professionals in these areas included: conducting multi-disciplinary reviews of impact statements; making professional expertise available as a staff resource; and using training devices such as courses, workshops, demonstrations, presentations, and publications.

". . . FHWA has an ongoing program to replace publicly owned facilities which are required for federal-aid highways. Since 1972, this program has resulted in FHWA approval of replacing 13 schools, 16 park, recreation, or wildlife facilities; 3 police facilities; 2 fire facilities; and 11 miscellaneous public facilities, including a state motor vehicle registry, an animal shelter, public housing, a filtration plant, and a city hall and fire station."

Interest in the bicentennial celebration and our historical heritage was demonstrated by FHWA's submittal of the largest number of nominations of any mode to the Department's bicentennial historic transportation facilities catalog. Ongoing programs in historic preservation and archeological and paleontological salvage reinforce the attention given to the cultural environment.

Air Quality

FHWA promotes, as an agency objective, close coordination and cooperation with other agencies charged with environmental responsibilities. These good relations have enabled FHWA to meet expeditiously the procedural requirements of other agencies, thus allowing time for full consideration of environmental concerns while minimizing delays. The fine cooperation of the Environmental Protection Agency (EPA) in the sensitive area of air quality has been especially notable.

Air quality analysis is being incorporated directly into the transportation planning process as a result of the 1970 Federal-Aid Highway Act. Regulations promulgated by FHWA require that responsible highway agencies, in cooperation with metropolitan planning organizations, establish a continuing review procedure to assess transportation impacts on air quality. The metropolitan planning organizations are required to determine annually whether or not their current transportation plans and programs are consistent with the state air quality implementation plan. Regional FHWA staff members, in consultation with the regional staff of EPA, make an assessment of the coordination of the planning process and review the annual consistency determinations.

FHWA, in conjunction with EPA, has issued guidelines for analysis of the consistency between transportation and air quality plans and programs. The guidelines were developed on the premise that the extent of an air quality analysis should be

...the states obligated $5.7 million for the control of junkyards...

commensurate with the severity of the air pollution problem in a specific geographical area. The guidelines have received nationwide distribution and will serve as an aid to all agencies preparing and reviewing air quality analyses.

Highway Beautification

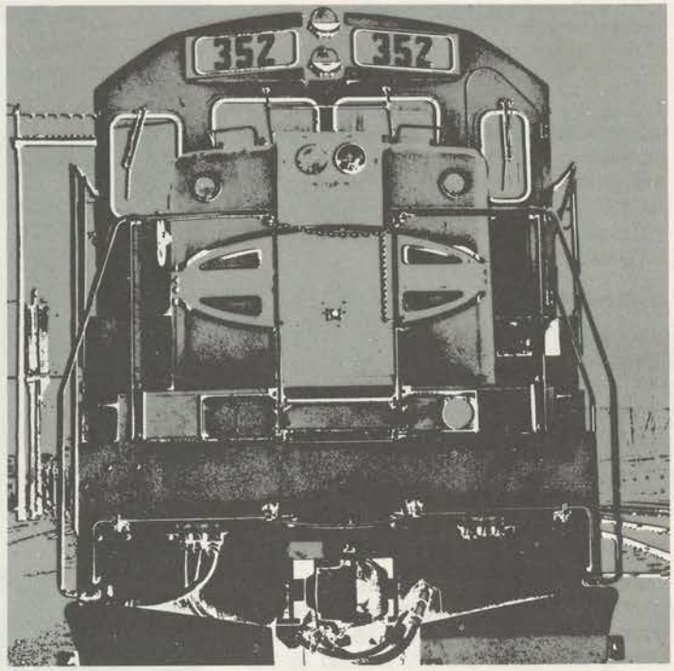
During the year, $30.9 million were obligated by the states for outdoor advertising control, and 88,942 advertising signs were removed. This brought the total signs removed to 362,432. The states also obligated $5.7 million for the control of junkyards and $6.8 million for landscaping and scenic enhancement.

Civil Rights

During the year, FHWA increased the percentage of minority employees in its full-time work force from 14.4 to 16.6 percent. During the same period, women in the work force increased from 27.4 to 28.1 percent. By the end of the year, 51 of 52 state transportation agency civil rights implementing plans had been approved. These plans were required in order to assure compliance with the portion of the Civil Rights Act of 1964 which forbids discrimination on the grounds of race, color, or national origin in any program or activity that receives federal financial assistance.

One of the special civil rights programs, the minority business enterprise program, received special emphasis in FHWA during the year. A memorandum of understanding was signed by FHWA and the Office of Minority Business Enterprises providing for cooperation between the two agencies in increasing minority firm contracting and subcontracting opportunities in federal-aid highway construction. Under the FHWA guidelines implementing the agreement, affirmative action is required by state highway agencies to establish goals and timetables for pre-qualification of minority contractors and to establish voluntary dollar goals for minority contracting and subcontracting.

Another special program, the skills improvement program, provides training for laborers, including women, on selected federal-aid highway construction contracts. Reimbursement is provided to contractors at the rate of 80 cents for each hour of training provided. There was special emphasis during fiscal year 1975 on minority participation in training for the higher skilled classifications. This emphasis will be continued in future years.



FEDERAL RAILROAD ADMINISTRATION

The Federal Railroad Administration (FRA) devoted a considerable amount of its time in fiscal year 1975 to implementation of the Regional Rail Reorganization Act of 1973.

During the first six months of the year, revenues of the bankrupt railroads continued to decline as a result of the economic recession, while variable operating costs escalated; and the forecasts for calendar year 1975 did not see any reversal of this trend. In addition, in January 1975, the Erie Lackawanna Railway Company filed for inclusion in the reorganization taking place under the act and also began receiving federal financial assistance. (The other railroads included in the reorganization are the Penn Central, the Lehigh Valley, the Lehigh and Hudson River, the Reading, the Central Railroad Company of New Jersey, and the Ann Arbor).

The declining revenues had a heavy impact on the $85 million originally authorized to be used to maintain essential transportation services during the transition to a restructured rail service. Accordingly, in February 1975, an amendment was passed by Congress bringing the total funds authorized to $282 million. All but $72 million of this was appropriated; and, by the end of the fiscal year, approximately $192 million had been obligated, including $25 million earmarked for improvements to the northeast corridor rail passenger system.

The rail reorganization act directed the Secretary to perform engineering studies and improvements on the northeast rail corridor. The engineering studies were to be oriented toward developing a plan for improved high speed rail passenger service in the corridor. The improvements were to be immediate repairs which would remove the worst track conditions and improve current service. During the year, the responsibilities for implementing these provisions of the act were transferred from the Office of the Secretary to FRA.

Northeast Corridor Studies

Northeast corridor ridership forecasts were developed, as well as an estimate of the share of the total passenger market that an improved rail passenger system could expect to attract. Forecasts were obtained from five independent sources. They indicated a 1990 rail ridership ranging from 24 million to 38 million trips per year. A baseline of 30 million trips was used for revenue planning purposes and 38 million trips for system design. Consideration was given to such factors as fare, frequency of service, and trip time. Financial analyses were also performed for a broad range of alternatives.

Comprehensive engineering studies were carried out, covering track and structure design and upgrading, electrification, passenger and freight operations, terminals and shops, rolling stock, grade crossings, fencing, signaling, and operations. Identification of needed track and structure upgrading received early attention. Maximum consideration was given to maintenance requirements and costs.

The options evaluated for high speed service included ballastless concrete ties, concrete or wooden tie ballasted track, continuous welded rail, and slab track. Concrete ties and continuous welded rail seem to meet the program requirements in the most cost effective manner.

An assessment of the bridges in the corridor concluded that many of the pre-1895 bridges are inadequate for the anticipated loadings in the 1990's and have not been properly maintained. Recently, several bridges have failed. Repair, strengthening, or replacement is required for many of the 860 bridges in the corridor.

An investigation of the major corridor tunnels revealed a need for track, drainage, and utility improvement. Switches and interlockings were analyzed to determine the need for rehabilitation and relocation and the necessary preliminary engineering was performed. The investigators concluded that centralized traffic control would be required, along with rebuilt interlockings, thus concentrating control of train operations to a few key centers. A new communications system would also be required.

The corridor currently operates with an antiquated electric traction system that does not even cover the entire route. Economic analyses indicate that electrification would be the most economical method to power high speed rail service, but it will be necessary to change the power supply frequency from 25 hertz to 60 hertz and to increase the voltage to 25,000 volts. The overhead catenary also needs to be modified.

There are still 47 public and 19 private grade crossings in the corridor. All the public crossings were analyzed and it was concluded that all should be eliminated except for one in New London, Connecticut. Preliminary plans for eliminating all the private grade crossings have been prepared.

The corridor is the object of widespread and diverse transportation planning activity. A total of 93 federal, state, regional, and municipal organizations have been identified as significant to the corridor plans. Information is being exchanged with all these organizations.

Emergency Improvement

A northeast corridor emergency improvement program was initiated in 1975, jointly with Penn Central and Amtrak. Service in the corridor has been deteriorating rapidly, due to Penn Central deferral of maintenance and to the age of most of the facilities. A detailed survey of current corridor conditions resulted in the identification of specific actions needed to forestall further deterioration and to avoid additional slow orders.

During the year, improvements were completed to the Old Saybrook Bridge over the Connecticut River, and design work was initiated for the Pelham Bay Bridge just north of New York. Machinery and work crews were assembled and track work was initiated between New York and Boston. The total maintenance program includes renewing 89 miles of rail, replacing 172,000 ties, surfacing 242 miles of track, rehabilitating 48 interlockings, cleaning 240 miles of ballast, and grinding 132 miles of rail. Completion of these tasks will significantly improve ride quality and schedule reliability.

Railroad Safety

Train accidents usually have one of three basic causes—defective track, defective equipment, or human error. During 1974, track defects caused 41 percent of all accidents, equipment defects caused 20 percent, and human error caused 20 percent. FRA track standards now cover 98 percent of the reported causes of all track accidents and recently adopted equipment regulations cover 97 percent of the equipment defects causing train accidents.

The track standards became fully effective on October 1, 1973. The equipment standards were issued in final form on January 1, 1974, and are being phased into effect. A requirement for safety inspection of each freight car placed in a train became effective on November 1, 1974. A requirement for periodic shop inspection becomes fully effective on December 31, 1976. A gradual reduction in track and equipment caused accidents is expected as the full impact of these regulations is felt.

The problem of human error as a cause of rail accidents is currently under investigation by a committee which was established by FRA on October 9, 1974.

". . . a state-of-the-art flaw detection system was acquired, calibrated, and evaluated on a test track . . . . FRA will direct future efforts toward increasing the speed of inspections (the current system is inaccurate at speeds over 15 mph) and toward expanding detection capabilities."

The committee is providing advice to FRA concerning safety problems involving operating rules. Problem areas addressed by the committee to date include accidents caused by misuse of the radio, by failure of other crew members to take appropriate action for the safety of their trains when enginemen neglect to do so, and by failure to provide preceding trains with flag protection against following trains.

State Safety Programs

Ten states, with a total of 15 inspectors, participate in the track inspection activities of the federal-state rail safety program. They include Alabama, Illinois, Iowa, Missouri, Nebraska, Ohio, Oregon, Pennsylvania, Vermont, and Washington. In addition, FRA has received applications from the states of Connecticut, Indiana, Kansas, Minnesota, New Jersey, North Carolina, and West Virginia. Additional state participation is anticipated after equipment guidelines (for freight car inspection, etc.) are issued.

Expansion of the program has been hampered by the prescribed inspector qualifications. Some states have not been able to recruit qualified candidates. FRA requires state track inspectors to meet the same qualifications as federal track inspectors because uniformity of qualifications is considered essential to an effective and uniform enforcement program. FRA plans, through an extensive training and career development program, to achieve the needed uniformity and to develop an adequate supply of qualified inspectors.

Safety Program Review

FRA is now developing both a short term plan and a longer range plan for its safety programs. These plans will provide a basis for reviewing its current safety programs as well as for setting new goals and policies.

The Rail Safety Improvement Act of 1974 directs the agency to submit a comprehensive railroad safety report to Congress by March 17, 1976. The report is to include: (1) descriptions of present and proposed safety standards; (2) identification of areas where there are no regulations; (3) identification of alternative and more cost-effective methods for inspection and enforcement; (4) an analysis of the number of safety inspectors needed by the federal and state governments and the industry to maintain an adequate safety program; (5) an analysis of the training and qualifications needed and the availability of such personnel; (6) an analysis of the state participation program and how it can be made more effective; and (7) recommendations for any additional legislation that may be needed to carry out the objectives of the act. Consultants have been hired to develop information for the study and to advise FRA on the most effective ways to attain these goals.

Operating Practices

A process for modernizing railroad operating practices and work rules has been demonstrated by a task force on rail transportation. The task force is a joint effort of rail labor, rail management, and FRA. A project team, composed of management and labor representatives working outside the normal collective bargaining process, will suggest changes that might improve service and efficiency. After receiving task force approval, the changes will be introduced experimentally and the results evaluated. If successful experiments require changes in work rules, the task force recommendations will be turned over to negotiating teams for incorporation into permanent agreements. The first experiment, the St. Louis terminal project, has now completed the cycle, resulting in a permanent work rule change.

Regulations

Hazardous materials were also the subject of regulatory activities. The activities in-

cluded the adoption of rules requiring installation of shields on certain tank cars and specification of the types of freight cars which could be used to transport Class A explosives.

Other major regulatory actions during the year included: (1) amending the accident reporting regulations; (2) proposing new and more effective enforcement methods; and (3) proposing new regulations concerning the health and safety of railroad employees.

Two emergency orders were issued during the year. One order removed from service a substantial amount of track over which the Penn Central Transportation Company was operating, because it did not comply with minimum track safety standards. The other order specified the way in which certain large tank cars used to transport hazardous materials must be handled during switching operations.

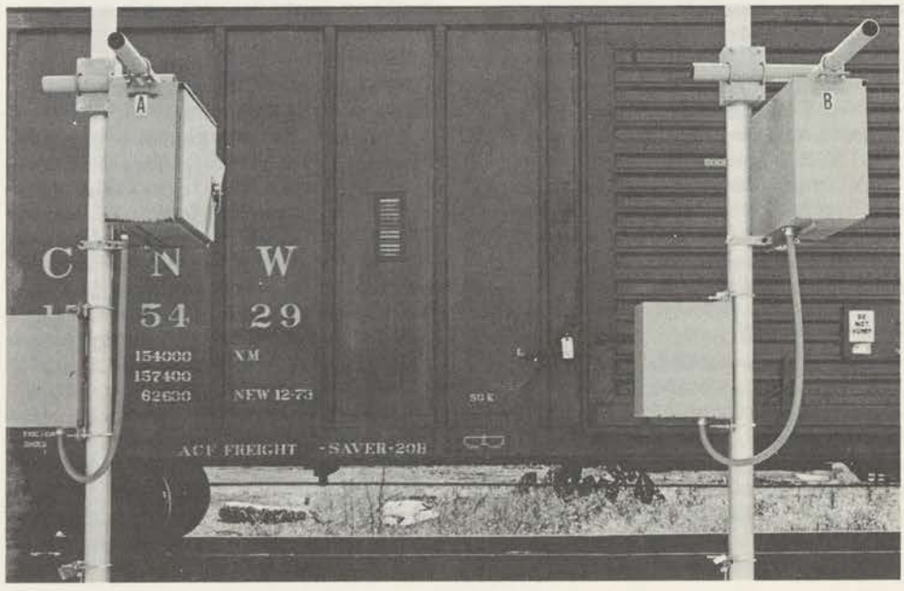
Research and Development

FRA research and development activities have been separated into rail safety and passenger and freight research to assure that the unique needs of each are properly addressed.

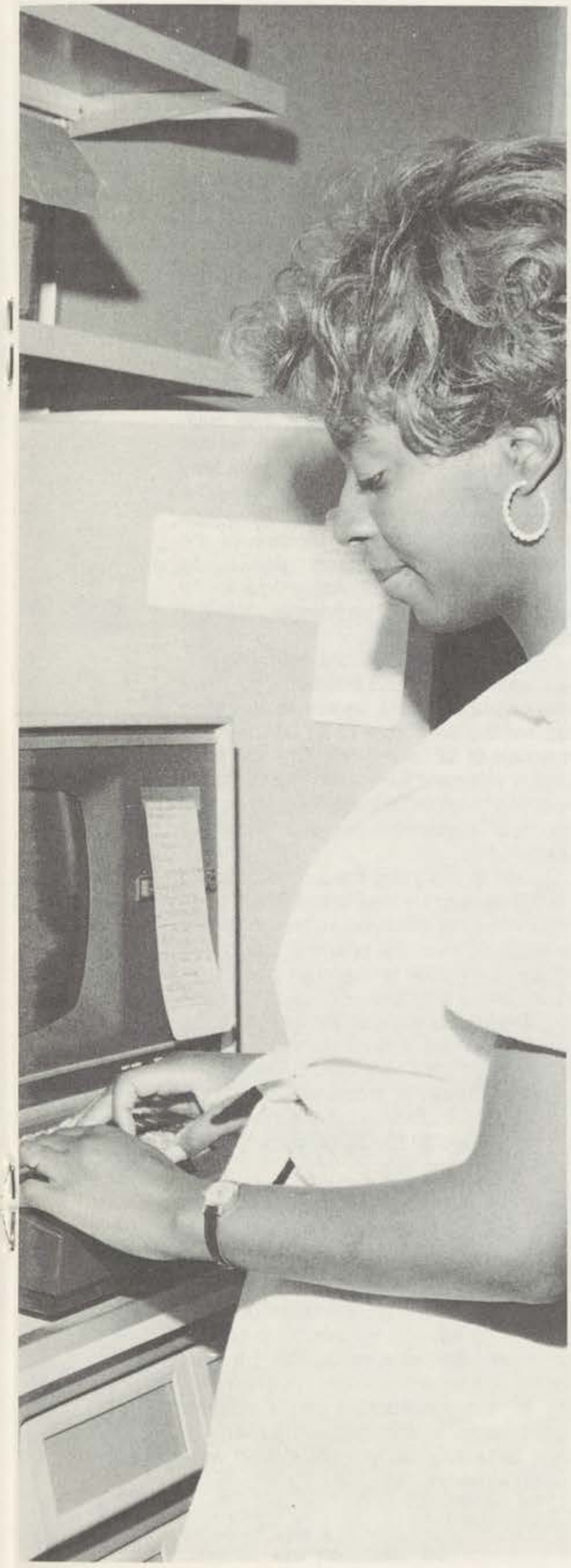
In order to ensure the maximum return from the available public and private research and development funds, FRA and the Association of American Railroads cosponsored a railroad research study conference at Woods Hole, Massachusetts, in June and July 1975. Experts from the railroad industry, government, and academia were invited to discuss rail research needs and priorities.

