

Recommendations

GAO recommends that the Administration take action to obtain improvements in the State right-of-way acquisition control system and provide assurance that adequate support exists for costs incurred during the 1961-66 period.

Also, GAO recommends that Administration auditors be required to make independent and indepth evaluations of State appraisal reports.

Status of action

PPM 80-3 is being revised to set forth those items which appraisal reports will be required to contain before such reports will be accepted as a basis for Federal participation.

A Bureau memorandum dated May 3, 1968, addressed to each regional Federal highway administrator, advised them to notify the States in writing of right-of-way deficiencies of the State's operations by use of form PR-1367 or by separate memorandum.

The Rhode Island division office is presently conducting an inspection in depth on appraisals and appraisal reviews. Upon completion of this review, a determination will be made as to additional necessary corrective action to be taken.

By memorandum dated May 1, 1968, Administration auditors have been instructed that indepth evaluations of State appraisal reports are within the purview of their audit responsibility.

2. Letter report on Rhode Island regarding accrual of interest on unsettled right-of-way properties and correction of weakness in State rental policies.

Recommendations

GAO recommends action be taken to minimize further accrual of interest costs of old unsettled right-of-way properties.

Also, GAO recommends the State be encouraged to enact legislation to correct present weaknesses in rental policies and interim corrective measures be taken by the Bureau to insure appropriate adjustments are made for Federal reimbursement.

Status of action

On old unsettled right-of-way cases, the State has been notified by letter that the accrual of interest on these properties beyond December 31, 1968, will be ineligible for Federal participation.

The State has now introduced legislation to require former property owners, and others, to pay rent during the period of occupancy. Action has been taken by the division office for the period April 1, 1964, through December 1965, to adjust State claims where rental was not paid by occupants, and action is now being taken to do the same for the period January 1, 1966, to date. The same procedure will continue in the future until the State has corrected its rental policy procedures.

3. Letter report indicating an apparent inconsistency in the recognition and treatment of special benefits accruing to residue properties at newly created interchange areas in Ohio.

Recommendations

GAO recommends that responsible Bureau legal and right-of-way officials be directed to review current practices in Ohio relating to special benefits and determine whether such practices are consistent with Bureau requirements for Federal participation.

Also, GAO recommends that division office personnel be required to (1) take appropriate action to insure compliance with Bureau requirements in future appraisals, and (2) determine the acceptability of the specific parcels questioned by GAO.

Status of action

The Administrator has directed legal and right-of-way officials to review the law and the current practices in the State of Ohio relating to special benefits and determine whether such practices are consistent with Bureau of Public Roads requirements for Federal participation. When this review has been completed, responsible division office personnel will be directed to take whatever action may be appropriate.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The location of interstate facilities within urban areas in such manner as to minimize the displacement and relocation of persons and businesses is a

major problem. Environmental considerations also create problems in some cases.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

This is a grant-in-aid program, and the staff is considered adequate.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction in accord with the funding legislation.

19. If additional funds were available, what would you do with the new money?

Expedite the program in accord with the authorizing legislation.

Activity 2 (Federal Highway Administration): Highway Beautification

1. What is the nature of and authority for this program?

Three major programs were authorized by the Highway Beautification Act of October 22, 1965, as follows:

1. Title I: Control of outdoor advertising, which provides that just compensation shall be paid upon removal of certain signs, displays, and devices. Seventy-five percent of the cost of this program is to be paid from Federal funds.

2. Title II: Control of junkyards, which provides for Federal participation of 75 percent for screening costs in connection with junkyards, and that just compensation be paid to the owner for the relocation, removal, or disposal of certain junkyards.

3. Title III: Landscaping and scenic enhancement, provides for the use of highway trust fund moneys to landscape the highway right-of-way; and an amount equivalent to 3 percent of the funds apportioned to a State for Federal-aid highways shall be allocated to that State out of the funds appropriated to be used for the cost of landscaping and roadside development, including acquisition and development of publicly owned and controlled rest and recreation areas and sanitary and other facilities reasonably necessary to accommodate the traveling public. Matching State funds are not required.

Title IV of the act authorized appropriation of funds for administrative expenses to carry out the outdoor advertising, junkyards, and landscaping and scenic enhancement provisions of the act.

Authorizations under titles I, II, and III above, expired on June 30, 1967, and no obligations have been incurred since that date except costs of administering contracts awarded in fiscal years 1966 and 1967.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal year 1968?

An appropriation of \$1,236,000 is available for carrying out the provisions of title IV for necessary costs of administration related to the projects initiated during fiscal years 1966 and 1967 pursuant to the provisions of the Highway Beautification Act of 1965.

There is no capital equipment involved.

4. Would you describe the output generated by this program?

Administering the provisions of title 23, United States Code, sections 131, 136, and 319(b), to protect the public investment in the Nation's highways; promote the safety and recreational value of public travel; and preserve and enhance the natural scenic beauty along the highways.

5. Can you quantify this output in any way?

Seventeen States have signed agreements to control outdoor advertising along Interstate and Federal-aid primary system highways. Negotiations are presently underway with 31 additional States.

Twenty States have signed agreements to control junkyards adjacent to Interstate and Federal-aid primary system highways. Negotiations are presently in progress with the remaining States, Puerto Rico, and the District of Columbia. Since October 1965, authorization has been granted for the screening of 1,395 junkyards and for the removal of 114 others.

Since October 1965, authorization has been granted for the acquisition of 5,406 scenic easements adjacent to Federal-aid highways, the construction or improvement of 509 roadside rest and recreation areas, as well as 753 projects to landscape selected areas along hundreds of miles of Federal-aid highways.

6. Would you describe the principal operations that are involved in producing this output?

Negotiations with all of the States to enter into agreements for the control of outdoor advertising and junkyards, and providing the States assistance in the landscaping and scenic enhancement of their highways.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

There are 98 permanent positions authorized for this program. A large majority of the employees in this program are landscape architects. The remainder of the staffing consists of appraisers and supporting clerical personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

	Quota	Nonquota	Total		Quota	Nonquota	Total
GS-17-----		1-----	1	GS-8-----			1
GS-16-----		1-----	1	GS-7-----			2
GS-15-----			6	GS-6-----			6
GS-14-----			15	GS-5-----			5
GS-13-----			29	GS-4-----			6
GS-12-----			14	GS-3-----			7
GS-11-----			3	GS-2-----			1
GS-10-----							
GS-9-----			1	Total-----			98

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Legislation is being proposed to provide contract authorizations totaling \$85 million for each of the fiscal years 1969, 1970, and 1971.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The program is administered through the Washington headquarters, Office of the Highway Beautification Coordinator.

12. Is there a continual program review within the agency, other than the annual budgetary review to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is continually reviewed by the Washington headquarters, Office of the Highway Beautification Coordinator.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Authorizations have not yet been provided for carrying out the program needed to accomplish the objectives of the Highway Beautification Act of 1965.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

This is a grant program administered in cooperation with the States.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction.

19. If additional funds were available, what would you do with the new money?

Accomplish the objectives of the Highway Beautification Act of 1965 as rapidly as possible.

Activity 3 (Federal Highway Administration): Traffic and Highway Safety

1. What is the nature of and authority for this program?

This program includes all operating and contract expenses incurred under the National Traffic and Motor Vehicle Safety Act of 1966, Public Law 89-563, and the Highway Safety Act of 1966, Public Law 89-564, except for the program of grants to States to improve the highway safety programs under the provisions of section 402 of the latter statute.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

William Haddon, Jr., M.D., Director, National Highway Safety Bureau.

3. How much money and capital equipment is available under this program for fiscal 1968?

An appropriation of \$21,034,000 was enacted for fiscal year 1968. No capital equipment other than normal office equipment is involved.

4. Would you describe the output generated by this program?

The outputs generated by this program fall into two broad categories: those required to fulfill the purposes of the National Traffic and Motor Vehicle Safety Act, and those required under the Highway Safety Act.

Outputs responsive to the requirements of the National Traffic and Motor Vehicle Safety Act include:

(1) Performance standards to enhance the safety characteristics of new automotive vehicles and the components, including tires, to reduce the occurrence of accidents, deaths, and injuries during and immediately following the crash.

(2) Research, development, testing, and evaluation for the purpose of determining the causes of accidents, deaths, and injuries and developing effective countermeasures therefor.

(3) Standards and procedures for tire grading and labeling to assure conformity to minimum safe performance standards promulgated under the act.

(4) Recommendations, including results of feasibility studies and preliminary plans, specifications, and drawings for a facility or facilities to conduct research, development, and testing with respect to automotive vehicles and relating to the safety of machinery used on highways or in connection with the maintenance of highways.

(5) Maintenance and operation of the National Driver Register that provides information to States to aid them in eliminating dangerous and unsafe drivers from the Nation's streets and highways.

Outputs under the provisions of the Highway Safety Act include:

(1) The development of methods to improve the quality of driver education processes.

(2) Development of improved accident investigation procedures with particular emphasis upon more reliable techniques of determining causation, and the development of an urgently needed data bank of information as to driver and vehicle involvement in crashes, deaths, and injuries.

(3) Performance of research related to all elements of State and political subdivision traffic and highway safety programs, for the purpose of improving driver performance; pedestrian safety; techniques of accident investigation to determine probable causes; vehicle registration, operation, and inspection; highway lighting; and surface treatment to improve safety; traffic control; vehicle codes and laws; surveillance of traffic for detection and correction of high or potentially high accident locations; and emergency services.

(4) Research to improve the process of used car inspection and to encourage periodic inspection of used motor vehicles.

(5) Demonstration projects that facilitate the introduction into practice at State and local levels of new and improved highway safety techniques. Initial emphasis is on demonstrations in the emergency medical service and driver examination areas.

(6) Development of safety professional manpower, safety technical manpower, and safety management manpower.

5. Can you quantify this output in any way?

Outputs can be identified and quantified along the line of number of standards issued, vehicle production volumes with safety improvements, research contracts let, defect recall campaigns requested by the Bureau, and others.

However, a more important class of output measure would relate the various program activities to deaths prevented, injury reductions, and property damage avoided. Although the program is still in its early stage, there already are indications along these lines. For example, the newly adopted standard on the

energy absorbing steering shift might be capable of reducing driver deaths by upward of 70 percent.

The National Highway Safety Bureau is working toward a position where it will be possible to quantify some of these types of outputs more precisely than now possible, and to identify number of deaths averted or disablements minimized through the use of the collapsible steering column and other safety measures such as shoulder harnesses, better braking systems, and improved emergency medical service. Accurate determination of the costs and benefits will become possible some years from now when improved data systems are in operation, coupled with better methods of accident investigation.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations that are involved in producing the program outputs identified above are:

(a) The development of performance standards for new cars and equipment and compliance checking procedures.

(b) Development of performance standards for used cars and equipment and compliance checking procedures, involving State motor vehicle inspection programs.

(c) Performance of research, development, and testing as a basis for the formulation and promulgation of vehicle and equipment standards.

(d) The conduct of research to develop better understanding of driver performance particularly as it relates to accident causation.

(e) The conduct of demonstration projects to further the translation into practice of advanced highway safety systems and techniques.

(f) Development of a qualified pool of safety specialists manpower of all types.

(g) Creation of a nationwide bank of driver, vehicle, and accident data.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

There are 619 authorized positions for this program. The staffing consists of safety standards engineers and highway management specialists, primarily. Other fields represented in the staffing are research scientists, medical officers, psychologists, mathematical statisticians, operations research analysts, data systems engineers, and supporting administrative and clerical personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

	Quota	Nonquota	Total		Quota	Nonquota	Total
Level III.....			1	GS-10.....			1
Level IV.....			1	GS-9.....			17
Level V.....			1	GS-8.....			15
GS-18.....	2	6	8	GS-7.....			33
GS-17.....	7	12	19	GS-6.....			55
GS-16.....	13	16	29	GS-5.....			58
GS-15.....			130	GS-4.....			14
GS-14.....			108	GS-3.....			15
GS-13.....			56	GS-2.....			4
GS-12.....			36				
GS-11.....			18	Total.....			619

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

At the present time, only the national driver register program involves the use of capital equipment. Specific information pertaining to driver license revocations is stored and retrieved in the IBM 360 system operated by the Federal Highway Administration.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Both the expenditure and benefits of the program should grow appreciably in the future. The benefits as may be expected will be a reflection of the funding levels that are provided as additional year production models go into everyday use on our streets and highways. Improvements in vehicle safety and highway safety program practice should lead to a substantial reduction of accidents, deaths, and injuries. In order to achieve these benefits, as rapidly as possible within a rapidly expanding state of the art, increased funding levels will be necessary over the next several years. This will be needed to support advanced research and testing in motor vehicle and highway safety, to provide better

enforcement of promulgated standards so as to assure a greater degree of compliance, and to provide a nationwide store of data that will serve as a basis for determining the factors involved in crash causation and measuring the effectiveness of countermeasures once these are introduced into practice.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The various parts of the program are coordinated at several levels throughout the organization. The Bureau Director is assisted by a Deputy Director, an Office of the Principal Scientist, an Office of Research and Program Synthesis and an Office of Plans and Programs Implementation in directing and evaluating the effectiveness of principal operating elements of the organization. The Highway Safety Programs Service, headed by a Director and Deputy Director, is responsible for the grant administration including the development of program standards and the furnishing of technical assistance to States and their subdivisions. The National Highway Safety Institute which is responsible for all research and development activities of the Bureau is headed by a Director who is responsible for its operation. Within the Bureau there is also the Motor Vehicle Safety Performance Service, headed by a Director and Deputy Director, which is responsible for development and implementation of standards under the National Traffic Motor Vehicle Safety Act.

The Bureau Director and Deputy Director, the two Directors of the Services, and the Institute Director constitute an executive planning committee which represents an additional organizational device for securing effective coordination among the Bureau components in both the planning and program execution stages.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

The Bureau, during the limited time since its inception, has confronted a huge number of problems, including the necessity for initially meeting rigorous statutory deadlines, staffing and organizing, and identifying needs that have to be met. Program reviews have accordingly been limited to those necessary at several stages in the cycle for overall budget planning, budget preparation, and program execution. In the meantime, the development is underway of a system of program review within the Bureau to develop more detailed program work schedules, an improved system of reporting that will enable the Bureau to measure how well it is meeting its work schedules, and a management information system that will tell management where the problems are and how they can best be met.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

There is no duplication of work done by any other Federal agency. HEW is engaged in handling generic aspects of related problems such as tabulation of death certificates, including deaths in traffic crashes. Certain efforts of the Bureau of Public Roads have safety aspects; these are coordinated by the Federal Highway Administrator to insure that they are mutually supporting.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

The Bureau work structure is well suited to the efficient and effective accomplishment of its assigned programs, and is working well.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

There are no outstanding GAO reports on this program.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The major problems in making major progress in attainment of the objectives of the program have been:

1. The scarcity of personnel adequately qualified in the disciplines required to carry out a completely new type of program who are available at Federal salary levels.

2. The requirement to devote a significant amount of available staff time and effort to compliance with the statutory requirements of the acts for submission of specific reports to the Congress.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

This program does not administer any grants or loans as such. Because we do not have our own research facilities, our research activities have generally been conducted under interagency agreements; for example, National Bureau of Standards, and by outside contract. Demonstration projects under section 403 of the Highway Safety Act are also treated as outside contracts. These contracts are usually, but not always with a State or local government. All outside contracts and demonstrations are monitored by personnel of the National Highway Safety Institute.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Reduction in appropriations would require reductions in setting additional safety performance standards for motor vehicles and equipment, and in the enforcement of already issued standards.

19. If additional funds were available, what would you do with the new money?

Additional funds are needed for all elements of the program if vehicle and highway safety is to be placed upon a sound technical basis. Specifically, substantially increased funding and staffing would be used to increase scientific fact finding as to the causes of crashes and injuries, and to apply the results to improved vehicle safety. Additional resources would also be used to develop an urgently needed national vehicle accident data bank along with improved accident investigation and reporting procedures. The entire research and development effort in vehicle and highway safety would be brought up to a level more nearly commensurate with the gravity of the problem—particularly in light of early indications that major reductions in traffic deaths are attainable.

Activity 4 (Federal Highway Administration): Motor Carrier Safety

1. What is the nature of and authority for this program?

Responsible for the promulgation, administration and enforcement of regulations under the Interstate Commerce Act, Explosives and Combustibles Act, and related acts, transferred to DOT-FHWA by the DOT Act. Those laws relate to safety of operation, inspection and maintenance of equipment, qualifications and maximum hours of service of employees of interstate motor carriers, and the shipment and transportation of hazardous materials by motor carriers.

This includes: (1) Development of rules and regulations governing the qualification and maximum hours of service of motor carrier employees; (2) the safe operation and maintenance of motor carrier vehicles; (3) the safe transportation of migratory labor; (4) the safe transportation and storage of hazardous materials; (5) education of motor carriers, their employees, and others as to the regulations; (6) enforcement of the regulations as to motor carriers, shippers and others; and (7) the investigation and determination of probable causes of accidents.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

George A. Meyer, Director, Bureau of Motor Carrier Safety.

3. How much money and capital equipment is available under this program for fiscal 1968?

\$1,833,000—No capital equipment is involved in this program.

4. Would you describe the output generated by this program?

(a) Development of policies, safety and hazardous materials regulations, and procedures governing the safety of operation and the qualifications and hours of service of employees of motor carriers in interstate or foreign commerce.

(b) Investigation of serious accidents involving interstate trucks and buses to determine cause.

(c) Examination of carriers' records and operations to determine status of compliance and to discover violations.

(d) Investigation of carrier practices with a view toward enforcement action, as warranted.

(e) Examination of drivers and vehicles in interstate commerce to determine status of compliance and to discover violations.

(f) Investigation of written and oral complaints against motor carriers to determine jurisdiction and to effect solutions.

(g) Maintain liaison and effective working relations with State authorities having a motor carrier safety responsibility.

5. Can you quantify this output in any way?

Yes. The Bureau has established work goals consisting of major work items deemed necessary to assure a balanced program. Reports of major work items are furnished by staff members and reviewed quarterly.

6. Would you describe the principal operations that are involved in producing this output?

The Bureau is organized into two principal operational units.

(a) *Departmental*.—Develop and maintain a body of safety and hazardous material regulations, to foster and guide safety programs, process data as to motor carrier compliance records, report to the ICC on the safety posture of 18,000 certificated carriers, and to the Department of Defense on carriers proposing to transport explosives or other dangerous articles, develop accident data, trends and cause factor for 45,000 accident reports from the certificated carriers, evaluate field safety compliance reports, examine in depth accident investigation reports, identify probable causes, and publish reports with a prevention lesson.

Authorizes the use of nonspecification containers intended for use in transporting hazardous materials; the waiver of certain disqualifying requirements concerning medical and physical impairments of drivers; and the conditional use of certain safety appliances and devices.

(b) *Field*.—Inspects motor carrier facilities and vehicles; examines motor carrier records and documents; inspects carrier practices; investigates motor carrier accidents; examines safety programs; investigates complaints of violations, the discovery of noncompliance and unsafe practices; and reports dangerous characteristics of vehicles or practices.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

The staff is composed primarily of investigators engaged in the investigation of motor carrier accidents. The staff also involves a small number of other professional and specialist personnel engaged in analytical activities related to motor carrier safety.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

Grade	Quota	Nonquota	Total	Grade	Quota	Nonquota	Total
GS-17.....	1		1	GS-7.....			10
GS-15.....			1	GS-6.....			3
GS-14.....			3	GS-5.....			20
GS-13.....			21	GS-4.....			12
GS-12.....			2	GS-3.....			11
GS-11.....			3	GS-2.....			2
GS-9.....			87	Total.....			178
GS-8.....			2				

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

The Bureau relies on the FHWA central computer system for data processing needs.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Yes. The FHWA has under current consideration a joint Federal-State grant-in-aid program which will be designed to enlarge participation by the States in the total heavy-commercial truck and bus safety field regardless of the character of the commerce involved. The safety direction and enforcement then could be made to cover all heavy-commercial vehicles.

If adopted, the Federal role and mission would shift from inspections, examinations, and enforcement to one of promulgation of uniform safety regulations; establishment of a uniform program to implement the regulations; developing and monitoring educational and promotional programs; and providing liaison and guidance to the States.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

Coordination of the Bureau's overall program is performed at several levels:

The regional safety officers supervise the activities of the safety investigators in their respective regions. Each region is provided required work goals and uniform instructions to accomplish the Bureau's program objectives. The prog-

ress of the program is examined and evaluated at the regional and headquarters levels to assure a total coordinated effort.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes. There is a continuing review of reports received from the field staff and the motor carrier industry to identify problem areas, trend in commercial vehicle accidents, areas of noncompliance, and the need for regulatory changes. This review is necessary for the Bureau to carry out its program objectives—preventing or reducing the severity of accidents in commercial motor carrier operations.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

While the States do have safety responsibility for intrastate commercial vehicles, the Bureau's work in interstate field complements and does not duplicate State activities. We deal with basic accident cause factors peculiar to motor carrier operations, examine motor carrier records and operation in the States, and provide leadership and a solid base of uniform motor carrier safety standards. The States look to us for leadership and minimum motor carrier safety regulations.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes. The headquarters staff is organized into two divisions; one having responsibility for the formulation of regulations and the other division provides technical guidance to the field staff and performs reviews of field reports as a means of appraising the efforts of the field staff. The productivity of our safety effort is due to a clear legislative mandate, a well-defined area of responsibility, and an organization structure designed to effectively carry out our program objectives.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

There has been developed a body of rules and regulations designed to reduce highway casualties attributable to commercial motor carrier operations. These rules and regulations are basically sound. However, the limited amount of resources devoted to effectively administering them has made it necessary to rely heavily on voluntary compliance by the motor carrier industry in the accident reducing effort.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

The appropriation reductions would have to be absorbed through reduction of staff personnel in all program activities.

19. If additional funds were available, what would you do with the new money?

Increase the number of investigators in the field as a means of inspecting a greater number of vehicles and investigating more accidents involving motor carrier vehicles and thereby increasing the level of compliance with motor carrier safety and hazardous materials regulations.

Activity 5 (Federal Highway Administration): Forest Highways

1. What is the nature of and authority for this program?

The forest highway system, which is approximately 25,600 miles in length, is composed of main and secondary roads within or adjacent to the national forests. It is located in 40 of the 50 States and in Puerto Rico. Approximately 13,100 miles of the system are located in the 12 most westerly States and in South Dakota. About 12,500 miles are located in 26 Eastern States and in Puerto Rico.

The authority is contained in the Biennial Highway Acts. (Public Law 89-574) (23 U.S.C. 101 et seq.)

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

Unused contract authority of \$77.4 million is available for obligation in 1968. Obligations are planned at \$36 million in 1968.

A liquidating cash appropriation of \$32 million is available in fiscal year 1968. Capital equipment including equipment depot buildings, construction equipment and necessary furniture and fixtures totals \$2.2 million.

4. Would you describe the output generated by this program?

Construction and improvement of a system of highways within or adjacent to the national forests.

5. Can you quantify this output in any way?

Actual and estimated progress of the program over a period of 5 years is summarized below.

(Dollar amounts in thousands)

Fiscal year	Miles completed	Expenditures
1964.....	492	\$33,277
1965.....	419	32,500
1966.....	307	31,304
1967.....	303	28,947
1968 ¹	290	34,115
Total.....	1,811	160,143

¹ Estimated.

6. Would you describe the principal operations that are involved in producing this output?

Forest highway projects are jointly selected by the States, the Forest Service, and the Bureau of Public Roads on the basis of their contribution to meeting traffic requirements within or adjacent to the national forests.

Authorizations are apportioned by States on the basis of a formula which uses as factors the national forest area and value in each State.

Contract authorizations of \$33 million are available for each of the fiscal years 1968 and 1969. Funds can be obligated in the year prior to the year for which authorized for appropriation as cash.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

There is a total of 448 permanent positions authorized for this program. The program is staffed with highway, structural, and other civil engineers, engineering technicians and support personnel.