Some of the more significant research and development accomplishments during the year are discussed in the following paragraphs.

- Track simulation models were developed that are capable of predicting force levels and stress distribution throughout the total track system. Validation of these models through laboratory testing will begin in fiscal year 1977. The models will permit comprehensive evaluation of new track concepts and variations of current designs without requiring the expense of field tests.
- As part of an effort to reduce the number of accidents attributable to rail flaws, FRA is developing an automated inspection vehicle capable of detecting dangerous flaws more rapidly and more accurately than current methods. In fiscal year 1975, a state-of-the-art flaw detection system was acquired, calibrated, and evaluated on a test track containing known defects. FRA will direct future efforts toward increasing the speed of inspections (the current system is inaccurate at speeds over 15 mph) and toward expanding detection capabilities.
- FRA is continuing a study of ballast consolidation, a technique developed and utilized in Europe for restoring ballast density lost during track reprofiling and reducing the "slow-order" time required after track maintenance. Field tests using a ballast consolidator have shown the technique to be effective. Future work will include demonstrations on in-service track and the development of design guidelines.
- Proceeding under earlier agreements, FRA established an information transfer relationship with the Ministry of Railways in the Soviet Union. During the year, information exchanges were agreed to in the areas of railroad electrification, track testing, improved rail steel, and in-track detection of rail flaws. Two small U.S. delegations visited the USSR and one team from the USSR toured the U.S.
- FRA developed a prototype onboard monitoring system which will automatically sound an alarm or stop the train upon detection of hot journal bearings or a wheel derailment. The system will be evaluated on the Duluth, Missabe, and Iron Range Railroad.
- As part of an effort to improve crash survivability, FRA developed an analytical collision model to predict the forces involved in rear end train-to-train collisions. Locomotive-to-caboose impact tests to validate the model were completed late in the year.
- FRA continued to make progress in research directed toward development of safer tank cars. Facilities for testing insulation coatings and pressure relief valves were constructed. A related achievement was the development of an analytical impact model to study ways in which tank punctures occur during collisions.
- In the area of human factors, FRA developed a draft-buff indicator. This device will inform the locomotive engineman as to which couplers in the train are in tension (draft) and which are in compresion (buff). This information will aid the engineman in proper train handling.
- In cooperation with the Federal Highway Administration and the National Highway Traffic Safety Administration, FRA is seeking to develop lower cost and more effective highway grade-crossing protection and alerting devices. Prototypes of low-cost modularized grade-crossing barriers and electrical relays are now being evaluated. In addition to offering functional advantages over conventional equipment, these components will cost considerably less, thereby permitting the installation of protective devices at more grade crossings.
- The FRA track geometry measurement test cars collected and processed data for 15,500 miles of track during the year to determine compliance with track safety standards. Improved instrumentation was developed and installed on the test cars to



...an investigation into the electro-optical characteristics of the automatic car identification system...



...a formal minority recruitment program was begun...

provide an all-weather operating capability.

- In a joint Department of Transportation and Department of Defense program, special purpose flat cars used by the Department of Defense to move nuclear waste materials were instrumented and operated over FRA's train dynamics track. This particular equipment is being tested to determine if modifications can be recommended that would assure safer operation.
- The FRA dynamics laboratory should become fully operational in 1977. The laboratory will be capable of providing vertical and lateral vehicle excitation which is representative of the actual in-service environment.
- Investigations are underway to determine the actual fuel consumed to move goods by rail in branch line, unit train, mixed freight, and dedicated intermodal train service. This fuel consumption data will be used in validating an analytical simulation model previously developed to predict relative energy requirements under different operating conditions.
- In response to an industry request for assistance, FRA initiated an investigation into the electro-optical characteristics of the rail industry's automatic car identification system. Laboratory findings are expected to result in recommendations to the industry for equipment modifications.
- The first phase of the government and industry sponsored track-train dynamics research program has produced numerous mathematical models for evaluating train performance characteristics as well as a series of manuals and reports for use by the railroads in achieving increased productivity and cost savings through new operating techniques.
- To increase the reliability of goods delivery by rail, FRA has initiated a program to examine and improve the environment of goods currently shipped by rail in the trailer-on-flatcar configuration. The goal of this program is to select, from laboratory test results, that configuration which imparts the best ride quality to the lading and to validate the results with over-the-road tests.

"Northeast corridor ridership forecasts were developed, as well as an estimate of the share of the total passenger market that an improved rail passenger system could expect to attract. Forecasts were obtained from five independent sources. They indicated a 1990 rail ridership ranging from 24 million to 38 million trips per year."

In passenger systems, the major objective now is to help Amtrak do a better job. In the past, major emphasis was placed on advanced systems, such as the Linear Induction Motor Research Vehicle and the Tracked Air Cushion Research Vehicle. While these projects have provided extensive and useful data, their application in operational systems is still many years away. The emphasis today is on utilizing and improving the existing technology so that Amtrak and other rail passenger systems will have the best possible equipment available for operational use. The highest priority of all has been placed on safety.

- A pilot program for metroliner improvement was completed during the year. The objectives of the program were to make improvements in those components that had been responsible for a high failure rate and high maintenance cost. Four modified cars, two of which were equipped with General Electric propulsion and control equipment and two with Westinghouse Electric Corporation equipment, have completed a 25,000 mile road test which verified that the modifications are effective and reliable.
- The 150 mph (240 kilometers per hour) prototype tracked air cushion vehicle completed a series of static and low-speed checkout and systems operation tests. On May 9, 1975, the vehicle reached a speed of 102 mph (163 kilometers per hour), thus setting a new record for levitated vehicles in this country. The vehicle is limited to this speed until an additional guideway is completed.
- At the end of the year, a program was being planned to acquire indepth knowledge of existing passenger train systems, components, and subsystems that could be used in the U.S. in the near future. The information may provide a baseline for the development of an improved passenger train.
- Another program which was in the planning stage at the end of the year was the passenger-car truck test program. This program will collect performance and ride quality information on different passenger-car trucks. Also aiming toward improved passenger service is a planned signal, control, and communication study which will concentrate on achieving faster schedules at a minimum cost by improving existing signaling systems.

• Finally, passenger car riding quality, acceleration, and noise data were recorded during the year. The goal of this program is, ultimately, to develop ride quality criteria and specifications for improved passenger cars.

Data Systems

Despite the large amounts of data collected by railroads, few can identify specific costs associated with individual freight movements. This lack of information has made it difficult for railroads to determine the appropriateness of their rates and the validity of their managerial decisions.

In an effort to improve management information, FRA has initiated a series of research efforts which will, when completed, generate a method by which a railroad can identify all the elements of cost associated with any haul on its line. The first project is a roadway costing study which will identify the costs of acquisition, maintenance, and operation of rails, ties, ballast, and all other track related items. Subsequent studies in other functional areas are planned.

The identification of each cost element and its subsequent allocation to individual freight movements will allow the railroads to determine the profitability of each haul. Such knowledge should greatly improve the efficiency of railroads by providing management with new perspective in their decision making as well as in their evaluation of existing rate structures.

The first *Railroad Accident Bulletin* was published early in fiscal year 1975, covering accidents for calendar year 1973. The data included in the bulletin, as well as a companion publication, *Grade-Crossing Accidents*, was compiled by a railroad accident information system developed under the direction of FRA. This information system has provided the foundation for the development of a total safety information system for FRA.

An effort is now underway to develop a locomotive inspection system, an equipment inspection system, and an inspector work measurement system. Development of these additional subsystems was initiated in fiscal year 1975. Eventually, FRA expects to develop the capability to cross-reference and simultaneously assess data from any or all of these other systems as well as from the grade-crossing data system.

Freight Car Utilization

The freight car fleet is not meeting either the needs of shippers or the needs of the railroads. Shippers complain of difficulty in obtaining empty freight cars and of slow and unreliable transit times for loaded cars. At the same time, the existing fleet of cars is returning an inadequate profit to its owners. The ability of the fleet to satisfy both shippers and carriers can be achieved *only* by improving car utilization.

With guidance from FRA, a national task force on car utilization was formed in March 1974. In July 1974, the task force recommended a research program. As a result of this recommendation, a new steering committee was formed to promulgate the program. The committee met for the first time in February 1975.

The steering committee includes personnel from the Association of American Railroads, the Interstate Commerce Commission, the National Industrial Traffic League, the Transportation Association of America, the Railway Progress Institute, the Task Force on Railroad Productivity Operating Transportation Committee, and FRA. The committee represents a breakthrough in managerial approach and will provide the framework within which to institute needed changes. The committee will serve both as a common meeting ground and as a communication vehicle.

Civil Rights

As a result of FRA's civil rights program, additional minority railroad safety inspectors were hired during 1975, as well as two women trainee inspectors. In addition, one woman was appointed at the GS-15 level, and two women were promoted to the GS-13 level. Activity was started on equal employment opportunity awareness training for managers and a formal minority recruitment program was begun. Two upward mobility assignments were made during the year, and policy statements were issued concerning opportunities for the Spanish-speaking and American Indian groups, and positive action programs were established for both.

FRA's civil rights responsibilities have expanded as a result of increased federal assistance to financially troubled railroads. Consequently, a civil rights compliance review program was established during the year.

Alaska Railroad

Never before, in its 52 years of operation, has the Alaska Railroad had the freight tonnages, revenues, and employee productivity reflected in its fiscal year 1975 operating results. The railroad handled a total of 41,928 carloads of interline and local freight in fiscal year 1975, compared to 30,016 carloads in the prior year.

The railroad operates 534 miles of single line track in freight service from the ports of Seward and Whittier to Fairbanks. Interline freight comes to the ports on trainships and on rail barges. Traffic through the port of Seward had been very light since the earthquake of 1964. In fiscal year 1975, however, there were 5,317 carloadings through Seward, versus 150 in the prior year.

Passenger service is operated from Whittier to Portage and Anchorage, and from Anchorage to Fairbanks, a total of 419 road miles. The Whittier-Portage-Anchorage run is operated daily during the summer and twice weekly in winter months. Consisting of passenger coaches and flatcars for auto, truck, bus, and motorhome haulage, it principally serves the auto ferry, M/V BARTLETT, which runs between Whittier and Valdez. The main passenger service is between Anchorage and Fairbanks; it operates daily from May to September and twice weekly during the winter. The most important intermediate stop is McKinley Station, location of the McKinley Park Hotel and gateway to McKinley National Park. Approximately 75 percent of the tourist passengers make a stop at McKinley Park.

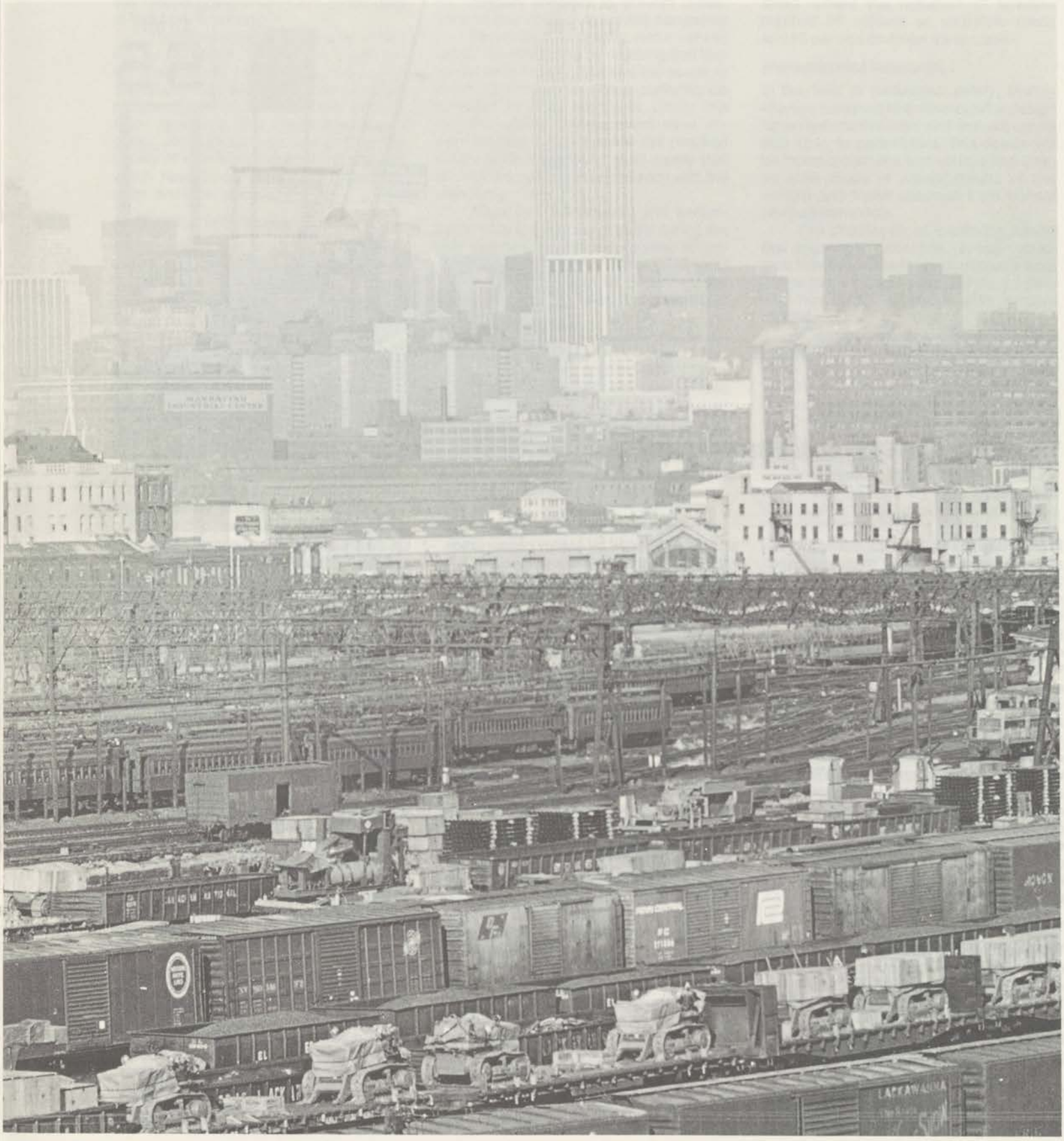
In fiscal year 1975, the operating surplus amounted to $5,806,505 (on revenues of $42.3 million), versus an operating loss for the prior year of $1,061,167 (on revenues of $21.5 million). The operating surplus was used to replace capital equipment and to undertake roadbed, track, and structure replacements and improvements.

During the year, the railroad carried 1.9 million revenue tons of freight a total of 466 million ton miles, an all time high and an increase over the previous year of 39 percent in revenue tons and an increase of 66 percent in ton miles.

There was a slight decrease in revenue passengers during the year: 81,418 versus 84,630 the year before. Passenger revenues, however, increased 22 percent (due to fare increases). Total passenger revenues were $935,127 versus $765,772 for the preceding year.

The Alaska Railroad is under a mandate from Congress to operate within its revenues. However, prior to 1975, it experienced a number of successive years of negative cash flows. In fiscal year 1975, Congress provided an appropriation of $6 million. The funds were used to purchase six locomotives, equipment for roadbed and track maintenance, and two cranes for use in the Anchorage and Fairbanks freight yards. In addition, some roadbed, track, ballasting, bridge, and culvert work was undertaken.

...a task force on car utilization was formed...


LACKAWANNA

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

In accordance with its responsibility to lead and coordinate a national effort to reduce traffic accidents and resultant deaths, injuries, and property damage, the National Highway Traffic Safety Administration (NHTSA):

- Provides technical and financial assistance to the states;
- Develops and promulgates highway safety standards, except in those program areas delegated to the Federal Highway Administration;
- Establishes and enforces federal motor vehicle safety standards to improve the safety of motor vehicles and equipment;
- Investigates safety-related motor vehicle defects; and
- Conducts a research, development, and evaluation program to advance the state of the art of motor vehicle and highway safety as the basis for standards development.

Traffic Safety

The basic federal traffic safety laws were enacted in 1966. The first federal motor vehicle safety standards were issued in 1967. The initial highway safety program standards also were issued in 1967, and the first comprehensive state safety program plans were approved in 1969.

In 1967, when the traffic safety programs were launched, the fatality rate per 100 million vehicle miles stood at 5.5; the 1973 rate was 4.3 and curving downward; and in 1974, aided by energy conservation programs, the fatality rate dropped to 3.7. This represents a 33 percent reduction from the 1967 rate.

Despite the gains made, there is a long way to go before the nation's streets and highways can be called safe. One of the greatest difficulties is that the problem will not stand still. It is growing. Several factors individually increase the risk and collectively compound the hazard. A few of these factors are described below.

- There is the exposure factor. Growing numbers of vehicles and growing numbers of drivers, traveling more miles per year, all add up to more exposure, or more opportunities for accidents.
- The youngest and oldest driver age groups are gradually increasing as a percentage of total driver license holders, and these two age brackets are the most likely to be involved in traffic accidents.
- Average vehicle speeds had increased year by year on every type of road and especially on rural roads—until speeds were reduced to conserve fuel. Higher speed not only leads to more accidents, but higher speed also provides greater impact forces and a consequent increase in the number of severe injuries.
- Alcohol is still the number one killer on the highways, and per capita consumption is up sharply. Between 1965 and 1972, per capita consumption of distilled spirits was up 33.8 percent, consumption of beer increased 15.6 percent, and consumption of wine increased 54.7 percent.
- Finally, there is a growing disparity in the mixture of types, weights, and sizes of vehicles on the road. All other factors being equal, in two-car collisions it is almost always the smaller vehicle and its occupants that suffer the greater damage.

Had the 1967 rate continued, over 70,000 motorists would have been killed on the highways in 1974, instead of the 45,931 who actually did die in traffic accidents. The rate is still too high, but there is reason to hope that, with dedication and advancing technology, it will continue to improve.

It is difficult to determine the relative efficacy of the wide variety of safety measures and devices that make up the total traffic safety effort. There are, however, some clues as to the merits of various aspects of the program. For example, by 1975, some 75 percent of the cars on the road incorporated the basic safety devices (required by standards effective in 1968), and these cars accounted for more than 75 percent of the miles traveled. In spite of an average annual increase of 4 percent in automobile registration, passenger car fatalities remained virtually constant in absolute numbers, in contrast to bicycle and motorcycle fatalities. It can be concluded, therefore, that safety measures taken by

the federal government have contributed to the lower fatality rates.

The highway safety programs carried out by the states, in compliance with national standards, have also contributed to the fatality rate decrease. Alcohol safety programs, new and improved law enforcement measures, and modernized emergency medical services are among the variety of effective programs and projects which have been carried out by federal, state, and local officials.