8. What is the grade structure and how many super grades—quota and non-quota—are involved?

Number		Number	
GS-13.....	3	GS-5.....	75
GS-12.....	22	GS-4.....	45
GS-11.....	70	GS-3.....	36
GS-10.....	--	GS-2.....	11
GS-9.....	46	Wage board.....	44
GS-8.....	--		
GS-7.....	55	Total.....	448
GS-6.....	41		

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

Electronic computer equipment is utilized in design and construction. Surveying, drafting, and drilling equipment, as well as trucks, are utilized in performing required activities.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Expenditures are estimated to continue at their present level. The benefits, however, will increase proportionately to the use by the public of recreational facilities being developed in forest areas.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The program is administered through the Washington headquarters Office of Engineering and Operations, Federal Highway Projects Division, and regional and division offices in the field. Coordination is carried out at both headquarters and field level.

12. Is there a continual program review within the agency, other than the annual budgetary review to determine more effective and efficient ways to achieve these program objectives?

The annual program in each State is jointly developed by the State highway department, the regional foresters, and the regional Federal highway administrators. It is, therefore, subject to annual review at conference between these parties.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No. It is, however, supplemented by State and Federal-aid work as well as some county cooperation.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

It has been necessary to limit releases of obligational authority in order to remain within restricted levels of cash appropriations.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

One hundred percent Federal funds may be provided by this program. The States are not required to participate in the financing, but are encouraged to participate to help overcome the small annual apportionment which in some States is not sufficient to construct a normal- or economical-size project.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction to each State for which funds are apportioned.

19. If additional funds were available, what would you do with the new money?

Overcome the backlog of needs over current authorizations.

Activity 6 (Federal Highway Administration): Public Lands Highways

1. What is the nature of and authority for this program?

Public lands are unappropriated or unreserved public lands, nontaxable Indian lands, or other Federal reservations. Authorizing legislation provides that funds shall be used to assist States with large areas of public lands in the improvement of sections of main roads—principally on the Federal-aid highway system—which States otherwise may find difficult to finance.

Authority for this program is contained in the Biennial Highway Acts (Public Law 89-574; 23 U.S.C. 101 et seq.).

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

Unused contract authority of \$33.6 million is available for obligation in fiscal 1968. It is planned to obligate \$14 million in 1968. A liquidating cash appropriation of \$9 million is available in fiscal year 1968. No capital equipment is involved.

4. Would you describe the output generated by this program?

Construction and improvement of highways through public lands in those States with large areas of such lands.

5. Can you quantify this output in any way?

Actual and estimated progress of the program for a 5-year period is summarized below:

[Dollar amounts in thousands]

	Fiscal year	Miles completed	Expenditures
1964		66	\$4,708
1965		105	6,562
1966		101	11,290
1967		135	10,105
1968 ¹		100	10,424
Total		507	43,089

¹ Estimated.

6. Would you describe the principal operations that are involved in producing this output?

Authorizations for this program are allocated to the States for specific projects on the basis of needs. The States prepare the plans, specifications, and estimates for each of the projects. After approval of the plans by the Bureau of Public Roads, the State advertises for bids and awards contracts for construction of the projects. The State reimburses the contractor on a monthly basis for work performed. The Federal Government reimburses the State on a monthly basis for its share of the expenditure. The Bureau of Public Roads provides the overall monitoring and supervision of the program as the State proceeds with each project.

7. How many employees are involved in the program and in what general types of employment categories do they fall?

There is a total of 23 permanent positions authorized for this program. The program is staffed with highway, structural, and other civil engineers, engineering technicians, and support personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

GS-12	.....	1	GS-5	.....	4
GS-11	.....	4	GS-4	.....	2
GS-10	.....	—	GS-3	.....	2
GS-9	.....	2	GS-2	.....	1
GS-8	.....	—	Wage board	.....	2
GS-7	.....	3			
GS-6	.....	2	Total	.....	23

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None, except accounting processes by ADP facilities.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

No.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The program is administered through the Washington headquarters, Office of Engineering and Operations, Project Coordination Division, and regional and division offices in the field. Coordination is carried out at both headquarters and field level.

12. Is there a continual program review within the agency, other than the annual budgetary review to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is continually reviewed and coordinated by the Washington headquarters, Office of Engineering and Operations, Project Coordination Division.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

None. However, this program supplements the Federal-aid program and to some extent the forest highways program.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

It has been necessary to limit releases of obligational authority in order to remain within restricted levels of cash appropriations.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

100 percent Federal funds are provided by this program, with permissive participation of State moneys when they deem advisable and so request.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction to each State for which funds are allocated.

19. If additional funds were available, what would you do with the new money?

Allocate it to the States for additional highway construction. Each year the total applications received from the States far exceed the availability of funds.

Activity 7 (Federal Highway Administration): Repair and Reconstruction of Highways

1. What is the nature of and authority for this program?

The Federal-Aid Highway Act of 1966 provided an annual authorization of \$50 million for the repair and reconstruction of highways damaged by disasters over a wide area, such as by floods, hurricanes, earthquakes, et cetera, to be financed 60 percent from the highway trust fund and 40 percent from the general fund, effective July 1, 1966.

For projects in Alaska, the 1964 amendments to the Alaska Omnibus Act increased the Federal share payable from 50 percent to 94.9 percent for the repair and reconstruction of areas damaged by the earthquake of March 1964 and subsequent seismic waves.

The Pacific Northwest Disaster Act of 1965 provided an additional \$50 million authorization for fiscal year 1965 and an additional \$20 million authorization for fiscal year 1966.

Costs are originally incurred for these activities under the Federal-aid highways (trust fund) appropriation. Appropriations are obtained under the program repair and reconstruction of highways in order to provide repayment to the highway trust fund for cash disbursements which were temporarily made from that fund against general fund program authorizations.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

The authorization for fiscal 1968 is \$50 million. The general fund appropriation provided \$15,097,772 in 1968 for reimbursement to the highway trust fund to cover expenditures temporarily made therefrom in fiscal year 1966. No capital equipment is involved.

4. Would you describe the output generated by this program?

Repair and replacement of Federal-aid highways damaged by floods and other natural disasters.

5. Can you quantify this output in any way?

Mileage and disbursements made through June 30, 1967, are reflected below.

[Dollar amounts in thousands]

	Miles		Total cumulative disbursements to June 30, 1967	Less amounts retained by HTF	Required reimbursement to HTF from general fund
	Underway	Complete			
Pacific Northwest Disaster Relief Act of 1965:					
Fiscal year 1965 authorization, \$80,000,000	172.7	3,350.0	\$64,415	\$30,000	\$34,415
Fiscal year 1966 authorization, \$50,000,000	78.7	353.9	18,239	18,239	
1964 amendments to the Alaska Omnibus Act authorization, \$15,000,000	(1)	(1)	2,044		2,044
Federal-Aid Highway Act of 1966, annual authorization (\$50,000,000 authorization financed 60 percent highway trust fund, 40 percent general fund)	104.0	1,238.6	3,771	2,262	1,508
Total required to reimburse the highway trust fund					37,968
Fiscal year 1968 appropriation					15,098
Balance					22,870

¹ Mileage for Alaska Omnibus Act included in the 2 authorizations under Pacific Northwest Disaster Relief Act of 1965.

6. Would you describe the principal operations that are involved in producing this output?

The repair and reconstruction of highways is a grant-in-aid program administered in a manner similar to the Federal-aid highway program following a declaration of emergency by the Governor of a State.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

None. Administered under program for Federal-aid highways.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

None.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Only within authorized level of \$50 million annually, depending upon extent of natural disasters in any year.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The program is headed by the Director of Public Roads, aided by a deputy and six staff assistants in the Washington headquarters. This staff is responsible for policy formulation and general direction of Public Roads operations.

The field organization consists of nine regional offices located across the country, each supervising the Federal-aid program in from four to eight States. There is a division office in every State and in Puerto Rico and the District of Columbia. It is through this field organization that relations with the State highway departments are carried on.

Coordination is carried out at both headquarters and field level.

12. Is there a continual program review within the agency, other than the annual budgetary review to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is continually reviewed and coordinated by the Washington headquarters, Office of Engineering and Operations, Project Coordination Division.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

None.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

The appropriation is to reimburse the highway trust fund.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Appropriation reduction results in delay in making reimbursement to the highway trust fund.

19. If additional funds were available, what would you do with the new money? Not applicable.

Activity 8 (Federal Highway Administration): State and Community Highway Safety Programs

1. What is the nature of and authority for this program?

This program includes the making of grants to States to be used by those States and their political subdivisions to enlarge or improve their highway safety programs in accordance with section 402 of the Highway Safety Act of 1966, Public Law 89-564. Included is the cost of administration directly related to carrying out the provisions of that section of the act.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

William Haddon, Jr., M.D., Director, National Highway Safety Bureau.

3. How much money and capital equipment is available under this program for fiscal 1968?

Unobligated balances of contract authorizations for fiscal years 1967, 1968, and 1969 total \$165 million. However, the appropriation act placed a \$25 million limitation on obligations during fiscal year 1968. A liquidating cash appropriation of \$25 million was enacted in fiscal year 1968. No capital equipment is involved in this program.

4. Would you describe the output generated by this program?

The outputs generated by this program are: A comprehensive highway safety program developed by each State, based upon performance standards developed in this program and financed in part through matching Federal funds. At least 40 percent of the Federal funds must be spent by political subdivisions of the State. The Federal program also includes the giving of technical assistance to the States in their highway safety programs. These are the direct outputs. The sought-for results of the outputs are substantial reduction in traffic deaths, injuries and property damage.

5. Can you quantify this output in any way?

These outputs can be quantified in terms of dollar amounts allocated by States and political subdivisions to various functional areas of highway safety effort. It is also possible to develop numerical measures such as driver education pupil hours, but these measures will require a considerable amount of refinement and validation before they attain maximum value. The most difficult output measure to quantify is the reduction in traffic deaths, injuries, and property damage which will result from the new national effort. When the national data base has been developed and the data systems are operational, it will be possible for the first time to make valid scientific analyses of these benefits.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations that are involved in producing these outputs are:

a. Assisting the States in developing comprehensive highway safety programs built upon performance standards for State and community highway safety programs. Such standards have already been issued covering: periodic motor vehicle inspection; motor vehicle registration; motorcycle safety; driver education; driver licensing; codes and laws; traffic courts; alcohol in relation to highway safety; identification and surveillance of accident locations; traffic records; emergency medical services; highway design, construction, and maintenance; and traffic control devices.

In addition, standards are being coordinated in such areas as: pedestrian safety; police traffic services; school bus safety; and accident cleanup programs.

b. Review and analysis of comprehensive project proposals submitted by the States, or by political subdivisions through the States, and the making of grants to fund approved projects in accordance with their programs.

c. Evaluation of efforts and progress being made by the States and communities in meeting the programs developed in accordance with the standards. These evaluations necessitate visits to the States by personnel of the Highway Safety Programs Service and highway safety program specialists assigned to Federal Highway Administration regional offices.

d. Giving the States on-the-scene technical assistance and also assistance through the facilities of the National Highway Safety Institute.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Staffing for this program is shown under the heading "Traffic and Highway Safety."

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

This program includes all National Highway Safety Bureau positions that are assigned to the Highway Safety Programs Service and the highway safety specialists positions and supporting staff that are assigned to each of the Federal Highway Administration Regional Offices. All positions for this program are shown under the heading "Traffic and Highway Safety."

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

We rely upon the FHWA servicing organizations, which use computers in their accounting work.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Both the expenditures and benefits of this program should increase very substantially in the future. A recently completed study of program needs in this area indicated that the States will need substantially greater funds to expand their highway safety program levels and institute the new programs required.

Present indications are that through the combined efforts of the National Traffic and Motor Vehicle Safety Act of 1966, Public Law 89-563, and the Highway Safety Act of 1966, Public Law 89-564, a major reduction of traffic deaths is within the realm of possibility.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The various parts of the program are coordinated at several levels throughout the organization. The Bureau Director is assisted by a Deputy Director, an Office of the Principal Scientist, an Office of Research and Program Synthesis and an Office of Plans and Programs Implementation in directing and evaluating the effectiveness of principal operating elements of the organization. The Highway Safety Programs Service, headed by a Director and Deputy Director, is responsible for the grant administration including the development of program standards and the furnishing of technical assistance to States and their subdivisions. The National Highway Safety Institute which is responsible for all research and development activities of the Bureau is headed by a director who is responsible for its operation. Within the Bureau there is also the Motor Vehicle Safety Performance Service, headed by a Director and Deputy Director, which is responsible for development and implementation of standards under the National Traffic Motor Vehicle Safety Act.

The Bureau Director and Deputy Director, the two Directors of the Services, and the Institute Director constitute an executive planning committee which represents an additional organizational device for securing effective coordination among the Bureau components in both the planning and program execution stages.

12. Is there a continual program review within the agency, other than the actual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

The Bureau, during the limited time since its inception, has confronted a huge number of problems, including the necessity for initially meeting rigorous statutory deadlines, staffing and organizing, and identifying needs that have to be met. Program reviews have accordingly been limited to those necessary at several stages in the cycle for overall budget planning, budget preparation, and program execution. In the meantime, the development is underway of a system of program review within the Bureau to develop more detailed program work schedules, an improved system of reporting that will enable the Bureau to measure how well it is meeting its work schedules, and a management information system that will tell management where the problems are and how they can best be met.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

There is no duplication of work done by any other Federal agency. The work, however, complements and is complemented by certain efforts of the Bureau of Public Roads. Very close coordination of these efforts is a matter of continuing policy to assure that the full resources of the two organizations are effectively utilized without duplications.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

The Bureau work structure is well suited to the efficient and effective accomplishment of its assigned programs. As time progresses, there might have to be changes in organization to reflect shifts in program emphasis. For example, at some future date the emphasis will shift from standards development activities to standards enforcement. At that time, changes probably will be required in the organization, at least in the staffing distribution.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

There are no outstanding GAO reports on this program.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The estimates by the States of Federal grants-in-aid to implement the highway safety program standards issued under the provisions of the law are far in excess of the funds available for obligation.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

This is a grant program in its entirety. It differs substantially from most other Federal grant-in-aid programs in that it has to deal with many administrative units in State and local governments (police, education, highways, public health, driver licenses, enforcement, court systems, and others). The experience to date strongly indicates severe understaffing to carry out this budget program.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

The cut would have to be absorbed by reducing further the grant-in-aid funds contributing to State and community highway safety programs.

19. If additional funds were available, what would you do with the new money?

Additional funds would be utilized in increasing grants-in-aid to States and communities to more adequately assist them to implement meaningful programs.

Activity 9. (Federal Highway Administration): Inter-American Highway

1. What is the nature of and authority for this program?

The Central American section of the Inter-American Highway, comprising 1,555 miles, is being constructed in cooperation with the Republics of Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama. These Republics generally pay one-third of the cost of highways through their countries, and have assumed responsibility for future maintenance.

The Federal-Aid Highway Act of 1962 (76 Stat. 1146) authorized an additional appropriation of \$32 million, of which \$30 million has been appropriated, to complete the highway to acceptable standards.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

An appropriation of \$5 million is available in fiscal year 1968. No capital equipment other than normal office equipment is involved.

4. Would you describe the output generated by this program?

Construction of the Central American section of the Inter-American Highway.

5. Can you quantify this output in any way?

The following table reflects the amounts of work, by countries, provided by the \$32 million authorization:

[Dollar amounts in thousands]

	Fiscal years					Total
	1965	1966	1967	1968	1969	
Guatemala.....	1,194	3,610		3,383		8,187
Nicaragua.....	860					860
Costa Rica.....	153	310	13,561	1,617	2,000	17,641
Panama.....	5,270	42				5,312
Total.....	7,477	3,962	13,561	5,000	2,000	32,000

6. Would you describe the principle operations that are involved in producing this output?

Since 1930, the United States has been helping build the Inter-American Highway, a 3,100-mile route from Laredo, Tex., to Panama City, Mexico has built its section of the highway with its own funds and engineers. For the Central American portion, the United States has provided construction funds, generally matched one-third by the countries involved. The Bureau of Public Roads has managed these funds and provided engineering assistance.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

There are 42 permanent positions authorized for this program. Highway engineers, with a small number of clerical support personnel, comprise the entire staff of this program area.

8. What is the grade structure and how many super grades—quota and non-quota—are involved?

	Number		Number
GS-15.....	1	GS-7.....	--
GS-14.....	6	GS-6.....	1
GS-13.....	3	GS-5.....	2
GS-12.....	7	GS-4.....	3
GS-11.....	2	GS-3.....	1
GS-10.....	--	Unclassified.....	16
GS-9.....	--		
GS-8.....	--	Total.....	42

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

No additional expenditures, but major economic benefits. President Johnson on April 23, when signing the OAS amendment, attributed the success of the Central American Common Market to the Inter-American Highway.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The program is administered through the Washington headquarters, Office of Engineering and Operations, Foreign Projects Division, a regional office in San Jose, Costa Rica; and division offices in the Central American countries. Coordination is carried out at both headquarters and field level.

12. Is there a continual program review within the agency other than the annual budgetary review to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is continually reviewed and coordinated by the Washington headquarters, Office of Engineering and Operations, Foreign Projects Division.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

None.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

Joint grant-in-aid and country financed program. Staff is adequate to efficiently administer the program.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction.

19. If additional funds were available, what would you do with the new money?

No additional funds beyond the \$32 million authorized by the Federal-Aid Highway Act of 1962 will be required.

Activity 10 (Federal Highway Administration): Chamizal Memorial Highway.

1. What is the nature of and authority for this program?

Public Law 89-795 (80 Stat. 1477) dated November 8, 1966, authorizes the Secretary of Transportation to construct a border highway in the city of El Paso commencing at a point approximately two blocks west of Santa Fe Street in El Paso and proceeding along the international boundary, as rectified, to the International Bridge at Zaragoza Road about 12½ miles east. The act authorizes \$8 million in Federal funds for this project.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

An appropriation of \$4 million is available in fiscal year 1968. No capital equipment is involved.

4. Would you describe the output generated by this program?

Construction of a border highway along the U.S. bank of the Rio Grande River in connection with the settlement of the Chamizal boundary dispute between the United States and Mexico, pursuant to the American-Mexico Chamizal Convention Act of 1964 (78 Stat. 184).

5. Can you quantify this output in any way?

Approximately 12½ miles of highway.

6. Would you describe the principal operations that are involved in producing this output?

The State of Texas has the initiative in making all of the engineering surveys and designs, initiating action for right-of-way acquisition and utility adjustments, planning the letting of the construction contract, and making monthly payments to the contractor as the work is put in place. The Federal Government reimburses the State on a monthly basis for its share of the expenditure. The Bureau of Public Roads provides the overall monitoring and supervision of the program as the State proceeds with the project.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

No Federal employees are involved. This project will be let to contract by the State of Texas.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

Not applicable.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None involved.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

The program will be completed with the approval of the \$4 million appropriation requested for fiscal year 1969.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The project has been set up for accomplishment by the Bureau of Public Roads and the State of Texas in a manner as nearly identical to normal Federal-aid procedures as is practicable under the legislation. The responsibility for adminis-

tering the project has been delegated to the Regional Federal Highway Administrator, and he in turn has delegated this authority to the Division Engineer in Texas.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is continually reviewed and coordinated by the Washington headquarters, Office of Engineering and Operations.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

None.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

This is a grant-in-aid program. The Bureau of Public Roads staff is adequate to administer the program.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

By curtailing or deferring construction of the highway.

19. If additional funds were available, what would you do with the new money?

It is estimated the \$8 million authorization will complete the Federal financing of this project.

Activity 11 (Federal Highway Administration): Alaskan Assistance

1. What is the nature of and authority for this program?

The Federal-Aid Highway Act of 1966 authorized \$14 million a year for 5 fiscal years for maintenance of the Federal-aid system and for the construction of access and development roads on a Federal-aid system in Alaska.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

F. C. Turner, Director, Bureau of Public Roads.

3. How much money and capital equipment is available under this program for fiscal 1968?

An appropriation of \$5 million is available in fiscal year 1968. No capital equipment is involved.

4. Would you describe the output generated by this program?

Upgrading existing highways on the Federal-aid system in Alaska through constructive maintenance and improvement, and construction of access and development roads on a Federal-aid system in Alaska.

5. Can you quantify this output in any way?

This new program anticipates that the appropriations will be used to construct an access and development road system to serve industrial, recreational, residential, commercial, or resource development areas. The State of Alaska has prepared a tentative program of construction projects over the next 5-year period to be financed from the Alaska assistance funds. However, since Alaska's economic and resource development situation is changing almost daily and as the priority of projects may change in the near future, it may become both necessary and desirable to revise the currently planned program of projects.

It is proposed that the amount earmarked for maintenance not be spent on average everyday maintenance activities, but rather that it be utilized in a manner that will upgrade the presently inadequate and unsafe Federal-aid system. Many secondary highways were originally constructed to a standard insufficient to accommodate present-day traffic on a year-round basis. Maintenance money will be used to upgrade approximately 500 miles of secondary highways on present alignments.

6. Would you describe the principal operations that are involved in producing this output?

The State of Alaska has the initiative in proposing projects, programing the individual projects year by year, making all of the engineering surveys and designs, planning the letting of construction contracts, all in the same manner as for regular Federal projects, and for handling the maintenance. The Bureau of Public Roads provides the overall monitoring and supervision of the program as the State proceeds with each project.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

No Federal employees are involved. Alaskan assistance is a grant-in-aid program and will be handled through the State of Alaska similarly to regular Federal-aid procedures.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

Not applicable.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

The authorizing legislation provides a program level of \$14 million per year. It is not possible at this time to predict the level of appropriations in future years. No funds are requested for this program in the 1969 budget.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

The responsibility for administering the program has been delegated to the regional Federal Highway Administrator who in turn has delegated this authority to the division engineer in Alaska.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Progress of the program is reviewed and coordinated by the Washington headquarters, Office of Engineering and Operations.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

None.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

Yes, this is a grant-in-aid program. The Bureau of Public Roads staff is adequate to administer the program.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction.

19. If additional funds were available, what would you do with the new money?

Expedite the authorized program.

PROGRAM CATEGORY 4. FEDERAL RAILROAD ADMINISTRATION

Activity 1: Railroad Safety

1. What is the nature of, and authority for, this program?

The Bureau of Railroad Safety performs assigned duties in connection with the administration and enforcement of certain specific Federal statutes relating to common carriers engaged in interstate commerce by railroad.

These laws are: (1) the transportation of explosives and other dangerous articles (18 U.S.C. 831-835); (2) the Safety Appliance Acts (45 U.S.C. 1-16); (3) the Ash Pan Act (45 U.S.C. 17-21); the Locomotive Inspection Act (45 U.S.C.

22-34 (as modified by Reorganization Plan No. 3 of 1965)); (5) Investigation of Safety Devices (45 U.S.C. 36); (6) The Accident Reports Act (45 U.S.C. 38-43); (7) the Medals of Honor Act (49 U.S.C. 1201-1203); (8) the Hours of Service Law (45 U.S.C. 61-64); and (9) the Signal Inspection Law (49 U.S.C. 26).

2. Who is the person primarily in charge of this program at the operative level (name and title)?

Mac E. Rogers, Director, Bureau of Railroad Safety.

3. How much money and capital equipment is available under this program for fiscal 1968?

The sum of \$3,414,000. We are uncertain what capital equipment includes.

4. Would you describe the output generated by this program?

See question 5.