Alcohol and Drug Abuse

Approximately half of all the traffic fatalities in the United States are probably related, either primarily or partially, to the use of alcohol. Each year, about 28,000 people are killed in highway accidents in which alcohol is known to be present. While only 10 percent of all drivers are estimated to be problem drinkers, they are involved in almost two-thirds of the alcohol-related traffic deaths. Social drinkers and young people account for most of the remaining alcohol-related crashes.

In 1970, the Department launched a comprehensive program to increase public awareness of and develop solutions to the alcohol safety problem. The program included public education, research, and manpower development, and a series of demonstration projects to test various remedies. These demonstration Alcohol Safety Action Projects (ASAP's) eventually totaled 35.

The ASAP's served as the focal points for a systematic attack on the problem of drunken driving. They also provided an opportunity to demonstrate new alcohol safety countermeasures which could reduce alcohol-related fatal crashes. Most states are now carrying out locally conceived and locally oriented alcohol countermeasure programs modeled after the ASAP's.

In the Highway Safety Act of 1973, Congress authorized the Secretary to initiate research on the relationship between highway safety and drugs other than alcohol. Preliminary data on drug incidence in driver fatalities have now been collected. They indicate that the use of marijuana and sedative-type drugs may increase accident risk.

Crash Survivability

Traffic crashes will continue to occur due to malfunctions of one or more components of the highway system—the driver, the vehicle, or the highway environment. Crash survivability is the term used to indicate the chances for survival, without serious or fatal injuries, when a crash does occur.

NHTSA attempts to prevent unreasonable risk of injury to vehicle occupants and pedestrians by issuing motor vehicle safety standards and by requiring that motor vehicles equal or exceed the levels of crash survivability or safety performance specified in these standards. Under this system, vehicle manufacturers must design vehicles which provide the required safety performance and must certify that all vehicles built are in compliance with the standards.

Major NHTSA projects and accomplishments in crash survivability during the year included: (1) the performance of various experimental and analytical studies of human biomechanics, to determine the body's reaction to applied forces during a crash; (2) the performance of studies of the dynamic response of critical body areas, to improve anthropomorphic test devices; (3) the successful demonstration of a front-seat air-cushion restraint system for the driver and passengers of full scale cars at barrier impact speeds up to 45 mph; and (4) the demonstration of crash survival in a modified subcompact vehicle in a variety of very severe crashes.

". . . when the traffic safety programs were launched, the fatality rate per 100 million vehicle miles stood at 5.5; the 1973 rate was 4.3 and curving downward . . . in 1974, aided by energy conservation programs, the fatality rate dropped to 3.7 . . . a 33 percent reduction from the 1967 rate."

The 55-mph Speed Limit

Because transportation is a major energy user, the nationwide 55-mph speed limit was one of the most important conservation measures enacted by Congress to combat the fuel shortage. The safety benefits derived from the 55-mph speed limit are of such dimensions as to make it also a successful life-saving measure. Its effect has been to reduce both the risk of an accident and the severity of injuries when an accident does occur.

Beginning in November 1973, the nation experienced a sharp reduction in the number of motor vehicle accidents and fatalities. Traffic deaths were actually reduced by 24 percent during the most severe fuel shortage. They were approximately 20 percent below normal for the last 8 months of fiscal year 1974, and 17 percent below normal for all of fiscal year 1975. The benefits were greatest in rural areas, where the reduction in fatalities reached 36 percent on interstate roads and 22 percent on major state roads.

Biomechanics Research

In the field of pedestrian safety, biomechanics research has developed a design for an automotive front end that will cause less injury to pedestrians. This design will be incorporated in a test vehicle and comparisons made of impact results of this vehicle and those obtained from current production models.

The practicality of improving school bus passenger protection (through structural improvements to conventional school buses at a minimum cost and weight penalty) has also been successfully demonstrated.

A feasibility study and verification test were performed during the year to demonstrate that plastics can be used in basic vehicle structures to carry operating loads and enhance crash survivability while simultaneously achieving a reduction in weight.

Motorcycles were tested during the year to determine the ability of an air cushion system to diminish motorcycle crash injuries. A moving motorcycle was crashed broadside into a moving car. It was found that the pronounced weaving of the motorcycle prevented the proper positioning of the cushion between the rider and the vehicle. A computer designed front structure has now been added to the motorcycle and will be tested to determine its effectiveness.

Motor Vehicle Standards

During the year, standards were issued for a uniform system to grade passenger car tires for treadwear, traction, and heat resistance; standards for air brake systems and for nonpassenger car tires became effective; and proposed standards were issued for school bus hydraulic brake systems and rearview mirrors.

Two hundred and sixty-one vehicles were tested to check compliance with performance requirements of the federal safety standards; 305 tires and 4,116 items of miscellaneous equipment—including seat belts, lighting equipment, brake equipment, child restraints, and motorcycle helmets—were also tested. Some 200 compliance investigations were initiated, 387 investigations were completed, and 53 civil penalties (amounting to $172,000) were imposed during the year.

A new regulation was issued requiring both foreign and domestic manufacturers to report the vehicle identification numbers of all uncorrected vehicles after the ninth month of every defect recall campaign.

For the past year, NHTSA research in vehicle handling and stability has centered on solving chronic problems relating to tire break-in phenomena, instrumentation accuracy and reliability, and the dynamic frictional differences of test tracks. Concurrent with actual vehicle testing, the number of computer simulations has also been increased. They now include the dynamics of passenger cars pulling trailers and recreational vehicle dynamics.

Motorcycle braking performance and stability are critical to motorcycle safety. At the end of the year, research was underway to determine the braking capabilities of current motorcycles and the feasibility of a low-cost anti-lock brake for motorcycle front wheels.

Other fiscal year 1975 developments included:

- Completion of the passenger car tire program, which identified tire construction properties critical to vehicle dynamics;
- Completion of the first phase of a program that will correlate vehicle dynamic properties to driver performance;
- Completion of the first phase of a motorcycle safety improvement program which will determine where cost beneficial improvements can be made;
- Determination of the effects of tire characteristics and tire mixes on vehicle handling and braking performance;
- Completion of a prototype passenger car and light truck braking system inspection dynamometer, and
- Determination of brake component degradation limits for passenger car brake wear.

Integrated Vehicle Systems

Integrated vehicle systems activities are aimed at advancing the state of the art of automobile safety performance technology while maintaining other performance characteristics at acceptable levels. This is done by using a systems approach to integrate the safety subsystems into advanced vehicles and by trading-off safety performance against considerations of fuel consumption, cost of purchase and operation, and environmental protection.

The research safety vehicle program is now addressing cars in the 3,000 pound weight class. The first phase of this program included development of specifications and definition of the required vehicle characteristics. Five contract teams (AMF, Inc.; Calspan Corp.; Ford Motor Co.; Minicars, Inc.; and Volkswagenwerk) presented their first phase results to an international conference of government and industry researchers in May 1975. A 16-month second phase will include design work and developmental testing. Contracts for this work will be awarded early in fiscal year 1976.

Other evaluation and test activities continued on the U.S. developed family sedan experimental safety vehicle and on smaller experimental safety vehicles developed by overseas manufacturers.

Traffic Safety Data

Thirteen multidisciplinary accident investigation teams, made up of trained specialists, now work at research centers throughout the United States. Data from reports submitted by these teams have been coded and stored in a computer file which now contains information on over 7,000 vehicles involved in accidents.

During the year, NHTSA developed a fatal accident reporting system. This system will provide a statistical data base on all fatal motor vehicle accidents that occur in the 50 states, the District of Columbia, and Puerto Rico. The objective of the system is to produce data on traffic safety trends (to identify possible traffic safety problems) and to provide a basis for the evaluation of specific problems such as alcohol involvement, safety belt usage, emergency medical services, fuel tank ruptures, collisions with fixed objects, and accidents at railroad crossings.

A pedestrian/bicyclist accident data program was also developed during the year. This program is designed to provide descriptive and causal information on pedestrian and bicycle accidents. The data will be obtained through the use of supplemental accident investigation forms.

During the year, the Consumer Product Safety Commission established a national electronic injury surveillance system. The system provides information on medically diagnosed injuries treated in the emergency rooms of a statistical sample of the nation's hospitals; however, motor vehicle accidents were specifically not included. Arrangements have now been made with the Fairfax Hospital, Fairfax, Virginia, to start a pilot program to provide motor vehicle accident information.

Emergency Medical Service

Emergency medical service programs are underway in all the states, the District of Columbia, and Puerto Rico, with centralized planning, coordination, and (in many instances) control. This was accomplished after a NHTSA-instigated inventory of state emergency service capabilities and equipment had facilitated the development of statewide emergency medical service plans.

Many new ambulances have been purchased for the programs, either to provide service where none existed previously or to replace older or ill-equipped vehicles. As a result, a significant number of rural counties and communities now have quality emergency medical service for the first time.

More than 100,000 emergency medical technicians, plus some fire and police personnel, had received an 81-hour emergency medical course by the end of calendar year 1974.

Federal legislation enacted in 1973 permitted expansion of the program in which military helicopters and medical crews assist in the transportation and emergency treatment of highway crash victims. As of June 30, 1975, there were 22 active military assistance sites serving portions of 28 states; a total of 4,753 missions (10,556 flight hours) had been flown; and 5,125 seriously ill or injured patients had been assisted.

Motorcycles

NHTSA and the Motorcycle Safety Foundation have agreed to join forces to combat accidents involving motorcyclists. The goals of this joint endeavor include:

- Development of improved rider education and training programs;
- Encouragement of improved safety programs in the 50 states; and
- Development of improved rider licensing procedures and criteria.

During the year, helmet laws were adopted in Iowa and Nebraska and were upgraded in Oklahoma. By the end of the year, all but three states were in conformity with Department of Transportation helmet use requirements.

There was a decline in motorcycle sales in fiscal year 1975. This should result in a drop in novice riding and a sharp decrease in deaths and injuries.

Pedestrians and Bicycles

Congress took special note of pedestrians and bicyclists when it enacted the Highway Safety Act of 1973. Pursuant to the Act, preparation of a new bicyclist safety standard has been undertaken. Also in accordance with the Act, several special pedestrian and bicycle studies were initiated. They include:

- A review and evaluation of state and local ordinances, regulations, and laws;
- A review and evaluation of law enforcement policies, procedures, methods, and capabilities; and
- A study of the relationship between alcohol and pedestrian and bicycle accidents.

NHTSA research focused in particular on field tests of the effectiveness of experimental child pedestrian training programs and on new pedestrian safety mes-

sages which might reduce specific types of urban pedestrian accidents. NHTSA also developed a model ice cream vendor ordinance to protect children going to or from a vending vehicle.

Driver Education

Federal grants to states for driver education, from the beginning of the program through June 1975, have totaled $81.3 million. Allocations for fiscal year 1975 were $6.9 million. The funds were used to improve program coverage and content, to aid in the purchase of such equipment as driving simulators, and to upgrade the quality of instruction.

Driver Licensing

More than 125 million people are licensed to drive motor vehicles in the United States. The licensing process has evolved into a comprehensive program which includes improvement of driver competence (both initially and at the time of license renewal), the rehabilitation of problem drivers, and the improvement of operator license testing. During the year, NHTSA initiated demonstration projects in improved driver license screening and testing.

Traffic Record Systems

Since 1967, some 14 percent of all federal-aid safety funds have been used to improve state record systems covering drivers, vehicles, and roadways. This program has included:

- The conversion of manual systems to automated processing;
- The upgrading of existing automated systems, to improve efficiency and reduce processing time;
- The upgrading of system capabilities, to aid in law enforcement;
- The standardization of data within a state's system as well as between states; and
- The publication of a design manual for traffic record systems.

International Traffic Safety

Since completion of the four-year road safety pilot study conducted by the U.S. for NATO's Committee on the Challenges of Modern Society, the seven participating NATO nations have accepted follow-up responsibilities in their respective project areas: alcohol and highway safety (Canada); motor vehicle inspection (Federal Republic of Germany); emergency medical services (Italy); accident investigation (the Netherlands); pedestrian safety (Belgium); identification and correction of road hazards (France); and experimental safety vehicles (United States).

...the passenger car tire program identified tire construction properties critical to vehicle dynamics...

The U.S. is also responsible for the overall study follow-up. Three international organizations, the European Conference of Ministers of Transport, the Organization for Economic Cooperation and Development, and the Committee International de 1'Inspection Technique Automobile, are supporting the follow-up work. The Road Safety Committee of the European Conference of Ministers of Transport, comprised of members from 18 NATO nations, agreed in February 1975 to act as the focal point for the road safety follow-up program and to host periodic road safety ad hoc group meetings.

Advisory Groups

During the year, the National Motor Vehicle Safety Advisory Council sponsored a Third International Congress on Automotive Safety. The congress resulted in recommendations calling for: (1) improved data collection systems on motor vehicle crashes involving pedestrians and bicyclists; (2) increased emphasis on developing improved anthromorphic dummies to determine and simulate human injury tolerances in highway crashes; and (3) equalization of vehicle aggressiveness between large and small cars.

During the year, the council also adopted positions urging delay coupled with vastly increased field testing of air cushion restraint systems, improved consumer information on child safety restraints, and implementation of mandatory safety belt use laws.

The National Highway Safety Advisory Committee's Ad Hoc Task Force on Adjudication explored the effectiveness of traffic courts in highway safety. A task force report concluded that little evidence exists to support mandatory jail sentences on the basis of improved highway safety.

The committee recommended that the Secretary: (1) issue a highway safety standard on bicycling; (2) improve the safety of the nation's trucking system through more efficient trucking regulations; (3) create a massive public works program to correct hazardous highways; (4) reverse the Department's support for heavier trucks on the interstate highway system; (5) support continued and increased but equitable enforcement of the national 55-mph speed limit on the basis of saving lives as well as energy; (6) conduct intensive public education on safety belt usage and encourage states to require their use; and (7) eliminate temporarily the matching fund requirement in regard to highway safety construction, obligate the funds more rapidly, and ensure that the states meet minimum federal standards.

Consumer Information

NHTSA consumer information services were augmented during the year by two new programs: (1) the periodic direct mailing of bulletins and tire-recall notices to consumer protection officers across the nation; and (2) a new computerized consumer service which provides the identification numbers of vehicles whose owners have failed to respond to defect recall campaigns.

A toll-free consumer hotline was expected to open in October 1975. It will operate 5 lines and provide service to 12 states during a one-year experiment. The hotline should be a speedy and economical way of improving communications between the public and NHTSA.

Civil Rights

During fiscal year 1975, NHTSA continued to make significant progress in its civil rights programs. Notable accomplishments during the year included:

- Awarding research contracts to a women-owned management consultant firm;
- Exceeding, for the fourth consecutive year, the established goal for contracts awarded to minorities; and
- Filling over 42 percent of all professional level positions with minorities or women.

URBAN MASS TRANSPORTATION ADMINISTRATION

The National Mass Transportation Assistance Act of 1974 provided authority for the Urban Mass Transportation Administration (UMTA) to distribute $11.8 billion for mass transportation projects through fiscal year 1980. It also established a formula for distribution of a significant portion of the funds.

The act authorized the establishment of a $3.9 billion formula grant program to assist urban areas in financing transit capital projects and transit operations; it provided $7.8 billion for discretionary transit capital projects; and it authorized a $40 million fare-free mass transportation demonstration program. The federal share for capital assistance projects, both formula and discretionary, remained at 80 percent. The share for operating assistance projects was set at 50 percent.

As a result of the mass transportation assistance act and the 1974 federal-aid highway amendments, UMTA can now provide financial assistance to transit authorities (both public and private) for local transit improvements (including the purchase of buses and rail transit cars), for the construction or modernization of transit facilities, and for transit operating expenses. In addition, UMTA makes grants for technical studies relating to the management, operation, capital requirements, and economic feasibility of mass transit systems. It also conducts extensive research and development programs which include the testing and development of new techniques, methods, systems, and equipment.

Capital Assistance

During fiscal year 1975, a total of $1.2 billion in capital assistance grants was approved, involving 117 new projects and 71 ongoing projects. This included $20.8 million for 49 projects to provide capital equipment and facilities for use by nonprofit organizations to provide transportation for the elderly and handicapped.

Over $400 million were approved for buses and bus-oriented projects. More than 4,000 new buses will be purchased, bringing the total number of new buses purchased under this program to over 24,000, including 600 electric trolleycoaches. Funds were also made available for the construction of 15 new bus garages.

Some of the more interesting bus-related grants are discussed below.

- In one of the largest single grants ever made for the improvement of bus transportation, New Jersey received $60 million to assist in the purchase of 800 to 900 new buses which will be assigned and leased to a number of bus companies, nearly all privately owned, throughout the state. The exact number of new buses purchased will depend on the prices quoted.
- A grant of $17.1 million was made to Milwaukee County to provide funds for the acquisition of the last major privately-owned transit system (Milwaukee and Suburban Transport Corporation) that had no ties to an electric utility firm. Also funded was the purchase of 100 new buses for the system.
- A grant of $14.2 million was made to the Utah Transit Authority to enable it to purchase 211 new buses and support facilities. This brings the number of UMTA-funded buses in the Salt Lake City area to 300. Voters in this region approved a sales tax to enable a bus fare reduction to 15 cents. As a result, ridership has shown remarkable gains, with a 74.2% increase in the first six months of 1975 compared with the same period in 1974.
- During the year, a great deal of interest was shown in articulated buses. Grants to assist in the purchase of articulated buses were approved for the following systems: Oakland-30 buses; San Diego-45 buses; and Chicago-20 buses. (The Chicago buses were funded through urban system funds made available under the Federal-Aid Highway Act of 1973.)
- Many grants during the year involved funds for special vehicles (usually vans) for the use of elderly and handicapped passengers or for the provision of special equipment (such as lifts) on regular buses. More and more communities are showing

interest in the mobility problems of people whose age or physical disability have made the use of mass transit difficult.

Throughout the year, rail transit projects continued to receive the bulk of the capital grant funds. The largest commitment, $162,960,000, was granted for New York City's connecting links to the 63rd Street tunnel under the East River. These connections will provide access to the tunnel for existing rapid transit routes in Manhattan and Queens. The tunnel, which is now completed, was funded by the state. Another grant of $74 million was made to New York City for additional work on the Archer Avenue Subway in the Jamaica section of Queens. This project will provide a connection to the Queens Boulevard subway and also permit removal of a portion of the antiquated Jamaica Avenue elevated structure.

Some of the other major rail transit grants made during the year are discussed below.

- The state of New Jersey received $76.5 million to assist in the purchase of 160 new electric commuter cars for use on the Erie Lackawanna Railway's lines in northern New Jersey. The present fleet of cars ranges in age from 45 to 60 years.
- Two grants, totaling $150 million, were approved for the Atlanta rapid transit system which is now under development. The first grant, $80 million, was announced at the formal ground-breaking ceremony. It provides money for construction on the East Line (downtown Atlanta to Decatur). The second grant provided funds to purchase the first 100 rapid transit cars for the system. By the end of the year, UMTA had committed a total of $270 million to the Atlanta rapid transit system and had announced that it intends to commit a total of $800 million.
- A grant of $76.1 million was made to the Baltimore transit system, for which ground was broken in October 1974. UMTA also announced that it intends to commit an additional $500 million to the Baltimore system.
- During the year, several grants were made for the purchase of rapid transit rolling stock. The West Suburban Mass Transit District in Chicago was granted funds for the purchase of 20 diesel-hauled gallery commuter cars for use on the Burlington Northern. Through the use of interstate transfer funds, 40 new rapid transit cars will be purchased by Boston's Massachusetts Bay Transportation Authority (in addition to the 80 previously funded); and 20 new electric commuter cars will be purchased by Philadelphia's Southeastern Pennsylvania Transportation Authority (in addition to the 50 previously funded) for use on the Reading Company lines. By the end of fiscal year 1975, over 4,000 new rail cars had been purchased as a result of UMTA funding.
- Funds were approved during the year for several new or ongoing rail transit improvement projects, including the Philadelphia airport rail line and center city commuter connection.

In September of 1974, a grant in the amount of $10.3 million was approved for the famous Staten Island Ferry service in New York City. The funds will be used for the purchase of a second new ferry boat.

Formula Grant Assistance

On November 26, 1974, the National Mass Transportation Assistance Act of 1974 amended the Urban Mass Transportation Act of 1964 by adding a six-year formula grant program. The act provided $3.975 billion for fiscal years 1975 through 1980,

"As a result of the mass transportation assistance act and the 1974 federal-aid highway amendments, UMTA can now provide financial assistance to transit authorities . . . for local transit improvements (including the purchase of buses and rail transit cars), for the construction or modernization of transit facilities, and for transit operating expenses."

with the funds to be made available by formula to 179 urbanized areas on the basis of aggregate population and population density.

The funds are available for both capital assistance and operating assistance. For capital assistance, the funds can cover up to 80 percent of the cost of new facilities, equipment, or vehicles, which is similar to the provisions of the existing discretionary capital grant program. For operating assistance, the funds can cover up to 50 percent of the expenses directly accrued by the operation of mass transportation services during the local fiscal year.

An apportionment of $300 million was made on enactment of the legislation; and by June 30, 1975, 113 grant approvals totaling $151.6 million had been made. The communities involved had designated 94 percent of the total for operating assistance and 6 percent for capital assistance.

Transit Management

The first national conference on transit marketing was held in Washington. The conference gave transit managers and transit marketing personnel an opportunity to gain a more comprehensive knowledge of transit marketing.

A two-week course on transit marketing was developed during the year. This course will enable personnel in the transit marketing field to gain an understanding of urban transit issues and the dynamics of the marketplace and to acquire useful marketing tools and techniques.

A battery of tests for the selection of bus operators was also developed during the year. By the end of the year, over 30 transit systems were using the tests.

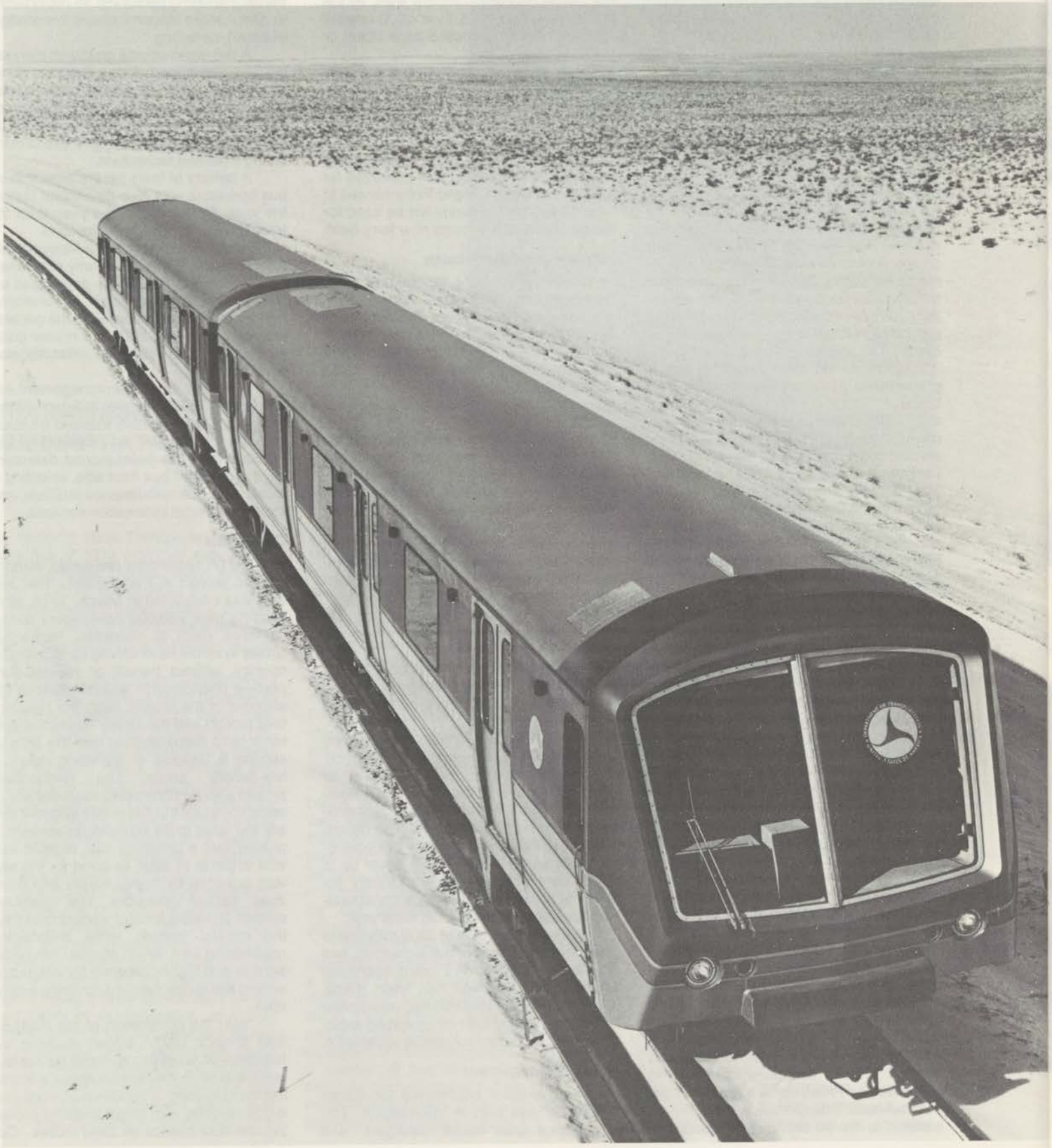
An on-site review of the Metropolitan Atlanta Rapid Transit Authority rail transit development program was conducted by UMTA. Recommendations, conclusions, and findings were forwarded to the general manager of the system. The review dealt with such subjects as safety, reliability, and maintainability.

A number of transit management improvement studies were initiated during the year. These studies focused on such management issues as measuring the productivity of bus maintenance, determining the optimum bus fleet size, selecting a location for bus maintenance facilities, and improving transit information services.

Dial-a-Ride

The UMTA sponsored dial-a-ride demonstration project in Haddonfield, New Jersey, was completed in March, 1975, after carrying over 700,000 passengers during its three years of operation. Numerous similar systems have sprung up all over the country, without benefit of federal support—a phenomenon which indicates the success of the project. Both the Haddonfield project and the locally supported systems have demonstrated that this type of service is capable of attracting riders in low-density areas. The Haddonfield project also demonstrated the feasibility of using computers in dial-a-ride systems that are too large to be scheduled manually. It proved that a computer can provide service which is at least as good as the service provided by highly skilled and practiced manual operators. The computer system provided shorter waiting time than the manual system, while maintaining equal riding time, which means both better service and higher capacity for computer-served dial-a-ride systems covering a large area.

With the completion of the Haddonfield project, UMTA began studying the feasibility of providing demand-responsive service in large low-density areas, integrating the operation of hundreds of small dial-a-ride vehicles with larger systems providing line-haul service on fixed routes. Cur-



...state-of-the-art rail cars were tested in revenue service in New York, Boston, Cleveland, Chicago, and Philadelphia...

rent work includes computer simulation studies, analyses of existing demand-responsive systems, and the development of new control techniques.

Transbus

UMTA's Transbus prototypes were tested in revenue service in Miami, New York, Kansas City, and Seattle, where their performance and their impact on riders and the public were carefully observed and recorded. Meanwhile, other prototypes of the same design were subjected to severe testing on a proving ground to ascertain their performance and endurance characteristics. The results of these tests will be considered in preparing recommendations on production configurations. Passenger comfort and safety were given top priority in the design of the Transbus prototypes. High priority was also given to accessibility. Low steps and wide doors provide easier boarding of the buses by the elderly and handicapped. An optional ramp or lift is available for passengers in wheelchairs.

SOAC

During the year, UMTA's state-of-the-art (SOAC) rail cars were tested in revenue service in New York, Boston, Cleveland, Chicago, and Philadelphia. These cars, representing the best available off-the-shelf technology, traveled over 18,000 miles on these transit systems and carried more than a quarter of a million people in unprecedented comfort and safety.

Light Rail Service

A three-day joint UMTA, Transportation Research Board, and University of Pennsylvania sponsored conference was held at Philadelphia in June to broaden the understanding of light rail service by urban transportation planners. This conference, the first held in North America, generated widespread interest and attracted over 600 representatives from transit agencies, local governments, state agencies, regional and city planning agencies, federal agencies, universities, private organizations, and professionals concerned with urban transportation planning.

The conference was initiated by the Department of Transportation in an effort to familiarize the U.S. transportation community with a mode of travel that could be a strong contender for attention in many cities now facing mounting transit construction costs and growing environmental constraints. Presentations, workshops, and panel discussions were offered on light rail technology, operation, economics, and policy by key public officials, transit industry representatives, and members of the academic community and the consulting profession. A follow-up study, to provide additional indepth information, was nearing completion at the end of the year.

Research and Development

In its continuing effort to improve commuter travel, UMTA has sponsored the development of two trains, each consisting of four prototype dual-power (gas turbine and electric) cars. These trains will eliminate the inconvenience and delay of changing between electric and diesel-powered trains. They will also eliminate the need for expensive extensions of electrified track into areas which require only infrequent service. After thorough testing on test tracks, both trains were taken to New York City where they have been undergoing further testing on Long Island Railroad tracks.

Another innovative vehicle developed by UMTA made its appearance on the rails of a public transit system—the stored energy (flywheel) rapid rail cars. These vehicles are two standard R-32 New York City Transit Authority cars, each equipped with two flywheel energy-storage systems. These devices store the energy, ordinarily dissipated as heat, which is generated during the braking (deceleration) process. During acceleration, the stored energy is used to produce electricity which assists in driving the traction motors. The system thus reduces overall power consumption and, incidentally, also reduces the air temperature in tunnels and stations. At the end of the year, the cars were being prepared for testing in revenue service.

". . . to improve commuter travel, UMTA has sponsored the development of two trains, each consisting of four prototype dual-power (gas turbine and electric) cars. These trains will eliminate the inconvenience and delay of changing between electric and diesel-powered trains. They will also eliminate the need for expensive extensions of electrified track into areas which require only infrequent service."

Three and a half years of research on a neglected area of subway design culminated in a major contribution to the building of subways—an engineering handbook and a computer program on the ventilation of subways, both of which were published during the year. By using the results of this research, two major subway systems still in the planning stage will reduce the cost of their ventilation systems by a combined total of $5 million.

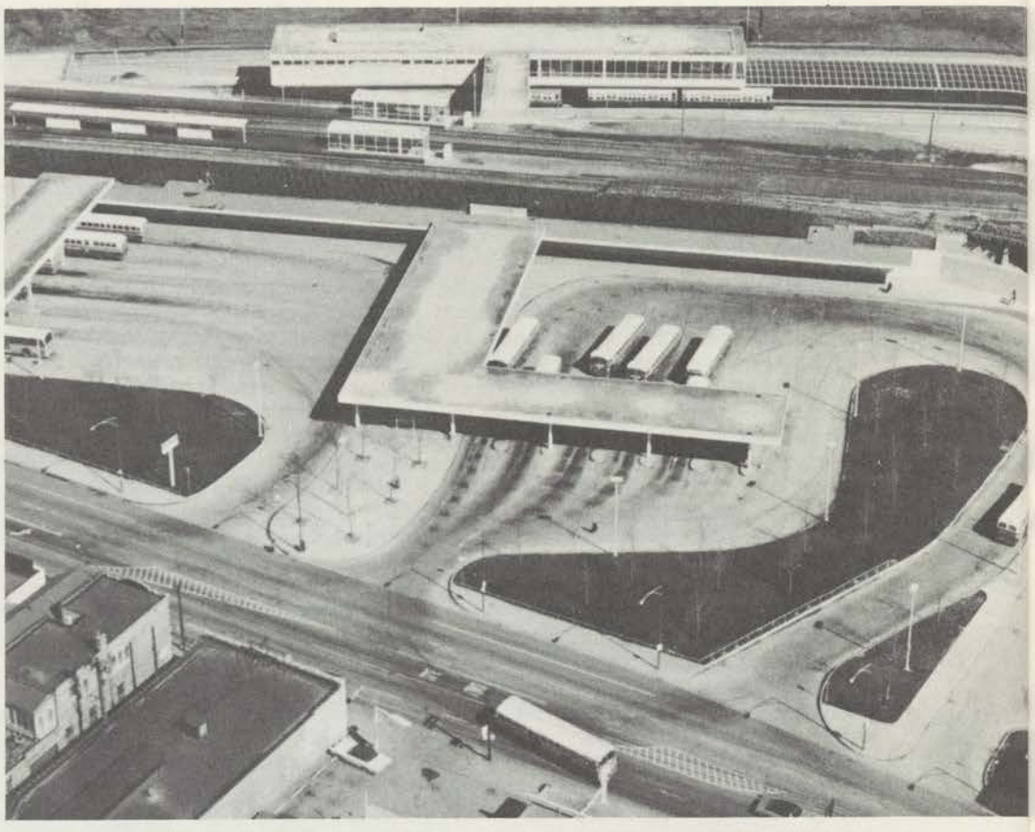
In transit bus technology, work was proceeding on the design of a high-capacity (75 or more passengers) articulated bus intended to relieve the strain of peak-hour service. UMTA has also recognized a need for better small buses and has awarded a contract to develop a performance specification and conceptual design for a vehicle or family of vehicles which can meet the requirements for small buses in urban mass transit service.

There is a need for some supplement to regular mass transit service, particularly in areas of low population density where there are people who need to travel but who do not have access to private cars or to mass transit service. Taxis now fill this need to a large extent, but existing taxi vehicles leave much to be desired. UMTA is sponsoring the development of two prototype paratransit vehicles suitable for taxi and other specialized service. The vehicles will combine several desirable features, including a clean and quiet engine, maneuverability in urban traffic, and easy entry for the elderly and handicapped.

After UMTA's successful experience with flywheel energy storage on rapid rail vehicles, it was logical to explore its utility in other vehicles. Accordingly, UMTA has initiated study projects to determine transit vehicle propulsion requirements for various types of fixed-route multi-stop services, to examine the maximum potential energy storage obtainable from various flywheel designs and to predict the effects of adding flywheel energy storage to existing propulsion systems.

UMTA's state-of-the-art car demonstrated the advantages of several rail vehicle technologies which are already available. The next generation of rapid rail cars is being developed in the form of an advanced concept train which will demonstrate the benefits of more advanced technology. It will feature a new lightweight easy-maintenance monomotor truck with bolted-on resilient wheels; an advanced flywheel energy storage system with all major auxiliaries driven from the flywheel, thus eliminating many electric motors; an aircycle air-conditioning system; an aluminum frame with a composite panel carbody for easy manufacturability; an energy absorbing system for low-speed impact control; a modular interior, for demand-tailored applications; and a reduction in the life cycle cost of ownership and operation.

...a changing emphasis in transit planning to the development of integrated transit programs...



UMTA is also performing research and development on new, innovative, high-technology vehicles and systems that are intended to provide fast, convenient, automatic transit service with an efficiency hitherto unknown.

Automation is the basic ingredient in all the new systems thus far proposed, which some call "people movers" but which UMTA calls "automated guideway transit systems."

The Morgantown, West Virginia, system is the first of UMTA's automated guideway transit systems to enter operational service. Much has been learned during the design and testing stages that will be useful in the development of more advanced automated systems, and still more information on system costs, performance, and public response will be gained once it begins operation in revenue service (scheduled for the fall of 1975).

As work on the Morgantown system was nearing completion, research and development was started on its successor, an advanced group rapid transit system. Whereas the Morgantown system can carry 5,040 passengers (some standing) per lane per hour, research indicates that it is technically feasible to provide a capacity of 14,000 seats (no standing passengers) per lane per hour. This increased capacity is one objective UMTA has set for the advanced group rapid transit system. The added capacity will permit operation in downtown circulation networks where several lines may join to serve a single heavily used station. During fiscal year 1975, the first phase (concept design, definition, and specification) was nearly completed. Three preliminary designs were expected to be ready by August 1975.

The assessment of existing automated guideway transit systems is essential to an understanding of their capabilities. Such an assessment of the Airtrans system at the Dallas-Fort Worth Regional Airport was undertaken during the year. The study was to cover both technical and operational performance, with emphasis on human factors, social acceptability, and public reaction, as well as maintenance and operating costs.

Finally, UMTA's research and development activity includes a program of assistance to universities and students for the purpose of strengthening academic research and training programs involving urban mass transportation. Ten grants were awarded in fiscal year 1975, covering a variety of projects, all of which directly support various UMTA activities. Seven comprehensive grants, encompassing both research and training, were awarded during the year, with three (for the first time) providing support for a three-year period.

Planning Assistance

The number of states, localities, and metropolitan areas receiving technical studies grants continues to grow. From fiscal year 1973 to 1975, the number of recipients increased from 85 to almost 300. This expansion is the result of increased local awareness of the importance of transit systems and of a changing emphasis in transit planning from the development of individual transit systems to the development of integrated transit programs.

The Department published a proposed policy on major mass transportation investments in the Federal Register on August 1, 1975. The proposed policy would establish a requirement for a comprehensive analysis of alternative fixed guideway and busway investments and the identification of cost-effective alternatives as a prerequisite to any federal commitment. The proposed policy was developed after a consultative conference held in February 1975 at the Airlie House Conference Center. It is anticipated that a second consultative conference will be held prior to final publication of the policy statement.