5. Can you quantify this output in anyway?

<i>Program activities</i>	<i>Fiscal year 1967 act</i>
Inspections:	
Locomotive (units inspected)-----	107,900
Safety appliances (freight, passenger, and locomotives, SA only) -	1,673,738
Train brake test observations-----	8,654
Indate test observations-----	3,200
Hours of service-----	781
Accident and casualty cases-----	35,628
Signal devices (including records of tests)-----	175,000
Hazardous materials investigations-----	1,288
Accident (serious train)-----	54
Formal reports published-----	34
Investigated but no formal report-----	20
Preliminary investigations-----	101
Locomotive accidents (including casualties)-----	174
Complaints:	
Locomotive-----	94
Safety-----	387

6. Would you describe the principal operations that are involved in producing this output?

Bureau output is produced by on-the-ground inspections and investigations conducted by members of the field technical staff and the Director's staff together with the review, analysis, and tabulation of reports filed with the Director's office.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

The current authorized Bureau force is 246 employees assigned as shown on attachment No. 2.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
BUREAU OF RAILROAD SAFETY
STAFFING CHART

Office of the Director		
Permanent Positions:		
Grade		Number
GS-18.....	1	
GS-16.....	1	
GS-14.....	1	
Below GS-13.....	7	
Total.....	10	

Engineering and Accident Analysis Division		
Permanent Positions:		
Grade		Number
GS-15.....	1	
GS-14.....	2	
GS-13.....	5	
Below GS-13...	16	
Total.....	24	

General Safety Division		
Permanent Positions:		
Grade		Number
GS-15.....	1	
GS-14.....	1	
GS-13.....	3	
Below GS-13...	74	
Total.....	79	
Field Staffing. (68)		

Locomotive Safety Division		
Permanent Positions:		
Grade		Number
GS-15.....	1	
GS-14.....	1	
GS-13.....	5	
Below GS-13...	85	
Total.....	92	
Field Staff Inc. (82)		

Signal & Train Control Division		
Permanent Positions:		
Grade		Number
GS-15.....	1	
GS-14.....	1	
GS-13.....	4	
Below GS-13...	24	
Total.....	30	
Field Staff Inc. (23)		

Hazardous Materials Division		
Permanent Positions:		
Grade		Number
GS-15.....	-0-	
GS-14.....	1	
GS-13.....	1	
Below GS-13...	2	
Total.....	4	

Technical Direction and Communication.
----- Administrative Direction and Communication.

Regional Directors		
Permanent Positions:		
Grade		Number
GS-14.....	7	
Remaining Field Staff of 173 Included in Division Totals.		

NOTE: Staffing of 246 is same for both current and budget year. All of the staffing is funded from the Bureau of Railroad Safety Appropriation.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

ADP support services are provided by FHWA in connection with the tabulation of accident statistical tabulations.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Enactment of pending railroad safety legislation will result in an increase in program expenditures and hopefully a substantial increase in program benefits in the form of reduced accident occurrences.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

Bureau, divisional, and regional.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes, as evidenced by the recent Bureau reorganization.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

It is believed that the present Bureau organizational structure provides optimum efficiency and effectiveness. However, it is constantly undergoing review to keep abreast of maintenance and inspection changes within the rail industry.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None that we are aware of.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The major problem confronting the Bureau in the promotion of rail safety is the absence of authority in the areas involved in the vast majority of railroad accidents; i.e., track structure, running gear of freight and passenger cars, operating rules, etc.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Any reduction in allocated funds would necessitate a proportionate overall reduction in Bureau program activities and/or a severe restriction on travel of field employees.

19. If additional funds were available, what would you do with the new money?

Any additional available funds would be channeled in the direction of strengthening the headquarters technical staff.

Activity 2 (Federal Railroad Administration): High Speed Ground Transportation

1. What is the nature of and authority for this program?

Not answered.

2. Who is the person primarily in charge of this program at the operative level?

Dr. Robert A. Nelson, Director, Office of High Speed Ground Transportation.

3. How much money and capital equipment is available under this program for fiscal 1968?

\$22,263,000. Equipment: Four fully instrumented rail research cars.

4. Would you describe the output generated by this program?

Not answered.

5. Can you quantify this output in any way?

Figures are available in the budget and annual and special reports on total obligations and expenditures, number of technical reports published, and number of contracts. However, these alone do not adequately describe the benefits of the R. & D. output or of the potential results and findings of the demonstrations insofar as these projects will affect the direction of research and investment for many years in the future.

6. Would you describe the principal operations that are involved in producing this output?

Most of the modeling and research and the demonstrations are under contract with private R. & D. firms, the railroads, university research centers, and other Government agencies. In-house operations consist of planning, contract review and control, systems analysis, determination of new or changed research program directions, coordination of the demonstrations, data analysis, and development of interest by private industry in investing funds and research for the improvement of high speed ground transportation.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Fifty-six permanent employees are authorized. About a dozen individual consultants are on the roll primarily on an intermittent basis. Major professional fields are: Engineering, economics, operations research, transportation, inter-governmental relations and statistics.

8. What is the grade structure and how many super grades—quota and non-quota—are involved?

GS-17-----	¹ 1
GS-16-----	² 3
GS-15-----	15
GS-14-----	14
GS-13 and below-----	23
Total -----	56

¹ Quota.

² 1 quota, 2 nonquota.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

Four rail research cars with full instrumentation, which measure over 150 variables while in motion, are used extensively. A modest IBM data processing system is used on a rental basis for analyzing trip information in regard to the demonstrations.

Research firms and other Government agencies use their equipment in fulfilling contracts and agreements. The Penn Central Railroad is obtaining 50 MU cars for the New York to Washington, D.C., demonstration. Two turbine trains are being leased from United Aircraft Corp. for use on the Boston-New York demonstration.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Emphasis will continue to shift from railroad R. & D. to unconventional systems R. & D. and advanced technology. As R. & D. activity progresses and technological feasibility is determined, the knowledge gained can be used to design prototype hardware for full-scale testing. This will involve the acquisition of a suitable site and construction of a facility to develop and test advanced systems such as the tube vehicle and tracked air cushion vehicle and the application of the linear electric motor.

As technology advances it may become desirable to conduct demonstrations using new transportation systems in areas where market analyses indicate a fair test of public response.

The refinement and implementation of the Northeast corridor transportation planning capability will produce increasing benefits but at about the present level of expenditure.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

Continual coordination at office, division and contractor level is performed as a basic function of the Office of High Speed Ground Transportation.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No, nor is the program duplicated by State, local, or private organizations. Cooperative projects are planned or underway with NASA in air cushion research,

the States of Maryland and Delaware in grade crossing safety, and the cities of New York and Chicago in tunneling technology.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

The Office of High Speed Ground Transportation comprises three divisions—Engineering Research and Development, Demonstrations, and Transport Systems Planning (NEC project). This structure provides an effective combination of specifically defined responsibilities, span of control, and relative simplicity of coordination.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Finding and hiring high-quality technical personnel.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

Yes—contracts (no grants or loans). Yes.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

By selective cutting and curtailing.

19. If additional funds were available, what would you do with the new money?

A. Put greater emphasis on certain present R. & D. activities.

B. Speed up other current R. & D. activities.

C. Begin work on promising research projects for which funding is not now available.

Activity 3 (Federal Railroad Administration): Railroad Research and Development Program Proposal

1. What is the nature of and authority for this program?

The Secretary of Transportation and his modal administrations are legislatively required to promote and undertake research and development relating to transportation and safety of the traveling public and employees. See Public Law 89-670, sections 4(a) and 9(q).

2. Who is the person primarily in charge of this program at the operative level (name and title)?

The Director of the Office of Policy and Program Analysis has responsibility for the expenditure of rail and research funds.

3. How much money and capital equipment is available under this program for fiscal 1968?

\$200,000.

4. Would you describe the output generated by this program?

The FRA fiscal year 1968 appropriation provides for contractual research to deal exclusively with railroad safety matters. Emphasis will be placed on conducting research studies relating to railroad safety. Research studies for fiscal year 1968 are focused mainly on railroad-highway grade crossing technology and development of new railroad accident statistical procedures.

5. Can you quantify this output in any way?

FRA railroad research activities for fiscal year 1968 were (a) entered into a contract with the States of Maryland and Delaware to develop, test, and install track-activated advance-warning signals on highway approaches to 20 rail grade crossings located on the high-speed rail corridor between Washington, D.C. and New York. The demonstration project will test the effectiveness of new sophisticated railroad timing circuits and train-activated advance-warning signals. Railroad research funds expended for this project are \$50,000, (b) entered into a contract, amounting to \$35,000 with the Texas Transportation Institute for a study on the reporting of rail-highway grade-crossing accident data. FRA review of several studies designed to identify factors which contribute to hazardous conditions at grade crossings reveal that the data reported on the FRA form T, and its supplement, lack adequacy for meaningful accident prevention analysis. An improved data file and reporting form is necessary to be able to conduct accident analysis studies at the National and State level and to better meet legislative responsibilities.

6. Would you describe the principal operations that are involved in producing this output?

Identifying those areas of the grade crossing problem where insufficient research effort has been expended to improve public safety at rail-highway grade crossings and do not effectively cope with the expanding use of grade crossings. These areas are in hardware research, data collection and analysis, hazard ratings, uniformity of State laws and regulations, cost-sharing responsibilities, and Federal-financing programs.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

The Chief, Policy Analysis Division, and his staff presently provide those staff resources that are necessary to support the railroad safety research program. However, with staffing of the Science and Technology Division, O. P. & P. A. to be completed early in fiscal year 1969, a total of five positions will be actively involved in structuring the railroad research program.

Chief, Science and Technology Division

Research engineer (electronics)

Research engineer (safety)

Research engineer (mechanical)

Research engineer (civil)

In addition, staff time and support is to be provided by positions within the Office of Policy and Program Analysis.

Senior policy analyst

Transportation specialist

Transportation economist

Program analyst

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

Full-time assignments:

Number

Staff support:

Number

GS-15 ----- 3

GS-15 ----- 3

GS-14 ----- 2

GS-14 ----- 1

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

The railroad research program could expand considerably over the next few years. The woefully short supply of capital within the railroad industry for many years has had its major impact on railroad research funds. As a consequence, rail technology has not progressed and has not allowed the rail industry to assume a more responsive role in the nation's transportation network.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

Director's level. The railroad safety research and development program is coordinated by the Federal Railroad Administrator and the Director of the Office of Policy and Program Analysis.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

It does not.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The lack of qualified rail-oriented personnel to staff our Science and Technology Division of the Office of Policy and Program Analysis.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

(a) Yes.

(b) Yes.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Overall reduction.

19. If additional funds were available, what would you do with the new money?

Stimulate more industry and supplier interest and invest in research and development work.

Activity 4 (Federal Railroad Administration): Alaska Railroad

Subpart A. Operation and Maintenance

1. What is the nature of and authority for this program?

Act of March 12, 1914 (38 Stat. 305).

2. Who is the person primarily in charge of this program at the operative level (name and title)?

John E. Manley, General Manager.

3. How much money and capital equipment is available under this program for fiscal 1968?

The Railroad has an apportionment of \$16,321 million for fiscal 1968, of which \$3,883 million was approved for the capital improvements and replacement program; the remainder to be utilized by operations and maintenance. Capital equipment, at April 30, 1968, had a value of \$117,411,000.

4. Would you describe the output generated by this program?

The railroad's output generated by the O. & M. program is revenue tons and revenue passengers.

5. Can you quantify this output in any way?

The railroad has quantified this output in standard railroad terminology.

6. Would you describe the principle operations that are involved in producing this output?

The principal operations of the railroad are departmentalized under its operations division as follows: (a) transportation—responsible for the operation of freight and passenger trains; (b) engineering—responsible for maintenance of way; (c) motive power and equipment—responsible for maintenance and repairs; (d) communications—responsible for communications facilities; and (e) support activities such as the division of administration, personnel, traffic, real estate and special agents (security).

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Average employment is equivalent to approximately 880 man-years. In order to keep employment to a minimum and to utilize scarce skills, a number of these personnel work both in the O. & M. program and the capital improvements and replacement program. Employment categories are train and enginemen, white collar nonoperating employees, or Army and Air Force wage board blue collar employees.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The railroad does not have any supergrades.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

Capital equipment employed by the railroad in its operations consists of land, buildings, structures and facilities (roadbed and track), and equipment (rolling stock, machine shop, office equipment including IBM 1440 computer).