Demonstration Projects

A total of $12.2 million was made available during the year for service and methods demonstration projects. The objectives of this program are: (1) to reduce travel time for transit users; (2) to increase the area covered by transit service; (3) to improve the reliability of transit service; (4) to improve the mobility of transit dependent people; and (5) to increase the productivity of transit vehicles.

In Rochester, New York, an urbanized area of approximately 600,000 population, UMTA is sponsoring a comprehensive demonstration project that will seek progress toward all the objectives of the program. The primary aims, however, will be: (1) the development of a cost effective strategy to increase area coverage; and (2) a reduction in trip time. The technique which will be employed is called an inte-

grated fixed-route and demand-responsive service. It is expected that the transit service model developed in Rochester will be applicable in many other cities. Ultimately, Rochester plans to establish demand-responsive service in eight zones around the periphery of a fixed-route system which will serve the more dense urban portion of Rochester. Initially, however, only three zones will be involved.

Another project, one which provides a range of demand-responsive services for the elderly and handicapped, is now operational in Naugatuck Valley, Connecticut. It provides both subscription and dial-a-ride service and features a credit card system which permits monthly billing either to the riders or to the 20 social service agencies which use the system. This type of service has potential application in several hundred urban locations.

Regulatory Activities

During the year, UMTA, in cooperation with the Federal Highway Administration, issued regulations implementing those provisions of the Federal-Aid Highway Act of 1973 which are jointly administered by the Federal Highway Administration and UMTA. The regulations deal with transportation improvement programs and with urban transportation planning.

Before the end of the fiscal year, UMTA published a notice of proposed rulemaking on the elderly and handicapped transportation services and on charter and school bus operations.

Civil Rights

During fiscal year 1975, UMTA maintained its lead position within the Department in the field of equal employment opportunity. At the end of the year, 125 of its 400 employees, or 31.3 percent, were minority. Minorities also constituted 21.6 percent of UMTA's professional employees, or 61 of a total professional complement of 283. In addition, females constituted 41.3 percent of all UMTA employees and 20.5 percent of its professionals.

In carrying out its civil rights compliance responsibilities, UMTA found 27 grant recipients to be in noncompliance. Of these, 21 were brought into compliance by the end of the fiscal year.

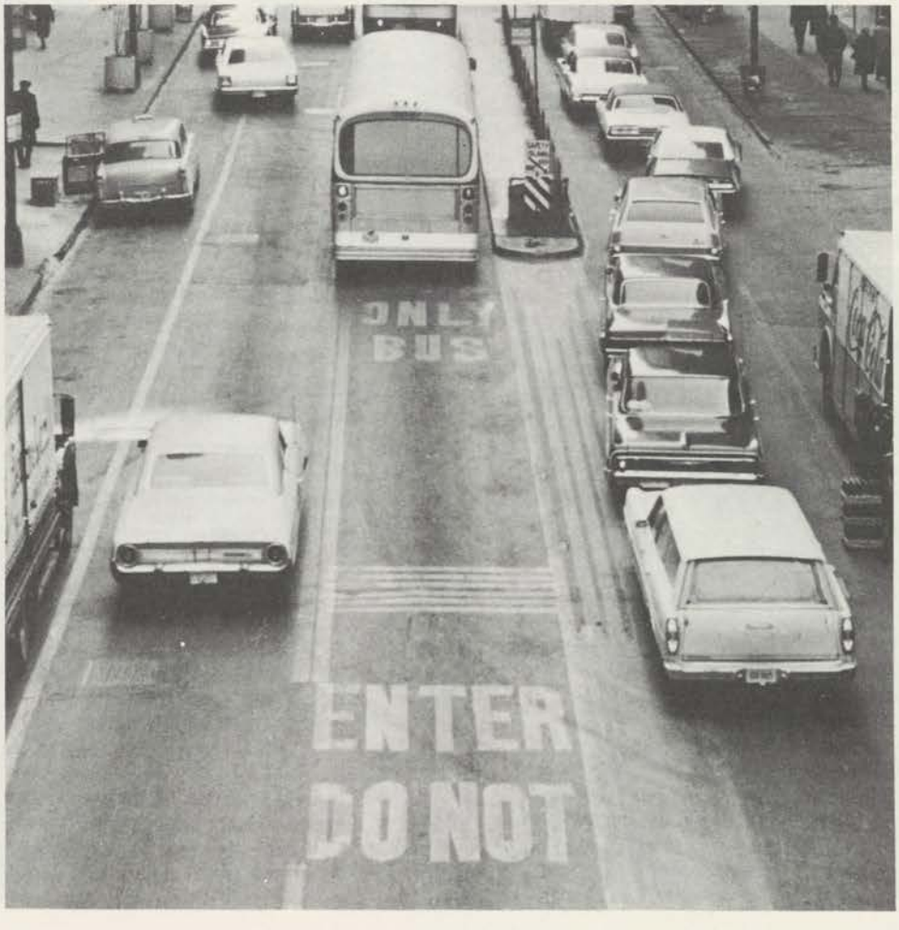
UMTA placed new emphasis on its minority business enterprise program during the year, resulting in increased awards to minority endeavors both through UMTA's direct procurement activities and the procurement activities of grantees. In addition, $311,704 was awarded to universities with predominately minority student enrollments.

Administration

In April 1975, UMTA assumed responsibility for the negotiation, awarding, administration, and closeout of all federal procurements which it initiates. To facilitate the assumption of this responsibility, which was transferred from the Office of the Secretary, a procurement division was formed within UMTA. The functions of this division also include those services which were formerly performed by UMTA's third-party contract analysis staff. This includes the reviewing of contracts between grantees and their subcontractors to assure that good procurement procedures are used and that maximum feasible competition is achieved.

A new UMTA personnel division was also formed, in May 1975. This division performs most of the personnel services which were previously carried out for UMTA by the Office of the Secretary. They include recruitment, position classification, labor relations, training and education, employee benefits and services, and personnel records.

In addition to the establishment of these two new divisions, UMTA has also expanded the operations of its program audit division, both in the headquarters office and the regional offices. Because of increased audit responsibilities (resulting from new operating assistance projects and UMTA's decision to allow indirect costs to be included in its grant projects), the work of the program audit division expanded considerably. To cope with this expanded workload, the division accelerated its plans for decentralized audit operations. A new field audit office was established in New York and the existing offices in Boston, Chicago, and San Francisco were given authority to plan and control all audit work in their assigned regions and to sign and issue their own audit reports.

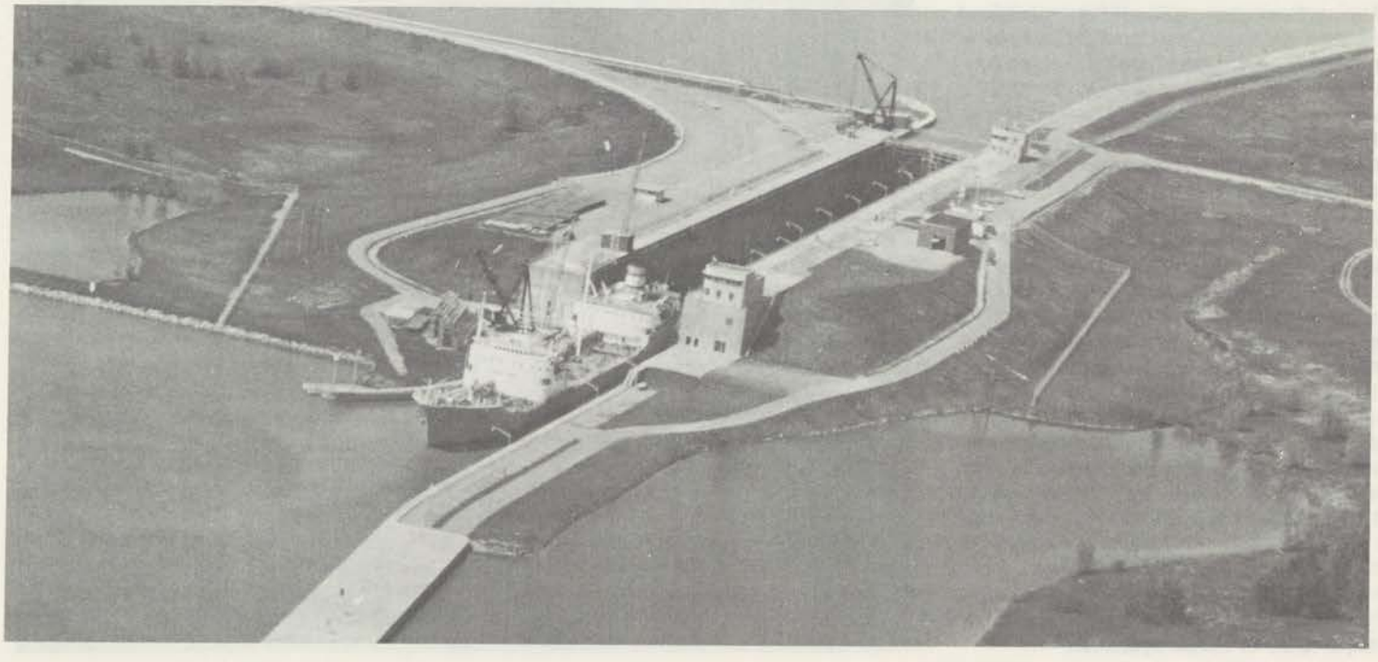


...increased local awareness of the importance of transit systems...

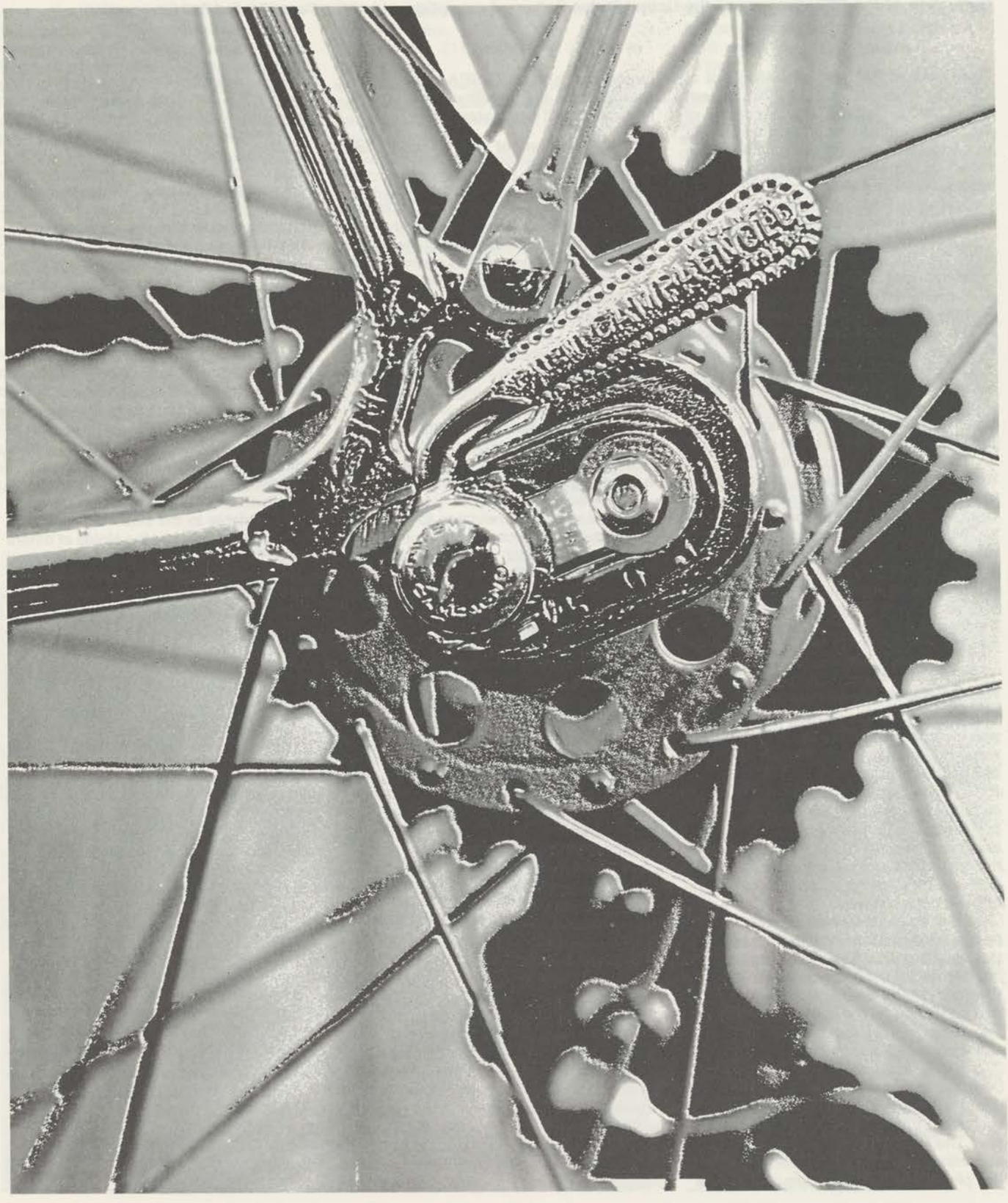
ST. LAWRENCE SEAWAY DEVELOPMENT CORPORATION

The Saint Lawrence Seaway Development Corporation is a self-sustaining government owned business. The activities of the corporation are financed by tolls and other charges assessed for the use of the Eisenhower and Snell locks, which are managed by the corporation. The Saint Lawrence Seaway Development Corporation submits a separate annual report to Congress on a calendar year basis.

...the Snell lock...



PART III APPENDIX



The Regional Rail Reorganization Act of 1973, as amended (45 USC 701 et seq) ("Rail Act"), requires the Secretary of Transportation, as part of his annual report to Congress, to submit a comprehensive report on the effectiveness of the United States Railway Association (USRA) and Consolidated Rail Corporation (ConRail) in implementing the purposes of the Rail Act.

Section 101(b) of the Rail Act sets forth the following purposes which Congress intended to be achieved:

- The establishment of the United States Railway Association;
- The establishment of the Consolidated Rail Corporation;
- The identification of a rail service system in the midwest and northeast region which is adequate to meet the needs and service requirements of this region and of the national rail transportation system;
- The reorganization of railroads in the region into an economically viable system capable of providing adequate and efficient rail service to the region;
- The provision of necessary federal financial assistance at the lowest possible cost to the general taxpayer; and
- The provision of assistance to states and local and regional transportation authorities for continuation of local rail services threatened with cessation.

1. Establishment of the United States Railway Association

The United States Railway Association was incorporated as a government corporation on February 1, 1974, under the District of Columbia Nonprofit Corporation Act (D.C. Code Sec. 29–1001 et seq). The incorporators were the Secretary of Transportation, the Secretary of the Treasury, and the Chairman of the Interstate Commerce Commission. As specified by the Rail Act, they served as an interim Board of Directors for 45 days.

The Rail Act contemplated the appointment of a permanent Board of Directors by March 18, 1974. This deadline was not met. Arthur D. Lewis was nominated as Chairman of the Board on April 30, 1974, and confirmed by the Senate on July 15. The remainder of the board was nominated on May 30 and confirmed on June 27. It was not until after the Board of Directors assumed office on July 11 that USRA was able to commit substantial resources to the accomplishment of its mission. The late start-up delayed the signing of contracts essential to preliminary system plan preparation and was among the factors which caused USRA to request an extension of the deadline for filing the preliminary and final system plans.

2. Establishment of the Consolidated Rail Corporation

The Consolidated Rail Corporation was incorporated on October 25, 1974, in the State of Delaware. As provided by the Rail Act, the Executive Committee of the USRA Board of Directors served as incorporators and will serve as the interim ConRail Board of Directors until such time as a permanent board is established and corporate officers selected.

Since incorporation, the interim board has centered its activity around initiating the steps necessary to organize and activate the new corporation. A contractor study on organization was approved to develop proposed organizational concepts for the short and long range steps involved in activating the new corporation.

The board also moved quickly to initiate a search for candidates for the two top executive positions. An executive personnel employment firm was commissioned to conduct the search and develop candidate lists for consideration by the board.

A compensation and employee benefit plan is being developed by consultants. When completed and accepted by the board, this plan will provide the basis upon which salary offers will be made for corporate officer positions.

The board has also taken action to facilitate development of a single implementing labor agreement as required by the Rail Act. A consultant with extensive labor negotation experience has been retained to assist and advise as negotiations progress.

3. Identification of a rail service system in the midwest and northeast region which is adequate to meet the needs and service requirements of this region and of the national rail transportation system

The United States Railway Association was originally required to issue a preliminary system plan 300 days after enactment of the Rail Act. The final system plan was scheduled to be prepared and submitted to Congress 450 days after enactment. However, due to the delay in start-up procedures, USRA was granted a 120-day extension in the release dates for its system plans. The preliminary system plan was published and released in accordance with the extended schedule on February 26, 1975. The final system plan was scheduled to be released on July 26, 1975.

After studying five alternative industry structures, the United States Railway Association concluded in the preliminary system plan that the region should be served by three major carriers. ConRail would be formed basically from lines presently operated by Penn Central. Expanded operations by the Norfolk & Western and Chessie systems would compose the basic "Three Systems East" concept recommended in the plan.

The United States Railway Association concluded that operation of uneconomic light-density lines had contributed to the financial difficulties encountered by the present bankrupt carriers. In an attempt to meet the financially self-sustaining goal of the Rail Act, USRA recommended that 6,500 miles of light-density lines not be included as part of the reorganized physical structure in the region, making these lines available to the states for abandonment or for subsidy by the states or others under Title IV of the Rail Act. USRA found that elimination of this trackage would result in considerable shrinkage of the present systems, while retaining the ability to provide rail carriage for more than 95.5 percent of the traffic currently generated by the region's shippers.

Two statutory goals of the USRA planning process are the creation of a financially self-sustaining rail service system in the region and the establishment of a system adequate to meet the needs of the region. USRA has properly read these two goals together and has seen that reduction of the physical structure in the region is essential to creation of a financially self-sustaining system. The Department concludes that USRA has devised an economically viable plan which, in conjunction with provisions contained in Title IV, will produce a rail service system that is adequate to meet the needs and service requirements of the region.

4. Reorganization of railroads in the region into an economically viable system capable of providing adequate and efficient rail service to the region

Several exceptions and reservations must be expressed concerning the economic viability projected in the system plan. First, all financial projections relate to the "ConRail I" structure (combining all seven bankrupt carriers into one large system) and not to the recommended "Three Sys-

tems East" structure. Second, the projections are very preliminary and are expected to be revised considerably in the final system plan. Third, USRA has underestimated the effects of recession on ConRail's revenues in the early years, and it is estimated by the Department that about $80 million in total revenue will be lost to ConRail in its first two years. Fourth, USRA failed to allow for adequate working capital balances, and it is estimated that a very considerable amount of federal funds will be required to support the new system. Generally, the financial projections must be considered extremely optimistic. However, with the exception of the points listed, the projections appear to fall within a reasonable range of possibilities.

5. Provision of necessary federal financial assistance at the lowest possible cost to the general taypayer

The Rail Act authorizes USRA to make loans under Section 211 and to provide up to $300 million in interim assistance to implement agreements under Section 215 for maintenance and improvement of assets designated for transfer in the reorganization process.

Section 211 authorizes USRA to make loans to:

- Conrail, the National Railroad Passenger Corporation, and any other railroads in the region for purposes of achieving the goals of the Rail Act;
- State, local, or regional transportation authorities to assist in acquiring or modernizing rail lines they elect to operate; and
- Any railroad which (1) connects with a railroad in reorganization and (2) is in need of financial assistance to avoid reorganization proceedings under Section 77 of the Bankruptcy Act (11 USC 205).

USRA has received applications under the third category above from two railroads in the region. USRA denied the loan application by the Chicago, Rock Island and Pacific Railroad, finding that the collateral offered to secure the loan was inadequate. USRA did, however, approve $19 million of a requested $21 million loan to the Missouri-Kansas-Texas Railroad Company (MKT) after the MKT gave reasonable assurance that it could repay the loan from cash to be generated from normal operations and after finding that the MKT could supply adequate collateral to secure the loan.

In addition to its Section 211 activity, USRA has been working closely with the Department in administering the financial assistance program under Section 215. Section 215 provides that the Secretary of Transportation, with the approval of USRA, is authorized to enter into agreements with the trustees of railroads in reorganization in the region to:

- Perform program maintenance on designated rail properties until the date the rail properties are conveyed under the Rail Act;
- Improve rail properties of railroads in reorganization; and
- Acquire rail properties for lease or loan to any such railroads until the date such rail properties are conveyed pursuant to the final system plan, or to acquire interests in such rail properties owned by or leased to any railroads in reorganization or in purchase money obligations therefor.

These goals represent an expansion of the original Section 215 program, which was designed to provide assistance to get a headstart on rehabilitating the physical plant of the northeast railroads pending the start-up of ConRail. The 1975 amendments to the Rail Act authorized use of Section 215 assistance for ordinary "program" maintenance of the bankrupt railroads as well as for rehabilitation. At the same time, funds for Section 215 were increased to $300 million.

Section 215 agreements providing for up to $156.8 million in assistance were negotiated by the Department and USRA in fiscal year 1975. By the end of the year, however, USRA had approved Section 215 projects that accounted for the entire authorized $300 million, though agreements for all these projects had not been signed. By the end of fiscal year 1975, $25,987,473 had actually been expended in Section 215 projects.

6. Provision of assistance to states and local and regional transportation authorities for continuation of local rail services threatened with cessation

As noted in paragraph 5 above, USRA is authorized to make Section 211 loans to state or local or regional transportation authorities to assist in acquiring or modernizing rail lines they elect to operate pursuant to Section 403 of the Rail Act. USRA is in the process of preparing regulations governing loans for this purpose.

...adequate and efficient rail service...

TABLE I U.S. DEPARTMENT OF TRANSPORTATION PROGRAM LEVELS, BUDGET AUTHORITY, OBLIGATIONS, AND OUTLAYS, FISCAL YEAR 1975

(dollars in millions)

Organization	*Program Levels*[1]	*Budget Authority*	*Obligations*	*Outlays*
Office of the Secretary	65	64.9	67.4	65.3
United States Coast Guard	939	933.4	920.5	928.8
Federal Aviation Administration	2,088	1,738.3	2,093.0	2,011.6
Federal Highway Administration	7,896	6,839.0	7,882.3	4,836.4
National Highway Traffic Safety Administration	157	268.9	157.8	149.6
Federal Railroad Administration	205	210.3	228.5	233.3
National Railroad Passenger Corporation (AMTRAK)	277	276.5	299.0	299.0
Urban Mass Transportation Administration	1,525	8,817.2[2]	1,548.7	753.2
Saint Lawrence Seaway Development Corporation	—	—	4.8	-1.5
Subtotals	13,152	19,148.6	13,202.0	9,275.8
Deduct: Proprietary Receipts from the Public	—	29.3	—	29.3
TOTALS	13,152	19,119.3	13,202.0	9,246.2

[1] A COMBINATION OF BUDGET AUTHORITY, OBLIGATIONS AND ADMINISTRATIVE RESERVATIONS WHICH IS THE BEST BUDGETARY INDICATOR OF THE DEPARTMENT'S ACTIVITIES.
[2] AUTHORITY FOR USE IN YEAR ENACTED AND SUBSEQUENT YEARS.

TABLE II U.S. DEPARTMENT OF TRANSPORTATION GRANTS BY GRANT PROGRAM, FISCAL YEAR 1975

Program	*(Dollars in thousands)*
Airports (Planning/Development)	359,903
Boating Safety	4,161
Federal-Aid Highways	7,878,076
Gas Pipeline Safety	1,158
Highway Traffic Safety	96,537
Railroad Safety	259
Urban Mass Transportation	821,016
TOTAL GRANT AWARDS	9,161,110

TABLE III U.S. DEPARTMENT OF TRANSPORTATION AUTHORIZED FULL-TIME PERMANENT POSITIONS, FISCAL YEAR 1975

Office of the Secretary	2,137
United States Coast Guard[1]	43,870
Federal Aviation Administration	57,059
Federal Highway Administration	5,074
National Highway Traffic Safety Administration	881
Federal Railroad Administration	1,447
Urban Mass Transportation Administration	405
Saint Lawrence Seaway Development Corporation	193
TOTAL	111,066

[1] INCLUDES 6,384 CIVILIANS AND 37,486 MILITARY.

FIGURE 1
U.S. DEPARTMENT OF TRANSPORTATION
PROGRAM LEVELS
FISCAL YEAR 1974

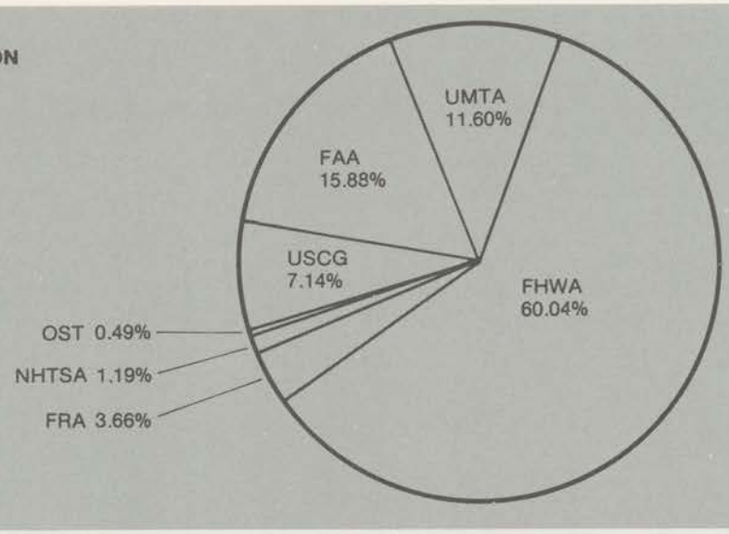


FIGURE 2
U.S. DEPARTMENT OF TRANSPORTATION
GRANT AWARDS BY GRANT PROGRAM
FISCAL YEAR 1974

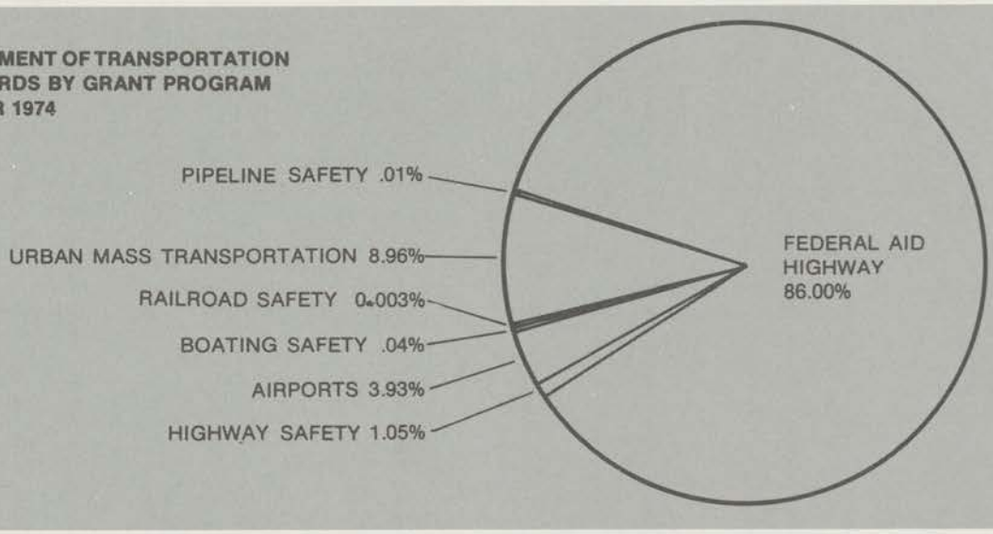


FIGURE 3
U.S. DEPARTMENT OF TRANSPORTATION
AUTHORIZED FULL-TIME PERMANENT POSITIONS
FISCAL YEAR 1974

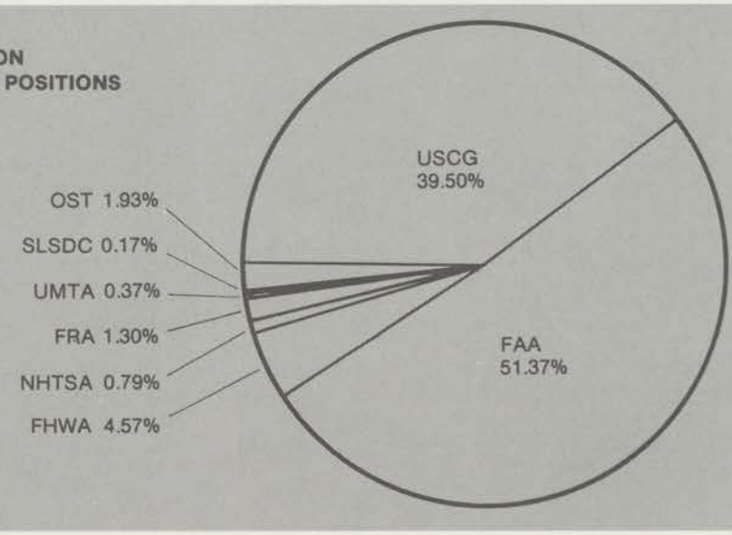


FIGURE 4
DOT FULL-TIME CIVILIAN EMPLOYEES, MINORITY VERSUS TOTAL, FISCAL YEARS 1971-75

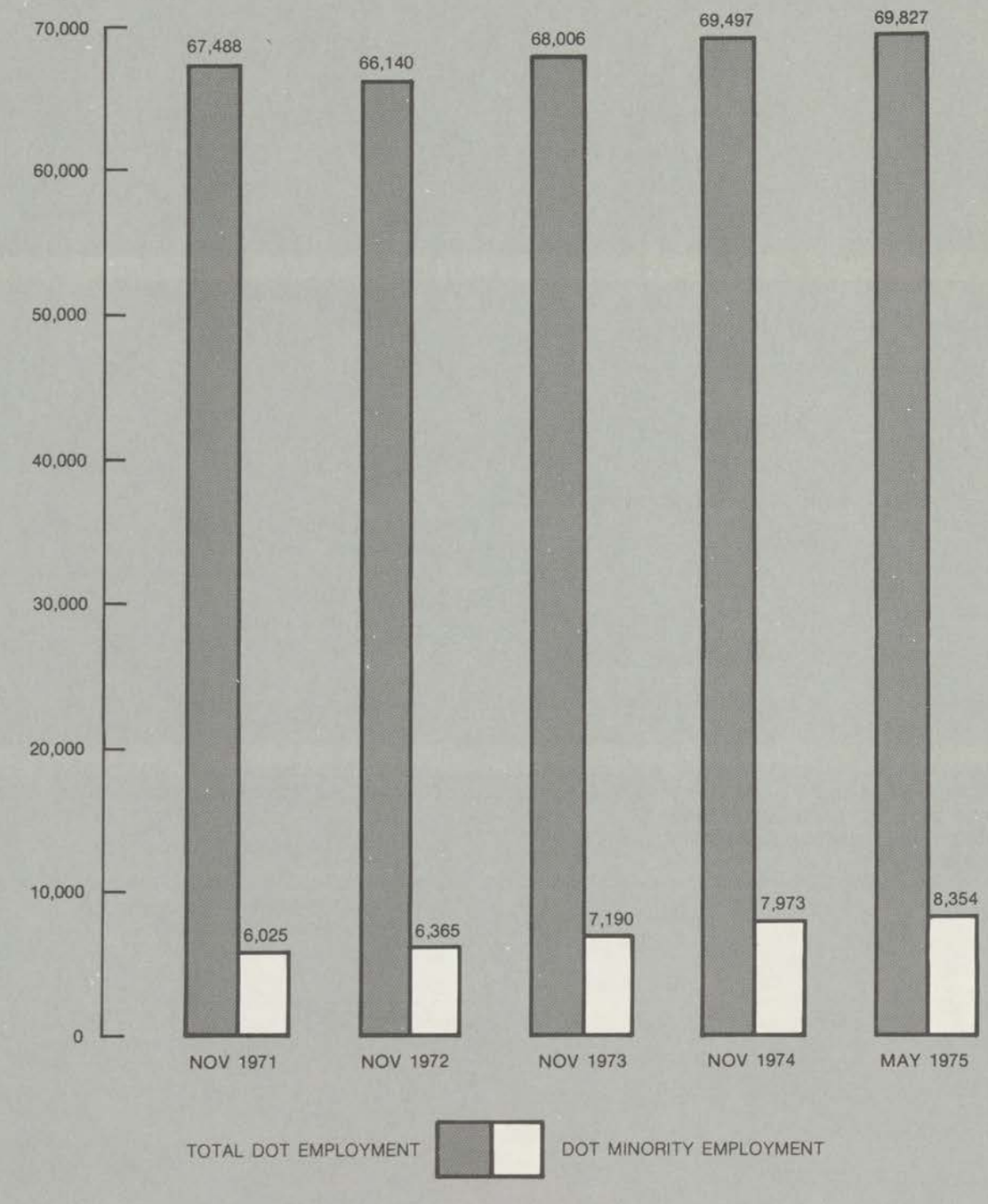


FIGURE 5
DOT FULL-TIME CIVILIAN EMPLOYEES, FEMALE VERSUS TOTAL, FISCAL YEARS 1971-75

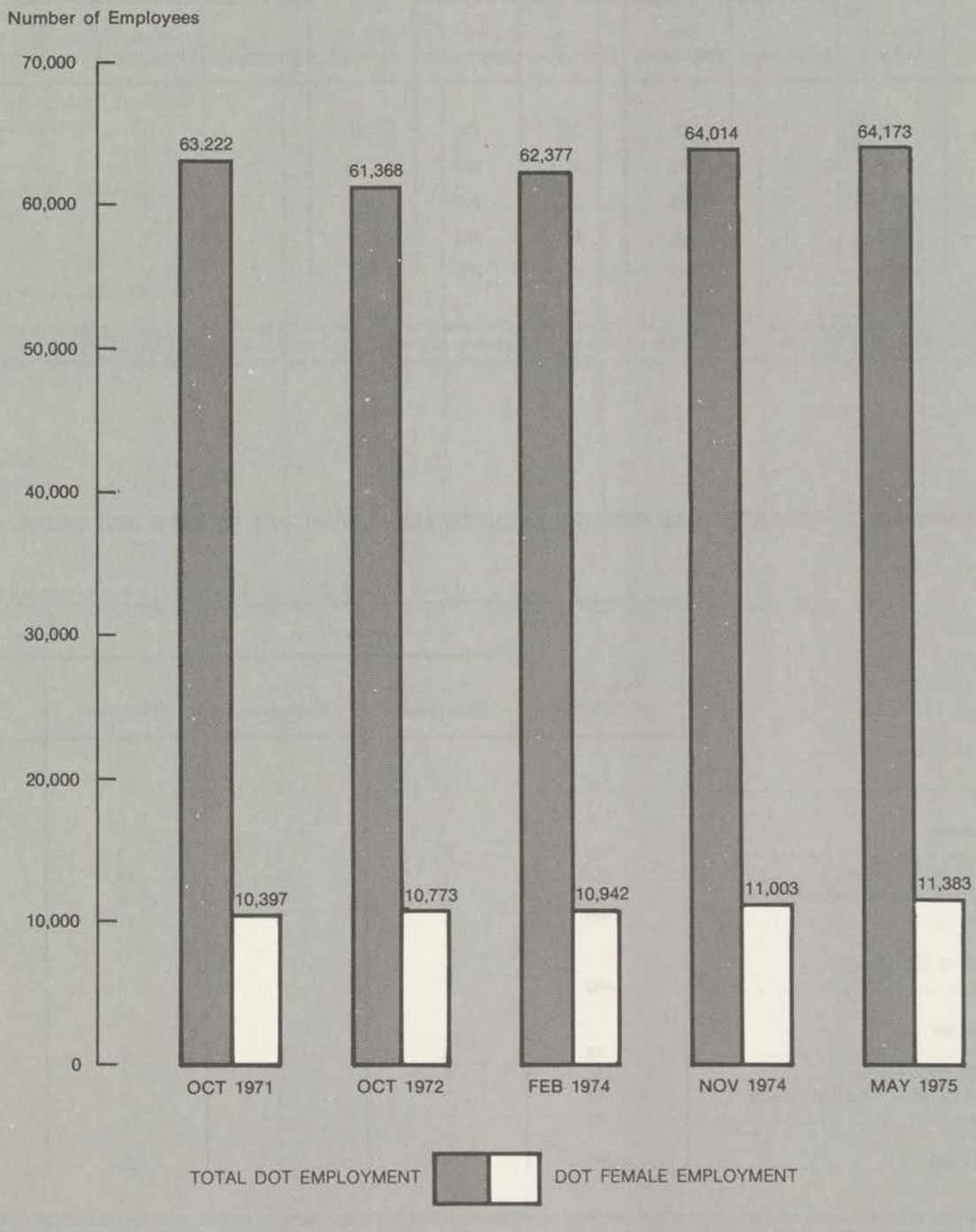


TABLE IV SUMMARY OF REPORTED GAS PIPELINE FAILURES AND CASUALTIES, CALENDAR YEARS 1970-74

Calendar Year	Distribution					Transmission and Gathering				
		Fatalities		Injuries			Fatalities		Injuries	
	No. of Failures	Employees	Non Employees	Employees	Non Employees	No. of Failures	Employees	Non Employees	Employees	Non Employees
1970	676	1	20	32	170	343	1	0	8	8
1971	875	6	36	36	329	410	2	1	14	10
1972	884	2	26	32	262	409	3	3	23	13
1973	893	1	32	48	285	471	1	1	3	16
1974[1]	1,017	1	19	31	283	460	1	3	7	13

[1] INCLUDES DATA FROM TELEPHONIC REPORTS TO THE OFFICE OF PIPELINE SAFETY (OPS) WHICH WERE NOT INCLUDED IN FAILURE/CASUALTY DATA FOR YEARS 1970-1973. ALSO INCLUDES 105 FAILURE INCIDENTS WHICH OCCURRED IN 1973 BUT REPORTED TO THE OPS IN EARLY 1974. OF THESE 105 FAILURES, 78 WERE GAS DISTRIBUTION INCIDENTS IN WHICH 7 FATALITIES AND 26 INJURIES RESULTED. THE REMAINING 27 INCIDENTS WERE TRANSMISSION/GATHERING FAILURES IN WHICH NO FATALITIES OR INJURIES OCCURRED.