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

The railroad's expenditures increase as railroad revenues increase and decline in like manner.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At all supervisory levels, and such reports are evaluated in Alaska by the General Manager, Assistant General Manager, and Comptroller. Final review is in FRA.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

There is a continuing program review of revenue and expense by management.

13. To your knowledge, does this program duplicate or parallel work being by any other agency?

This program does not duplicate or parallel work being done by any other agency.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We think so, to the best of our ability. The organizational structure would be changed if potential improvements become apparent.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

The work of the GAO team currently conducting a management survey is not completed. A letter report from the Seattle region, dated April 23, 1968, is currently being replied to.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The same problems of any commercial common carrier; the challenge to produce revenues in excess of costs and still perform the developmental functions of the railroad.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

The railroad disposed of its powerplant to the Chugach Electric Cooperative, April 14, 1960. This is being sold for \$2,350,710, of which \$1 million was paid at date of sale; the remaining balance to be paid over a 25-year period. There are no special problems attached to administering this receivable.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

We have not asked for O. & M. appropriations since 1939, nor capital improvements since 1956, with the exception of the costs of repairing earthquake damage in 1964.

19. If additional funds were available, what would you do with the new money? If the additional funds were sufficient, we would begin a location survey and an economic feasibility study of an extension of the railroad from Dunbar to Bornite, and north from the proposed railroad through the Anaktuvuk Pass to the oil and gas fields on the northern slopes of the Brooks Range.

SUBPART B. CAPITAL IMPROVEMENTS AND REPLACEMENT PROGRAM—ALASKA RAILROAD

1. What is the nature of and authority for this program?

Senate Report 1761 (84th Congress, second session).

2. Who is the person primarily in charge of this program at the operative level (name and title)?

John E. Manley, General Manager.

3. How much money and capital equipment is available under this program for fiscal 1968?

The railroad has an apportionment of 16.321 millions of dollars for fiscal 1968, of which 3.883 millions of dollars was approved for the capital improvements and replacement program; the remainder to be utilized by operations and maintenance. Capital equipment, at April 30, 1968, had a value of \$117,411,000. A portion of the capital equipment available for operations and maintenance of the railroad is also used in this program.

4. Would you describe the output generated by this program?

The railroad's output generated by this program is numbers of buildings, structures and facilities, and equipment produced or purchased each year.

5. Can you quantify this output in any way?

The output is quantified as noted above.

6. Would you describe the principal operations that are involved in producing this output?

Principal operations in the capital improvements and replacement program consists of upgrading buildings, structures and facilities with present work forces and purchasing and/or upgrading equipment. The latter process is carried out in-house.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Same force structure applies to this program as to the O. & M. program.

8. What is the grade structure and how many super grades—quota and non-quota—are involved?

The railroad does not have any supergrades.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

Capital equipment employed by the railroad in its operations consists of land, buildings, structures and facilities (roadbed and track), and equipment (rolling stock, machine shop, office equipment including one IBM 1440 computer).

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

The increase in expenditures related to this program would relate to any increase in our depreciation or retirement rates.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

Any postponement of this program would put the railroad in the position of having an excessive amount of deferred maintenance which, of course, could result in the lowering of safety standards or types of services offered.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

There is a continuing program review of revenue and expense by management.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency.

This program does not duplicate or parallel work being done by any other agency.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We think so, to the best of our ability. The organizational structure would be changed if potential improvements became apparent.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

The work of the GAO team currently conducting a management survey is not completed. A letter report from the Seattle region, dated April 23, 1968, is currently being replied to.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The same problems of any commercial common carrier; the challenge to produce revenues in excess of costs and still perform the developmental functions of the railroad.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

Not applicable.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

We have not asked for O. & M. appropriations since 1939, nor capital improvements since 1956, with the exception of the costs of repairing earthquake damage in 1964.

19. If additional funds were available, what would you do with the new money?

If the additional funds were sufficient, we would bring a location survey and an economic feasibility study of an extension of the railroad from Dunbar to Bornite, and north from the proposed railroad through the Anaktuvuk Pass to the oil and gas fields on the northern slopes of the Brooks Range.

PROGRAM CATEGORY 5—ST. LAWRENCE SEAWAY DEVELOPMENT CORPORATION

1. What is the nature of and authority for this program?

The act approved May 13, 1954, authorized the St. Lawrence Seaway Development Corporation to construct that part of the St. Lawrence Seaway in the U.S. territory between Lake Ontario and St. Regis, N.Y., to consummate necessary arrangements with the St. Lawrence Seaway Authority of Canada relative to construction and operation of the seaway, to cooperate with Canada in the control and operation of the St. Lawrence Seaway and to negotiate with Canada for an agreement on tolls. The act approved July 17, 1957, authorized the Corporation to participate with the St. Lawrence Seaway Authority of Canada in the

ownership and operation of a toll bridge company and to provide services and facilities necessary in the maintenance and operation of the seaway.

2. Who is the person primarily in charge of this program at the operative level? Joseph H. McCann, Administrator.

3. How much money and capital equipment is available under this program for fiscal 1968?

The Corporation's investment in seaway facilities at the start of fiscal year 1968 is \$131.1 million. Unused borrowing authority at that time was \$14.6 million. Revenues for the fiscal year 1968 are estimated at \$6.3 million.

4. Would you describe the output generated by this program?

The seaway was constructed in 1958 and has since been operated on a toll basis by this Corporation and the St. Lawrence Seaway Authority of Canada.

5. Can you quantify this output in any way?

Yes, the following table shows cargo tonnages shipped through the seaway and revenues accrued to Canada and the United States from 1959 through 1967.

Year	Tonnage	Revenue	
		United States	Canadian
1959.....	20,600,000	\$3,200,000	\$6,900,000
1960.....	20,300,000	3,100,000	7,100,000
1961.....	23,400,000	3,400,000	8,100,000
1962.....	25,600,000	3,700,000	8,900,000
1963.....	30,900,000	4,400,000	10,700,000
1964.....	39,300,000	5,600,000	13,500,000
1965.....	43,400,000	6,400,000	15,500,000
1966.....	49,200,000	7,100,000	17,300,000
1967.....	44,000,000	6,100,000	16,300,000

6. Would you describe the principal operations that are involved in producing this output?

Operation and maintenance and administration of the seaway facilities.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

As of April 30, 1968, 170, of which approximately 120 are blue-collar trades crafts and laborers (including lock operating crafts) and the rest are engineering, administrative, and clerical.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

One supergrade; GS-17; five office heads at GS-15 or GS-14 level; division chiefs range from GS-12 to GS-14; journeymen from GS-7 to GS-11; clerical from GS-2 to GS-6.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Since the seaway is approaching its designed capacity of 50 million tons of cargo a year, twining seaway locks to handle the increased traffic anticipated in future years is being considered.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the top policy level by the Office of the Administrator through division heads.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Our most significant problem at present is to obtain additional financing for the lock rehabilitation program estimated at \$13.1 million. In July 1967, legislation was proposed to finance the work from an appropriation. The Congress has not acted upon this proposal. Should the Corporation be required to finance such cost by issuing revenue bonds under the current law, the borrowing authority would be reduced from \$14.6 million to about \$1.5 million, and the Corporation's outstanding debt would be increased by a like amount, in addition to the added interest cost for such borrowings.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

The Corporation does not operate under appropriated funds. See answer No. 16.

19. If additional funds were available, what would you do with the new money?

See answer No. 16.

PROGRAM CATEGORY 6—NATIONAL TRANSPORTATION SAFETY BOARD

Activity 1: Program Execution and Support

1. What is the nature of and authority for this program?

The program combines the resources for overall management control, execution, and day-to-day operation of Safety Board-wide programs including management direction, personnel management, programing, budgeting and financial management, analytical staff support, communications, services for property management, records and documents management, and other general administrative support activities. The authority to conduct this program emanates from the Department of Transportation Act of 1966, which created the Safety Board, and the specific delegations of authority from the Chairman of the Safety Board to the executive director.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

Ernest Weiss, executive director.

3. How much money and capital equipment is available under this program for fiscal year 1968?

A total of \$414,000 was appropriated in fiscal year 1968. Capital equipment is limited to personal property and other minor equipment required for program operation; e.g., file cabinets, furniture, office machines, etc.—\$19,800 was allocated for this type of equipment in fiscal year 1968.

4. Would you describe the output generated by this program?

The output includes management direction in the form of policy pronouncements, procedures, instructions, budget and financial material including budget documents, all personnel material, processing, printing, and distribution of all Safety Board documents, and a wide range of special projects dealing with overall management and administration. By delegation, the Executive Director is responsible for the overall management direction of the Board's programs.

5. Can you quantify this output in any way?

Due to the wide range of products produced in this program specific quantification would be very difficult. However, the following are representative examples of output. The budget officer, in addition to preparing all material associated with the budget process, is responsible for developing a wide range of budgetary procedures for control of funds; answers replies from a wide variety of sources regarding budget matters, and prepares written instructions for Safety Board use. The personnel manager must process all personnel actions, prepare procedures necessary to implement the personnel program, interview and recruit personnel and assist the Executive Director in a wide range of special studies. Management direction requires the formulation of a wide range of policy and procedural documents and studies. All tasks associated with the procurement of equipment and associated administrative services for the entire Safety Board must be performed. This program provides documents and records services, including the processing and servicing of approximately 5,000 accident files per year, answering approximately 10,000 accident inquiries, and the printing and

distribution of approximately 90,000 copies of various Safety Board publications and documents per year.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations involved are management formulation, control and review of program areas, the design of budgetary appropriation processing and coordination control systems, management direction, personnel operations, paper-work and records processing, maintenance of control and accountability authority for expenditure of funds.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Eighteen employees are authorized for this program and fall into the following personnel categories: executive management, budget and personnel management, office services, clerical.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The grade structure includes one GS-18 (quota supergrade), two GS-14's, one GS-13, two GS-12's, one GS-9, two GS-7's, one GS-6, two GS-5's, three GS-4's, and three GS-2's.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

Limited personal property, supplies, etc., plus the rental of approximately 700 hours of computer time per year.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Yes; expenditures will increase due to various administrative support costs furnished by the DOT for which the Safety Board will reimburse them.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the Executive Director level.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes; the program is reviewed periodically.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No; it does not.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We feel that it is; however, we will constantly strive to improve the effectiveness of all program areas.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Lack of adequate personnel ceilings and available funding plus the growing pains of a new organization and the selective recruitment of key personnel.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how could you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

And reduction in funds would require a curtailment of program activities.

19. If additional funds were available what would you do with the new money?

Increase activities in the areas of safety promotion and accident prevention, and conduct more special studies, which would lead to improved support of the accident prevention and safety promotion programs of the Safety Board.

Activity 2 (NTSB): Policy Formulation, Decision; Legal and Information

1. What is the nature of and authority for this program?

The nature of this program is to provide for the formulation of general policies and programs of the National Transportation Safety Board; giving legal advice and assistance to the Safety Board as well as to operating bureaus and offices;

rendering decisions in cases coming before the Safety Board, such as determining accident causes, and rendering public information services on all authorized functions performed by the Safety Board. Authority for this program activity emanates from the Department of Transportation Act of 1966.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

The responsible official for overall top management direction and coordination of this program is Joseph J. O'Connell, Jr., Chairman, National Transportation Safety Board.

3. How much money and capital equipment is available under this program for fiscal 1968?

The sum of \$376,000 was appropriated for fiscal year 1968 for this program. Capital equipment is limited to personal property; for example, furniture, office machines, et cetera. Two hundred dollars was allocated for this type of equipment in fiscal year 1968.

4. Would you describe the output generated by this program?

The output of this activity includes a broad range of material such as approved Safety Board documents, legal decisions, opinions, orders and other legal documents such as contracts, comments on legislation, proposed and final rules, etc. prepared by the Office of General Counsel; and press releases, speeches, articles and other public affairs material prepared and released by the Office of Public Affairs.