TABLE V SUMMARY OF REPORTED GAS PIPELINE FAILURES AND CASUALTIES, BY TYPE AND CAUSE, CALENDAR YEAR 1974

	Total No. of Failures	Fatalities		Injuries	
		Employees	Non Employees	Employees	Non Employees
Distribution Total	1,017	1	19	31	283
Subtotal by cause:					
Corrosion	108	0	3	3	27
Damage by Outside Forces	756	1	16	13	203
Construction Defect or Material Failure	94	0	0	4	28
Other Causes	59	0	0	11	25
Transmission and Gathering: Total	460	1	3	7	13
Subtotal by cause:					
Corrosion	78	0	0	0	4
Damage by Outside Forces	274	0	0	1	8
Construction Defect or Material Failure	81	0	3	0	0
Other Causes	27	1	0	0	1
Gas Industry Totals[1]	1,477	2	22	38	296

[1] INCLUDES 105 FAILURE INCIDENTS WHICH OCCURRED IN 1973 BUT REPORTED TO THE OFFICE OF PIPELINE SAFETY IN EARLY 1974. OF THESE 105 FAILURES, 78 WERE GAS DISTRIBUTION INCIDENTS IN WHICH 7 FATALITIES AND 26 INJURIES RESULTED. THE REMAINING 27 INCIDENTS WERE TRANSMISSION/GATHERING FAILURES IN WHICH NO FATALITIES OR INJURIES OCCURRED.

TABLE VI SUMMARY OF U.S. COAST GUARD COMMERCIAL VESSEL SAFETY ACTIVITIES, FISCAL YEARS 1971-74

Material Safety Activities	*FY 1971*	*FY 1972*	*FY 1973*	*FY 1974*	*FY 1975*
Vessels certificated	9,737	9,294	8,689	9,055	10,121
Vessels issued original certificates	536	No longer reported			
Inspected Vessels by Type					
Cargo and miscellaneous	2,075	1,917	1,519	1,656	1,939
Tank ships	378	113	328	402	366
Tank barges	3,129	3,156	3,659	3,689	4,041
Passenger (over 100 gross tons)	146	136	105	137	145
Small passenger	4,009	3,672	3,078	3,171	3,630
TOTAL	9,737	9,294	8,689	9,055	10,121
Marine Personnel Activities					
Licenses issued	21,399	19,999	27,899[1]	34,321[2]	24,298
Merchant Mariner's Documents issued	21,343	22,831	20,162	19,211	20,248
Seamen discharged from voyage articles	381,293	292,876	351,813	360,718	328,940
Security checks for employment	23,781	13,486	12,806	15,729	16,022
TOTAL	447,816	349,192	412,655	429,979	389,508
Casualties					
Personnel Casualties	1,902	2,052	1,515	1,577	1,564
Vessel Casualties	2,575	2,002	3,104	3,388	3,305
TOTAL	4,477	4,654	4,619	4,965	4,869

[1] INCLUDES 6,367 TOWBOAT OPERATORS LICENSES ISSUED UNDER 46 CFR 10.16-71.
[2] INCLUDES 12,560 TOWBOAT OPERATORS LICENSES ISSUED UNDER 46 CFR 10.16-71. (AUTHORITY FOR THIS "GRANDFATHER CLAUSE" EXPIRED 30 DEC 74).

TABLE VII U.S. COAST GUARD FINANCIAL STATEMENT, FISCAL YEAR 1975

Appropriated Funds	*Funds Available*[1]	*Total Obligations*	*Unobligated Balances*[2]
Operating Expenses	$ 660,085,000	$ 659,401,183	$ 683,817
Acquisition, Construction and Improvements	146,854,988	83,968,575	62,886,413
Alteration of Bridges	6,615,760	6,562,000	53,760
Retired Pay	105,000,000	104,534,312	465,688
Reserve Training	28,912,000	28,818,299	93,701
Research, Development, Test and Evaluation	17,533,073	16,579,745	953,328
State Boating Safety Assistance	5,800,089	5,292,753	507,336
Pollution Fund	10,187,172	7,806,995	2,380,177
TOTAL APPROPRIATED FUNDS	980,988,082	912,963,862	68,024,220
Reimbursements			
Operating Expenses	13,723,572	13,595,910	127,662
Acquisition, Construction and Improvements	980,557	618,779	361,778
Reserve Training	4,968	4,968	-0-
Research, Development, Test and Evaluation	152,192	54,743	97,449
Pollution Fund	167,512	167,512	-0-
TOTAL REIMBURSABLE FUNDS	15,028,801	14,441,912	586,889
Trust Funds			
Coast Guard General Gift Fund	25,282	8,139	17,143
Surcharge Collections Sale of Commissary Stores	270,410	176,265	94,145
Coast Guard Cadet Fund	4,070,094	4,070,094	-0-
TOTAL TRUST FUNDS	4,365,786	4,254,498	111,288
Intra Governmental Revolving Funds			
Coast Guard Supply Fund	53,533,926	53,507,256	26,670
Coast Guard Yard Fund	35,205,879	34,004,430	1,201,449
TOTAL REVOLVING FUNDS	88,739,805	87,511,686	1,228,119
Accrued Gross Expenditures	*Total*	*Direct*	*Reimbursable*
Operating Expenses	661,350,781	648,911,179	12,439,602
Acquisition, Construction and Improvements	104,676,301	103,934,368	741,933
Alteration of Bridges	4,321,177	4,321,177	-0-
Retired Pay	104,834,487	104,834,487	-0-
Research, Development, Test and Evaluation	15,252,127	15,008,165	243,962
Reserve Training	28,607,196	28,602,228	4,968
State Boating Safety Assistance	5,433,694	5,433,694	-0-
Pollution Fund	7,072,952	6,905,440	167,512
Coast Guard General Gift Fund	8,669	6,525	2,144
Surcharge Collections, Sale of Commissary Stores	176,265	-0-	176,265
Coast Guard Cadet Fund	4,070,094	-0-	4,070,094
Coast Guard Supply Fund	52,452,934	-0-	52,452,934
Coast Guard Yard Fund	34,687,872	-0-	34,687,872
TOTAL	1,022,944,549	917,957,263	104,987,286

[1] FUNDS AVAILABLE INCLUDE UNOBLIGATED BALANCES BROUGHT FORWARD FROM PRIOR YEAR APPROPRIATIONS AS FOLLOWS:

Operating Expenses	
Reimbursements	$ 92,452
Acquisition, Construction and Improvements	
Appropriated Funds	38,478,733
Reimbursements	687,778
Alteration of Bridges	53,760
Research, Development, Test and Evaluation	
Appropriated Funds	645,573
Reimbursements	12,752
State Boating Safety Assistance	10,089
Pollution Fund	8,355,082
Coast Guard General Gift Fund	17,710
Surcharge Collections Sale of Commissary Stores	104,896
Coast Guard Cadet Fund	-0-
Coast Guard Supply Fund	37,840
Coast Guard Yard Fund	8,486,923
TOTAL	$56,983,588

[2] UNOBLIGATED BALANCES REMAIN AVAILABLE FOR OBLIGATION IN FISCAL YEAR 1976 AS FOLLOWS:

Operating Expenses	$ 127,662
Acquisition, Construction and Improvements	63,248,191
Alteration of Bridges	53,760
Research, Development, Test and Evaluation	1,050,777
State Boating Safety Assistance	507,336
Pollution Fund	2,380,177
Coast Guard General Gift Fund	17,143
Surcharge Collections Sale of Commissary Stores	94,145
Coast Guard Supply Fund	26,670
Coast Guard Yard Fund	1,201,449
TOTAL	$68,707,310

TABLE VIII FAA FINANCIAL STATEMENT, AS OF JUNE 30, 1975

ASSETS All Inclusive

SELECTED CURRENT ASSETS		
1. *Fund balances with Treasury (Schedule 1):*		
a. Budget funds	$203,998,078.56	
b. Budget clearing accounts	163,165.83	
c. Deposit funds	5,896,486.33	$210,057,730.72
2. *Accounts receivable:*		
a. Government agencies	6,212,773.09	
b. The Public	8,173,244.08	
c. Allowances (—)	-797,178.43	13,588,838.74
3. *Advances to:*		
a. Government agencies	6,371,924.23	
b. The Public	6,077,065.23	12,448,989.46
4. TOTAL SELECTED CURRENT ASSETS		236,095,558.92
5. *Inventories:*		
a. Items for sale	7,971,359.24	
b. Work-in-process	28,311,782.02	
c. Raw materials and supplies	171,186,648.30	207,469,789.56
6. *Real property and equipment:*		
a. Land	23,466,745.28	
b. Structures and facilities	655,202,981.46	
c. Equipment	1,026,537,990.50	
d. Leasehold improvements	2,301,680.32	
e. Allowances (—)	-87.315,277.76	1,620,194,119.80
7. *Other assets:*		
a. Work-in-process, contractors	545,451,119.60	
b. Intangible assets	513,852.48	
c. Equipment leased or borrowed	361,530.50	546,326,502.58
8. TOTAL ASSETS		2,610,085,970.86

LIABILITIES All Inclusive

SELECTED CURRENT LIABILITIES		
9. *Accounts payable (including funded accrued liabilities):*		
a. Government agencies	$ 13,217,936.41	
b. The Public	129,967,262.49	$143,185,198.90
10. *Advances from:*		
a. Government agencies	462,619.51	
b. The Public	592,964.27	1,055,583.78
11. TOTAL SELECTED CURRENT LIABILITIES		144,240,782.68
12. Deposit fund liabilities	6,088,423.47	6,088,423.47
13. *Unfunded liabilities:*		
a. Accrued annual leave	98,707,593.85	
b. Compensatory time earned	164,068.00	
c. Severance pay	1,207.20	98,872,869.05
14. *Other liabilities:*		
a. Lease-purchase contracts	1,021,935.31	
b. Assets borrowed or leased	7,990,143.42	9,012,078.73
15. TOTAL LIABILITIES		258,214,153.93

GOVERNMENT EQUITY

16. *Unexpended budget authority:*		
a. Unobligated	579,778,486.39	
b. Undelivered orders	797,667,964.71	1,377,446,451.10
17. *Unfinanced budget authority (—):*		
a. Unfilled customer orders	-7,775,580.16	
b. Contract authority	-1,286,987,531.00	-1,294,763,111.16
18. Invested capital	2,266,092,958.93	2,266,092,958.93
19. *Receipt account equity:*		
a. Foreign currency fund equity	3,095,518.06	3,095,518.06
20. TOTAL GOVERNMENT EQUITY (SCHEDULE 5)		2,351,871,816.93
21. TOTAL LIABILITIES AND GOVERNMENT EQUITY		2,610,085,970.86

TABLE IX SUMMARY OF FAA TRAFFIC ACTIVITIES, FISCAL YEARS 1974-75

	Fiscal Year 1974	Fiscal Year 1975	Percent Change
ARTC Centers			
IFR aircraft handled (Departures times 2, plus overs)	22,882,796	23,585,999	+ 3.
Towers			
Aircraft operations	56,845,120	58,934,700	+ 4.
Instrument operations[1]	24,081,360	26,063,156	+ 8.
Instrument Approaches, Total	1,802,429	1,890,894	+ 5.
ARTC Centers	157,617	192,462	+22.
Approach control facilities	1,644,812	1,698,432	+ 3.
Flight Service Stations			
All Flight Services	55,559,277	57,727,050	+ 4.
Aircraft contacted	9,703,763	9,803,706	+ 1.
Flight plans originated	7,658,941	7,889,420	+ 3.
Airport advisories	3,124,909	2,964,843	+ 5.
Pilot briefs	15,268,816	16,072,252	+ 5.
Combined Station/Towers			
All Flight Services	671,836	562,801	-16.
Aircraft contacted	241,484	201,725	-16.
Flight plans originated	109,015	92,293	-15.
Pilot briefs	106,161	88,245	-17.
International Flight Service Stations			
All Flight Services	1,796,585	1,843,873	+ 3.
Aircraft contacted	348,945	425,767	+22.
Flight plans originated	364,873	360,434	- 1.
Airport advisories	1,329	1,072	-19.
Pilot briefs	358,947	348,619	- 3.

[1] INCLUDES INSTRUMENT OPERATIONS AT FAA TOWERS, RAPCONS AND RATCCS.

TABLE X U.S. GENERAL AVIATION ACCIDENTS, FATALITIES, AIRCRAFT HOURS FLOWN, AIRCRAFT MILES FLOWN, AND ACCIDENT RATES, 1964-1974

Year	Accidents		Fatalities	Aircraft-Hours Flown (000)	Aircraft Miles Flown (000)	Accident Rates			
						Per 100,000 Aircraft-Hours Flown		Per Million Aircraft-Miles Flown	
	Total	Fatal				Total	Fatal	Total	Fatal
1964	5,069	526	1,083	15,738	2,180,818	32.2	3.34	2.32	0.241
1965	5,196	538	1,029	16,733	2,562,380	31.1	3.22	2.03	0.210
1966	5,712	573	1,151[1]	21,023	3,336,138	27.2	2.73	1.71	0.172
1967	6,115	603	1,333[1]	22,153	3,439,964	27.6	2.72	1.78	0.175
1968[2]	4,968[3]	692[3]	1,399	24,053	3,700,864	20.6	2.86	1.34	0.186
1969	4,767	647	1,495[1]	25,351	3,926,461	18.8	2.55	1.21	0.164
1970	4,712[3]	641[3]	1,310	26,030	3,207,127[4]	18.1	2.46	1.47	0.200
1971	4,648	661	1,355	25,512	3,143,181	18.2	2.59	1.48	0.211
1972	4,256[3]	695[3]	1,426[1]	26,974	3,317,100	15.8	2.57	1.28	0.209
1973	4,251[3]	722[3]	1,411	30,048	3,728,500	14.1	2.40	1.14	0.193
1974	4,362	653	1,290	31,250	3,843,750	14.0	2.09	1.13	0.170

[1] INCLUDES AIR CARRIER FATALITIES (1966-2, 1967-104, 1969-82, 1972-5) WHEN IN COLLISION WITH GENERAL AVIATION AIRCRAFT.

[2] COMMENCING JANUARY 1, 1968, THE DEFINITION OF SUBSTANTIAL DAMAGE WAS CHANGED, THEREFORE, FEWER ACCIDENTS WERE REPORTED. CARE SHOULD BE USED IN COMPARING WITH SIMILAR DATA FOR PRIOR YEARS.

[3] SUICIDE SABOTAGE ACCIDENTS INCLUDED IN ALL COMPUTATIONS EXCEPT RATES (1968-3, 1970-1, 1972-3, 1973-2).

[4] BEGINNING IN 1970, THE DECREASE IN AIRCRAFT MILES FLOWN IS THE RESULT OF A CHANGE IN THE FAA STANDARD FOR ESTIMATING MILES FLOWN.

SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD

TABLE XI U.S. CERTIFICATED ROUTE AIR CARRIER ACCIDENTS, AIRCRAFT MILES FLOWN, AIRCRAFT HOURS FLOWN, DEPARTURES, AND ACCIDENT RATES, IN ALL SCHEDULED SERVICE, 1964-1974

	Accidents					Accident Rates					
						Per Million Aircraft-Miles		Per 100,000 Aircraft-Hours		Per 100,000 Departures	
Year	Total	Fatal	Aircraft-Miles Flown (000)	Aircraft Hours Flown	Departures	Total Accidents	Fatal Accidents	Total Accidents	Fatal Accidents	Total Accidents	Fatal Accidents
1964	59	11	1,189,135	3,774,771	3,954,033	0.049	0.008	1.537	0.265	1.467	0.253
1965	65	8	1,353,499	4,071,987	4,197,489	0.048	0.006	1.596	0.196	1.549	0.191
1966	56	5	1,482,273	4,232,982	4,373,229	0.038	0.003	1.323	0.118	1.281	0.114
1967	54	8	1,833,563	4,924,080	4,945,969	0.029	0.004	1.097	0.162	1.092	0.162
1968	56	13[1]	2,146,038	5,521,931	5,299,987	0.026	0.005	1.014	0.199	1.057	0.208
1969	51	8	2,385,082	5,892,254	5,337,302	0.021	0.003	0.866	0.136	0.948	0.149
1970	43	4	2,417,550	5,780,503	5,100,201	0.018	0.002	0.744	0.069	0.843	0.078
1971	43	7[1]	2,380,664	5,706,270	4,999,093	0.018	0.002	0.754	0.088	0.860	0.100
1972	46	7	2,347,864	5,659,485	4,966,256	0.020	0.003	0.813	0.124	0.926	0.141
1973	36	8	2,448,114	5,898,575	5,133,816	0.015	0.003	0.610	0.136	0.701	0.156
1974	42	7	2,224,000	5,388,000	4,616,000	0.019	0.003	0.780	0.130	0.910	0.152

[1] INCLUDES 2 MIDAIR COLLISIONS NONFATAL TO AIR CARRIER OCCUPANTS, EXCLUDED IN FATAL ACCIDENT RATES.
NOTE: A SABOTAGE ACCIDENT WHICH OCCURRED 5/7/64 IS INCLUDED IN ALL COMPUTATIONS EXCEPT RATES.
SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD

TABLE XII U.S. CERTIFICATED ROUTE AIR CARRIER ACCIDENTS, FATALITIES, PASSENGERS CARRIED, PASSENGER MILES FLOWN, AND FATALITY RATES, IN SCHEDULED DOMESTIC AND INTERNATIONAL PASSENGER SERVICE, 1964-1974

	Accidents		Fatalities						
Year	Total	Fatal	Passenger	Crew	Other	Total	Passengers Carried[1]	Passenger-Miles Flown (000)	Rate Per 100 Million Passenger-Miles Flown
1964	53	9	200	26	1	227	81,762,273	61,022,488	0.261
1965	63	7	226	27	0	253	94,602,314	71,796,399	0.315
1966	53	4	59	13	0	72	109,390,556	83,142,197	0.071
1967	51	8	226	24	5	255	132,083,038	103,381,996	0.219
1968	53	13[2]	305	34	6	345	150,162,701	119,612,578	0.255
1969	48	7	132	17	3	152	159,213,414	132,161,593	0.100
1970	39	2	2	0	1	3	171,697,097	139,157,806	0.001
1971	41	6[2]	174	14	6	194	173,664,737	145,678,876	0.119
1972	43	7	160	13	13	186	188,938,932	159,,.22,015	0.100
1973	32	6	197	20	0	217	202,207,000	171,436,549	0.115
1974	41	7	420	40	0	460	204,600,000	163,900,000	0.256

[1] BEGINNING IN 1970, CARRIERS WERE REQUIRED TO REPORT REVENUE PASSENGER ENPLANEMENTS, WHEREAS PRIOR TO 1970 REVENUE PASSENGER ORIGINATIONS WERE REPORTED.
[2] INCLUDES MIDAIR COLLISIONS NONFATAL TO AIR CARRIER OCCUPANTS.
SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD

TABLE XIII SUMMARY OF U.S. TRAIN ACCIDENTS AND CASUALTIES, CALENDAR YEARS 1972-1974

	1972	1973	1974
Number of train accidents			
Collisions	1,348	1,657	1,551
Derailments	5,509	7,389	8,513
Other	675	652	630
Total train accidents	7,532	9,698	10,694
Number of train accidents with casualties	372	422	446
Number of Casualties[1]			
Trespassers killed	537	578	565
Trespassers injured	586	614	674
Passengers killed in train accidents	44	4	4
Passengers injured in train accidents	323	178	192
Passengers killed in train-service accidents	3	2	3
Passengers injured in train-service accidents	357	325	382
Employees on duty killed	127	158	140
Employees on duty injured	12,456	13,098	15,620
All other persons killed	1,234	1,174	1,196
All other persons injured	4,208	4,030	3,950
Total number of persons killed	1,945	1,916	1,908
Total number of persons injured	17,930	18,245	20,818
Highway grade crossing accidents[2]	3,392	3,379	3,268
Persons killed	1,260	1,186	1,220
Persons injured	3,307	3,306	3,260

[1] ACCIDENTS OF ALL TYPES
[2] INCLUDED IN TOTALS ABOVE

TABLE XIV SUMMARY OF U.S. RAIL HIGHWAY GRADE CROSSING ACCIDENTS AND CASUALTIES, CALENDAR YEARS 1972-74

Accidents and casualties	1972			1973			1974		
		No. of Persons			No. of Persons			No. of Persons	
	No.	Killed	Injured	No.	Killed	Injured	No.	Killed	Injured
Total rail-highway grade crossing accidents & resulting casualties[1]	3,379	1,260	3,285	3,379	1,185	3,283	3,268	1,220	3,249
Accidents at highway grade crossings involving motor vehicles	3,222	1,190	3,201	3,174	1,077	3,192	3,079	1,128	3,155
Derailments of trains at highway grade crossing involving motor vehicles[2]	51	12	31	72	24	82	80	26	117
Miscellaneous other train accidents as a result of collision between trains and motor vehicles[2]	244	83	82	221	68	89	276	79	121
Railroad casualties:[2]									
Passengers	—	—	—	—	—	35	—	—	18
Employees on duty	—	1	68	—	4	87	—	3	95
TOTALS	—	1	68	—	4	122	—	3	113

[1] EXCLUDES NONTRAIN
[2] INCLUDED IN TOTALS
SOURCE: HIGHWAY GRADE BULLETIN

TABLE XV SUMMARY OF U.S. MOTOR VEHICLE ACTIVITIES AND FATALITIES, CALENDAR YEARS 1967 AND 1972-74

	1967	1972	1973	1974	% Change 1973-1974	Total % Change 1967-1974
Total Reg. (M/V's) (Thousands)	98,898	122,304	129,777	134,905	+ 3.95	36.41
Automobiles	80,414	96,860	101,762	104,898	+ 3.08	+30.45
Trucks	16,193	21,234	23,233	24,598	5.87	51.91
Buses	338	407	426	447	4.93	32.25
M/C's, etc.	1,953	3,798	4,356	4,962	13.91	+154.07
Licensed Drivers (Thousands)	103,172	118,414	121,628	125,609	+ 3.27	+21.75
Vehicle Mileage (Billions)	965	1,268	1,309	1,288[1]	- 1.60	+33.47
Traffic Fatalities	51,759		54,590	45,931[1]	-15.86	-11.26
M/V Fatalities	52,924	56,910	55,759	46,868[1]	-15.86	-11.44
M/V Fatalities per 100 million vehicle miles	5.48	4.49	4.26	3.64[1]	-14.55	-33.58

[1] ESTIMATED

TABLE XVI SUMMARY OF NHTSA AUTHORIZATIONS AND APPROPRIATIONS, FISCAL YEARS 1967-75

(Amounts in millions of Dollars)

	FY 67	FY 68	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74	FY 75
Traffic and Motor Vehicle Safety Programs									
Authorization[1]	13.9	18.5	24.5	23.0	40.0	40.0	36.9	30.3	55.0
Appropriation	5.0	12.5	15.9	20.2	25.9	30.7	33.0	30.3	35.1
Motor Vehicle Consumer Information Programs[2]									
Authorization	—	—	—	—	—	—	23.0	37.0	48.0
Appropriation	—	—	—	—	—	—	—	15.0	7.7
Highway Safety Research and Development Programs									
Authorization[3]	10.0	20.0	25.0	30.0	37.5	70.0	115.0	42.5	55.0
Appropriation	4.3	7.3	10.6	10.0	17.0	38.6	44.2	38.6	28.1
Compliance Test Facility									
Authorization[1]	3.0[4]	2.3[5]	1.1[5]	0	0	9.6	0	0	0
Appropriation	.7	1.2	0	0	0	9.6	0	9.0[6]	0
Total Traffic and Highway Safety Appropriation									
Authorization	23.9	38.5	49.5	53.0	77.5	119.6	151.9	109.8	158.0
Appropriation[7]	9.3	19.8	26.5	30.2	42.9	78.9	77.2	75.1	70.9
State and Community Safety Appropriation									
Authorization	67.0	100.0	100.0	0[8]	0[8]	75.0[9]	130.0[10]	162.5[11]	203.0[12]
(Incentives)								(37.5)	(48.0)
Obligations:									
NHTSA	2.0	25.0	65.0	70.0	75.0	67.1	82.1	66.8	85.3
(Incentives)								(.3)	(13.4)
FHWA						12.9	12.9	13.2	14.7
TOTAL	2.0	25.0	65.0	70.0	75.0	80.0	95.0	80.0	100.0

[1] AUTHORIZED UNDER THE NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT.
[2] AUTHORIZED UNDER THE MOTOR VEHICLE INFORMATION AND COST SAVINGS ACT.
[3] AUTHORIZED UNDER THE HIGHWAY SAFETY ACT.
[4] LUMP SUM AUTHORIZATION TO REMAIN AVAILABLE UNTIL EXPENDED.
[5] REMAINING UNAPPROPRIATED BALANCE.
[6] FUNDS APPROPRIATED FOR CONSTRUCTION OF COMPLIANCE TEST FACILITY WITHDRAWN.
[7] THE TRAFFIC AND HIGHWAY SAFETY APPROPRIATION APPROPRIATES FUNDS FOR PROGRAMS OF BOTH SUBSTANTIVE ACTS, AND THE MOTOR VEHICLE CONSUMER INFORMATION PROGRAM.
[8] TOTAL AUTHORIZATION OF $175 MILLION RESCINDED UNDER THE HIGHWAY SAFETY ACT OF 1970.
[9] FOR FISCAL YEARS 1967-1971 OBLIGATIONS WERE INCURRED IN TOTAL FOR 16 SAFETY STANDARDS. CURRENTLY, NHTSA HAS RESPONSIBILITY FOR 14½ STANDARDS, FHWA FOR 3½ STANDARDS.
[10] INCLUDES AUTHORIZATION OF $30.0 MILLION FOR FHWA.
[11] INCLUDES AUTHORIZATION OF $25.0 MILLION FOR FHWA AND $37.5 MILLION FOR INCENTIVE GRANTS FOR NHTSA.
[12] INCLUDES AUTHORIZATION OF $30.0 MILLION FOR FHWA AND $48 MILLION FOR INCENTIVE GRANTS FOR NHTSA.

FIGURE 6
CHANGES IN U.S. TRAFFIC FATALITIES AND FATALITY RATES, FISCAL YEARS 1974-75 VERSUS 1973

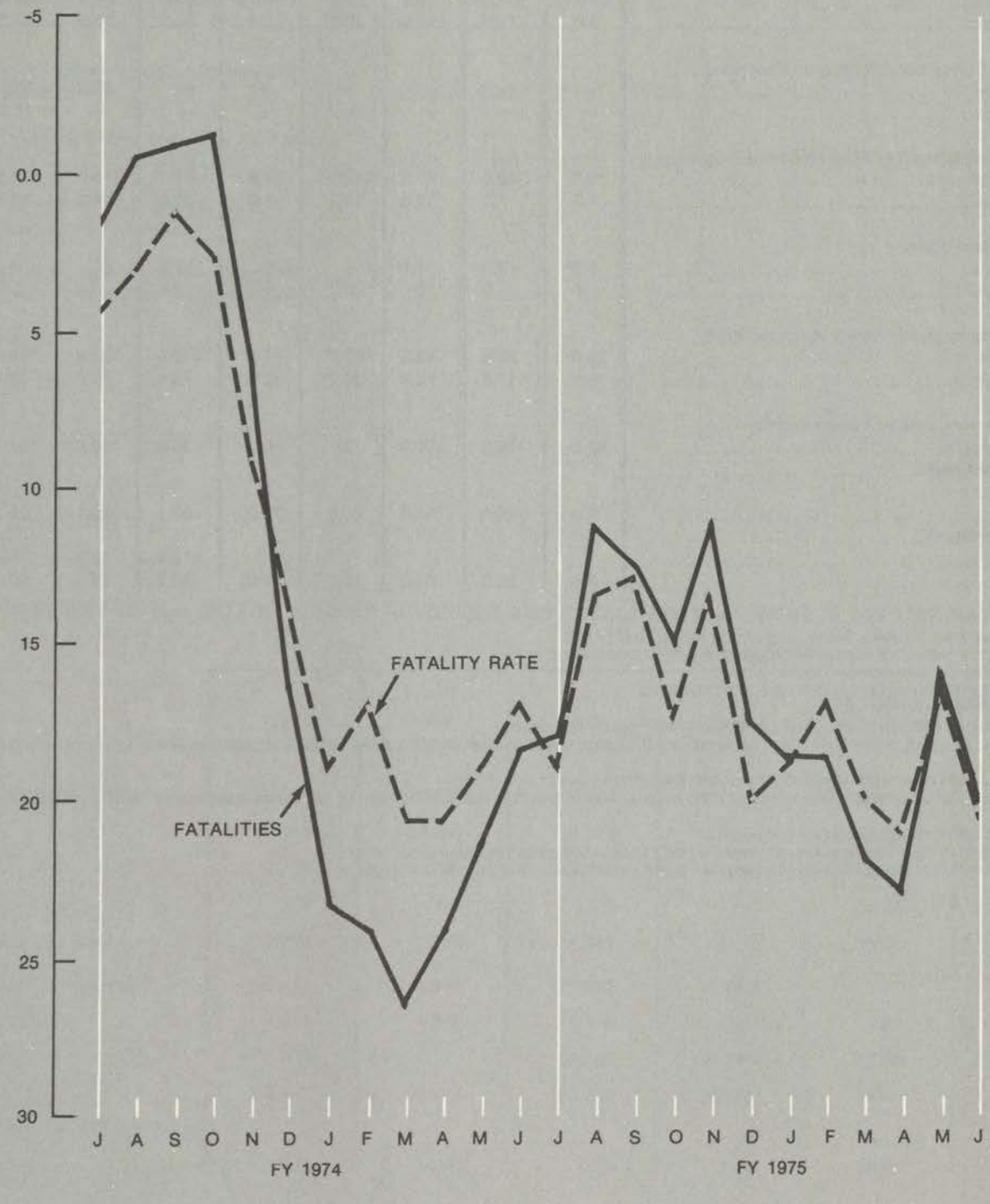
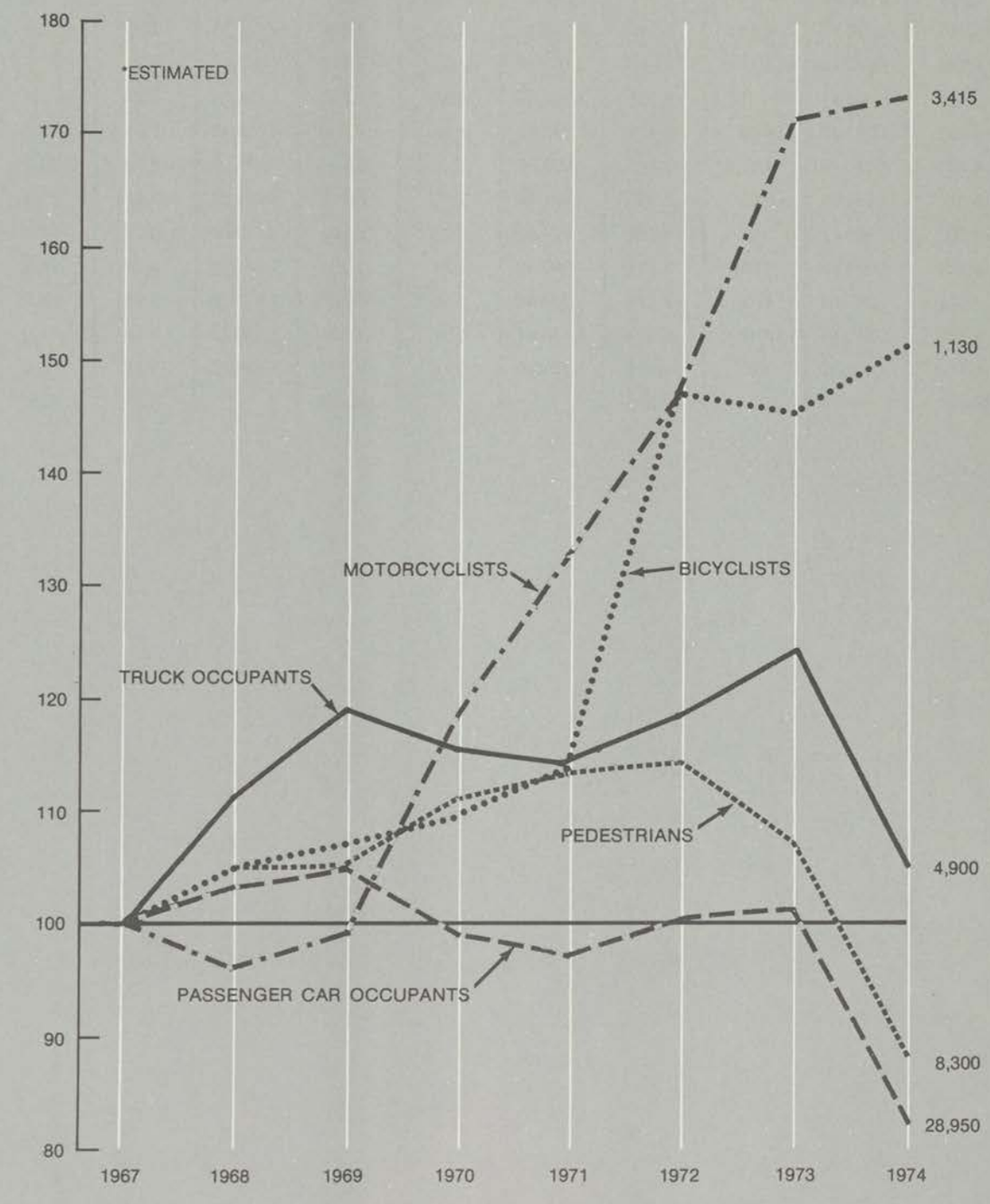


TABLE XVII SUMMARY OF U.S. MONTHLY TRAFFIC FATALITIES, FISCAL YEARS 1973-75

Month	Fatalities	FY 1973 Mileage[1]	Rate[2]	Fatalities	FY 1974 Mileage	Rate	Fatalities	FY 1975 Mileage	Rate	% Change FY 74 vs 73	% Change FY 75 vs 73
July	5,289	1,185.94	4.46	5,186	1,216.85	4.26	4,337	1,202.31	3.61	- 1.9	-18.0
August	5,215	1,199.13	4.35	5,241	1,244.26	3.02	4,616	1,229.01	3.76	+ .5	-11.5
September	4,872	1,080.72	4.51	4,917	1,103.32	4.46	4,252	1,083.67	3.92	+ .9	-12.7
October	5,144	1,088.41	4.73	5,201	1,130.89	4.60	4,363	1,122.21	3.89	+ 1.1	-15.2
November	4,695	1,007.91	4.66	4,411	1,043.81	4.23	4,163	1,029.45	4.04	- 6.0	-11.3
December	4,681	1,010.40	4.63	3,911	988.56	3.96	3,848	1,041.29	3.70	-16.0	-17.8
January	3,847	966.64	3.98	2,947	921.68	3.20	3,119	969.07	3.22	-23.4	-18.9
February	3,524	925.67	3.81	2,679	874.63	3.16	2,865	906.06	3.16	-24.0	-18.7
March	4,353	1,074.90	4.05	3,194	995.05	3.21	3,399	1,050.08	3.24	-26.6	-21.9
April	4,500	1,081.20	4.16	3,410	1,033.49	3.30	3,463	1,055.26	3.28	-24.2	-23.0
May	4,801	1,145.19	4.18	3,769	1,113.67	3.38	4,025	1,156.11	3.48	-21.5	-16.2
June	5,176	1,158.59	4.47	4,201	1,129.46	3.72	4,142	1,169.68	3.54	-18.8	-20.0
TOTAL	56,697			49,067			46,592			-13.0	-17.4

[1] 100 MILLION MILES (10^8)
[2] FATALITIES PER 100 MILES TRAVELED

FIGURE 7
RELATIVE CHANGES IN HIGHWAY FATALITIES BY PRINCIPAL CATEGORIES, 1967-74*



☆ U. S. GOVERNMENT PRINTING OFFICE : 1976—626-138