5. Can you quantify this output in any way?

Specific quantification and measurement of end products are difficult; however, the following are offered as examples of the approximate number of major end products that will be produced in fiscal year 1968:

The five-member Safety Board will hear, review, and approve approximately 120 major end products including accident reports, procedural documents, rules, appeals, etc. In addition, they will be required to make numerous speeches, participate in Safety Board hearings, and conduct a broad range of duties commensurate with the station of Presidential appointees.

It is estimated that the Office of General Counsel (four attorneys) will prepare and execute approximately 47 opinions and orders; will review approximately 14 initial accident reports, and will prepare approximately 225 associated major legal-type end products.

The Office of Public Affairs (two professional employees) will write and release approximately 100 major speeches, press releases and other related documents, and provide public information support to the Safety Board at all public hearings and at major aircraft sites. In addition, they will respond to many requests for information and perform other public affairs activities.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations involved are primarily those of research, documentation, preparation, coordination, review, and approval of the broad range of material described above. There are written procedures which provide for the orderly presentation of this material to the Safety Board; for preparing and issuing legal documents; and for the control and release of public affairs material.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

There are 22 positions authorized for fiscal year 1968. They fall into the following types of employment categories: Presidential appointees, attorneys, public affairs specialists, and secretarial personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The grade structure includes five Presidential appointees (one level III and four level IV's), one GS-17 (quota supergrade), five GS-15's, one GS-14, one GS-13, one GS-12, one GS-11, four GS-10's one GS-8, one GS-7, and one GS-6.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

There should be a slight growth rate, and benefits from the program should increase appreciably as officials gain additional knowledge concerning these assignments and improved management techniques are introduced and through ongoing program reviews.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the Chairman, Safety Board, and executive director level.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes, all major Safety Board programs are reviewed periodically.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We feel that it is; however, we will constantly strive to improve the effectiveness of all program areas.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

The lack of needed personnel ceilings and available funding, plus the expected growing pains of a new organization and the selective recruitment of key personnel.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Any reduction in funds would require a curtilment of selected program activities.

19. If additional funds were available, what would you do with the new money?

Increase activities in safety promotion and accident prevention, conduct more special studies, and develop more safety recommendations.

Activity 3 (NTSB): Aviation accident investigation and prevention

1. What is the nature of and authority for this program?

The Safety Board is required to investigate accidents involving civil aircraft occurring in the United States and its territories, to determine the probable cause of all such aircraft accidents, to make public reports on accidents and their causes, to make safety recommendations intended to prevent similar occurrences, and to ascertain what will tend to reduce or eliminate the possibility of aircraft accidents. The authority for this program is derived from title VII of the Federal Aviation Act of 1958 and the Department of Transportation Act of 1966.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

Bibbie R. Allen, Director, Bureau of Aviation Safety.

3. How much money and capital equipment is available under this program for fiscal 1968?

\$2,954,000. There are no major items of capital equipment other than personal property such as furniture, office machines, some metallurgical analysis equipment, and flight and cockpit voice recorder readout equipment. There was no allocation for this type of equipment in fiscal year 1968.

4. Would you describe the output generated by this program?

The output of this program is in the form of: (a) accident reports publicly distributed containing the probable cause of the accidents; (b) air safety recommendations for regulatory or other actions regarding safety of flight; (c) safety promotional material publicly distributed; (d) accident statistics; and (e) special safety studies.

5. Can you quantify this output in any way?

The Bureau will investigate approximately 1,000 aircraft accidents in fiscal year 1968. It will analyze and determine the probable cause of approximately 6,000 aircraft accidents (see question 13 below for explanation of quantitative data). It will produce about 6,000 accident reports for public distribution, approximately 35 safety recommendations, and an annual set of statistics.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations involved are: (a) the findings of facts, conditions, and circumstances of the accident through investigation; (b) the analysis of facts to determine probable cause; (c) the preparation of accident reports for public distribution; (d) the extraction and compilation of statistical data regarding the accident; (e) the development of air safety recommendations for remedial or preventive action to avoid accidents, and special safety studies.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

The fiscal year 1968 personnel ceiling is 187 employees. Employment categories include air safety investigators, engineers, metallurgists, technical specialists, administrators, and clerical personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The grade structure includes one GS-18 (quota supergrade), one GS-17 (nonquota supergrade), four GS-16's (including one nonquota), 15 GS-15's, 24 GS-14's, 55 GS-13's, 15 GS-12's, 19 GS-11's, two GS-9's, one GS-8, five GS-7's, 19 GS-6's, 13 GS-5's, 12 GS-4's, and one GS-2.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

The Safety Board owns no capital equipment in the form of machines such as automatic data processing equipment, but does contract outside the Board approximately 700 hours of ADP time per year to produce selected aircraft accident data.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

At the current program level of operations, expenditures are not expected to grow appreciably. It is anticipated that the benefits derived from the program will increase greatly due to increased emphasis on accident prevention and safety promotion activities. The increase in benefits derived from this reemphasis will be achieved primarily by the reorganization and redirection of existing resources.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the bureau director level, with further review at the executive director level.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes; the program is reviewed continuously, at every echelon of supervision.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

There is no duplicate work performed. The Federal Aviation Administration does investigate certain types of aircraft accidents, but under a delegation from the Safety Board.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

Yes.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Lack of manpower and nonpersonnel funds to expand ADP applications, to increase training of personnel, to expand flight/voice recorder readout capabilities, and the metallurgical analysis service resulting in the inability to conduct more extensive accident prevention, safety promotion, and special studies.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Any reduction would mean we would be able to conduct aviation accident investigations with less intensity. We would have to stretch out the time required to find probable cause on those aviation accidents for which we conduct investi-

gations or for which we have delegated the investigation to the Federal Aviation Administration. We would have to conduct fewer safety promotion projects and studies.

19. If additional funds were available, what would you do with the new money?

With additional funds, more personnel could be employed to assist in carrying out duties that become increasingly complex as the technology of aviation changes; more training would be provided to keep personnel abreast of technological developments in the new aircraft; ADP services would be expanded, particularly in the area of analytic engineering studies; additional equipment would be purchased to enhance the Safety Board's capability for performing flight recorder and voice recorder analyses.

Activity 4 (NTSB): Bureau of Surface Transportation Safety

1. What is the nature of and authority for this program?

The Safety Board is authorized to make recommendations to the Secretary of the Department of Transportation or the various modal administrators of the various agencies of the Department that will tend to prevent surface transportation accidents and increase surface transportation safety; conduct special studies in transportation safety and accident prevention; insure that reports of investigations adequately state the circumstances of the accidents involved where the Safety Board is required to determine probable cause; request from the Secretary or administrators notification of transportation accidents and reports of accidents; make recommendations to the Secretary or administrators concerning rules, regulations, and procedures for the conduct of accident investigation; request the Secretary or administrators to initiate specific accident investigations or conduct further investigations, participate in departmental accident investigations when deemed appropriate; and make public every safety recommendation as well as reports and studies associated with the above activities. The authority for conducting this program is the Department of Transportation Act of 1966.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

Mr. Henry H. Wakeland, Director of Surface Transportation Safety.

3. How much money and capital equipment is available under this program for fiscal year 1968?

\$177,000 was made available in fiscal year 1968 for the surface transportation safety functions. There are no major items of capital equipment other than furniture and office machines acquired in prior fiscal years. No new capital equipment is scheduled for procurement in fiscal year 1968.

4. Would you describe the output generated by this program?

The output of this program is in the form of formal accident reports, recommendations for improving surface transportation safety and special studies and reports on the subject.

5. Can you qualify this output in any way?

The Bureau of Surface Transportation Safety will prepare approximately 15 accident reports and studies in fiscal year 1968.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations involved in the output are the selection of certain meaningful (from a safety standpoint) accidents and conducting a thorough analysis of any previous investigative work if it has been performed, in order to determine probable cause and make specific recommendations which will improve safety. The emphasis here is on selectivity of accidents to be analyzed in order to assure that only those accidents with far-reaching or significant safety ramifications can be examined by our small staff. The thrust is on accident prevention and safety promotion and not accident investigation per se.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

The fiscal year 1968 appropriation provides for 22 positions. The employment categories include safety investigators, statisticians, systems analysts, one U.S. Coast Guard officer on detail, and clerical personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The grade structure includes: one GS-17 (quota supergrade), one GS-16 (quota supergrade), five GS-15's, two GS-14's, one U.S. Coast Guard commander, four GS-13's, one GS-7, four GS-6's, and three GS-5's.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

The Safety Board owns no capital equipment such as automatic data processing equipment. The contracting for ADP services has not been required so far in this program in fiscal year 1968.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

Yes. Hopefully we will increase the professional staff by 100 percent over the next 3 fiscal years. As the staff increases, it will provide additional resources to devote to improving and increasing accident prevention and safety promotion activities.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the bureau director level and executive director level.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes, there are periodic reviews of the program.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No, it does not duplicate work done by other agencies; however, it does parallel accident investigation activities performed by other Government agencies in that the Safety Board selects specific accidents they have investigated and analyzes them further in order to develop recommendations which will lead to improved safety conditions and enhance safety promotion and accident prevention.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We feel that it is. However, we will constantly strive to improve the effectiveness of all program areas.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

None.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

Lack of a sufficient number of qualified professional personnel.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Any reduction would mean that surface accident investigations and safety promotion and accident prevention studies and projects would have to be curtailed.

19. If additional funds were available, what would you do with the new money?

Acquire additional professional personnel.

Activity 5 (NTSB): Certificate and License Appeals

1. What is the nature of and authority for this program?

This activity of the Safety Board has the responsibility for complying with title VI of the Federal Aviation Act of 1958, as amended, in conducting formal hearings and such other proceedings as may be required by the National Transportation Safety Board in the exercise of its functions pursuant to the Department of Transportation Act of 1966. These formal proceedings include safety enforcement actions involving petitions for review under section 602 of the Federal Aviation Act of 1958, from applicants denied airman certificates by the Administrator of the Federal Aviation Administration, and appeals under section 609 of the act, from orders of the Administrator of the Federal Aviation Administration, suspending or revoking certificates issued to airmen and air carriers for alleged violations of safety standards or for lack of qualifications to hold such certificates.

2. Who is the person primarily in charge of this program at the operative level (name and title)?

Mr. Joseph C. Caldwell, Jr., chief hearing examiner, Office of Hearing Examiners.

3. How much money and capital equipment is available under this program for fiscal year 1968?

\$181,000 was made available in fiscal year 1968 for the certificate and license appeals function. There are no major items of capital equipment other than furniture and office machines acquired in prior fiscal years. No new capital equipment is scheduled for procurement in fiscal year 1968.

4. Would you describe the output generated by this program?

The output generated in the form of examiners' initial decisions, orders, and other related legal documents.

5. Can you quantify this output in any way?

The five hearing examiners will have approximately 210 appeals presented for hearing in fiscal year 1968.

6. Would you describe the principal operations that are involved in producing this output?

The principal operations relating to this program are the receipt, docketing, preparation for the hearing of appeals, hearing, and the issuing of initial decisions thereon by the examiners.

7. How many employees are involved in the program and in what general type of employment categories do they fall?

Ten employees. The employment categories include hearing examiners and clerical personnel.

8. What is the grade structure and how many supergrades—quota and non-quota—are involved?

The grade structure includes five hearing examiner GS-16's, supergrades; one GS-7, and four GS-6's.

9. What capital equipment, such as ADP, if any, do you rely upon to fulfill this program?

None.

10. Do you expect the expenditures or the benefits of the program to grow appreciably in the future?

No, expenditures will remain relatively constant. However, through improved management practices and program reviews, increased benefits will be derived.

11. At what level are the personnel responsible for the various parts of the program coordinated to determine if the program as a whole is being efficiently carried out?

At the chief hearing examiner level, with administrative review at the executive director level.

12. Is there a continual program review within the agency, other than the annual budgetary review, to determine more effective and efficient ways to achieve these program objectives?

Yes, the program is reviewed periodically.

13. To your knowledge, does this program duplicate or parallel work being done by any other agency?

No, it does not.

14. Is your organizational structure such that the program is being carried out most efficiently and effectively?

We feel that it is; however, we will constantly strive to improve the effectiveness of all program areas.

15. Are there any outstanding GAO reports on this program? If so, what is the status of the GAO recommendations the report contains?

No.

16. What significant problems, if any, are you facing in accomplishing the program objectives?

An increasing workload.

17. Do you administer any grants, loans, or other disbursed funds related to this program? If so, is the size of your administrative staff commensurate with the magnitude of the outlays?

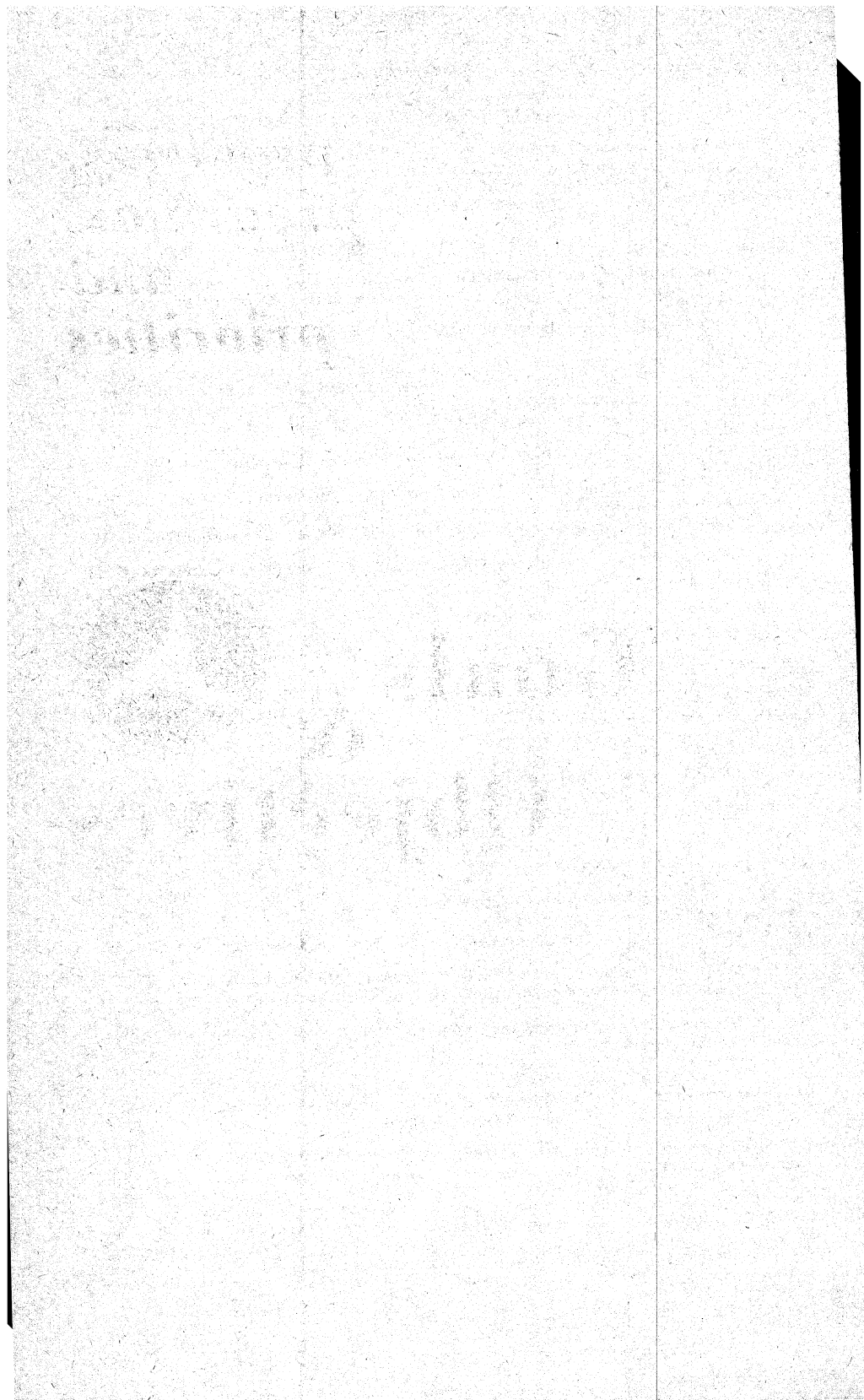
No.

18. If your appropriations were reduced, how would you absorb the cut—by an overall reduction, or by cutting or curtailing certain activities?

Any reductions below our present staffing levels would require a reduction in the intensity and a stretching out of the time required to process material.

19. If additional funds were available, what would you do with the new money?

Attempt to secure an additional examiner and clerical support.



*problems,
programs,
and
priorities*

Goals & Objectives



MAY 1968

DEPARTMENT OF TRANSPORTATION

(237)

"The Department of Transportation is not an end to our transportation problems; it is a beginning in the search for new solutions. But it gives us, for the first time, a logical framework for seeking those solutions."

ALAN S. BOYD

Secretary of Transportation



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

May 13, 1968

MEMORANDUM FOR: All Secretarial Officers
All Modal Administrators

SUBJECT: Goals and Objectives for the Department of Transportation

This goals and objectives document is the initial step in providing the framework and guidelines necessary for effectively planning the Department of Transportation's programs and policy actions. It also identifies the major problems, programs and priorities which must be considered and implemented in the Department's plans.

All of you have been involved in developing these statements through discussions and presentations which have taken place over a period of several months. In addition, it also contains the benefits of comments and recommendations which your key people have made during numerous briefings.

It is recognized that forces affecting transportation decisions are dynamic and ever changing; consequently, this document will be reviewed and evaluated on a regular basis and changes will be made as the situation demands.

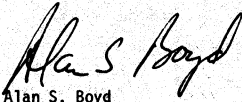

Alan S. Boyd

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INTRODUCTION

The role of the Department of Transportation is to develop and coordinate an effective national transportation system that serves the needs and interests of all parts of the country and segments of the economy. To carry out this responsibility and achieve maximum results, it is vital that the Department:

- *Establish goals and objectives which will direct and coordinate the total transportation resources of the United States;*
- *Provide leadership in identifying and solving transportation problems and issues;*
- *Provide an effective administration of transportation programs including the coordination of intermodal and interagency programs;*
- *Establish a level of priorities among the various alternative programs which will result in maximum achievement of the goals and objectives.*

Accordingly, the purpose of this document is to establish the Departmental goals and objectives and provide the basic framework for carrying out its related responsibilities of guiding and coordinating the research and development and other program activities of the various modal operations into a cohesive and integrated national transportation system.

Section I defines the goals and objectives and describes policy implications. The major problem areas which must be faced under the various goals and objectives are discussed in Section II as well as a review of some of the more significant current programs and a listing of areas

where future research and development efforts should be concentrated. Section III establishes a level of program priorities to be used in the allocation of transportation resources.

GOALS AND OBJECTIVES

Goals and objectives give purpose, scope and direction to planning. They are most important to the Department of Transportation since they form the focal point for coordinating and shaping the resources and activities of the various modal administrations into an integrated and effective national transportation system.

The following goals and objectives have been established for the Department :

- *Economic Efficiency in Transportation*
- *Optimal Use of Environmental Resources*
- *Safety*
- *Support of Other National Interests*

The above Departmental objectives, although only four in number, are purposely designed to be broad enough to permit flexibility in developing an integrated national transportation system yet comprehensive enough to provide criteria which can be used in establishing objectives for individual modal or intermodal programs. The role of the Departmental objectives is to form the framework around which the operating activities can plan specific programs and direct research and development in such a manner that the sum total of the DOT effort is channeled toward the same end—the development of an integrated national transportation system.

ECONOMIC EFFICIENCY IN TRANSPORTATION

To provide that mix of transportation alternatives, including modal systems, related facilities and manpower, research and development, etc., which results in maximum benefits such as service, convenience, comfort, capacity, and speed for a given cost.

1. BENEFITS AND COSTS

Transportation is a service and as such the quantity and quality must take into account the benefits that the consumer is willing to pay for as well as the cost of providing them. For example, speed can always be increased in a given mode of transportation if enough resources are devoted to that purpose. Also, more reliability, comfort, and convenience in transportation can be obtained by allocating more resources for these purposes. Economic efficiency is increased, however, only if the resulting addition to the total benefits is greater than the addition to total costs.

Cost-benefit analysis in the government sector is a substitute for the supply and demand mechanism provided by the market place in the private sector. It is this similarity of the role that benefits versus costs has to the profit motive that gives value to the objective of economic efficiency.

Although the Department of Transportation, along with all government agencies, is committed to cost-benefit analysis, it recognizes the limitations in quantifying all factors. The various factors influencing transportation programs must be quantified wherever possible; however, the intangible benefits and unquantifiable costs must be described fully so their impact can be considered in the ultimate decision. These intangibles include political, social and other considerations which must be taken into account. Cost-benefit analysis is only a tool and not a substitute for management decisions.

2. POLICY IMPLICATIONS

The Department assumes that the private sector of transportation is basically efficient and that the forces of competition and the cold calculus of profit maximization do a good job of allocating resources to the satisfaction of consumers' wants. However, there are some demands to which the market simply cannot respond. For instance, the market alone will not provide highways or navigational aids in optimal amounts, if at all. The policy of the DOT is to insure that these transportation goods and services are supplied by the public sector within the criteria of economic efficiency.

Another of the DOT's major policy criteria is to make certain that it is not carrying out functions which could better be performed by the private sector. This is especially true of the DOT research and development support in the areas of aviation and high speed ground transportation. The DOT will also continue to develop its planning and program analysis process, so that programs can be compared with each other on a total national transportation system basis and the benefits and costs considered and resources allocated on a cross-modal basis.

In shaping policies that affect the framework in which the private sector operates and in making representations before regulatory agencies, Department action will be to facilitate, not obstruct, the operation of the market. Potential areas of application of this policy include mergers, subsidies, rate regulation, development of high speed ground transportation, etc.

The Department policy must also encourage improved transportation planning practices and coordination at the State and local level. Related to this policy is the responsibility to distribute transportation planning information and to circulate the results of its own transportation research efforts as widely as possible. The DOT will also review and coordinate the dissemination of foreign transportation research and development data.

OPTIMAL USE OF ENVIRONMENTAL RESOURCES

To increase the benefits derived from the preservation and enhancement of the environmental, aesthetic and social factors of transportation.

1. BENEFITS AND COSTS

The transportation system has a considerable capacity to impact the aesthetic and physical qualities of the environment and the intangible qualities that are associated with a community in which people live. Air and water pollution, the noise of jet aircraft and the disruptive effect of a freeway on an urban neighborhood are some obvious examples of the social and environmental impact costs which must be considered in transportation decisions. Highway beautification, regional development roads and the preservation of historical sites are examples of the system's potential for beneficial effects. These qualities are of real value to people and joint development must be taken into account when considering resource allocation and relocation problems. Environmental effects generated by the activities of firms in the transportation industry must also be considered and evaluated against the benefits derived.

2. POLICY IMPLICATIONS

Since the market mechanism does not readily respond to the environmental effects of transportation, private transportation does not take environmental factors in account to an optimum extent. Action on the part of the Department and other governmental agencies, therefore, is necessary to minimize the adverse effects of transportation. In fact, this is the area where the government role is very important—to protect the rights of the consumer of the private sector when they cannot readily help themselves. The noise problem with jet aircraft is an excellent example. The noise generated by jet planes has an adverse impact on the people living under the flight paths to the extent, for example, that the value of their property may

decrease. Yet, there is no way in which the market mechanism will compel the firms operating the planes to compensate the people for these costs. As a result, DOT policy will support governmental regulation which will have the affect of minimizing the adverse conditions.

Most transportation problems involving physical, environmental and social factors have their primary impact within confined and local areas. In these instances, the Department's policy will be to encourage the State and especially local governments to resolve these problems themselves, such as in the case of utilizing urban concept teams. Examples of areas where this policy applies include airport location, urban highway development, regional highways, highway beautification, air and water pollution, use of trust funds, etc.



SAFETY

To minimize the loss of human life, property and human suffering through injury from transportation-related accidents.

1. BENEFITS AND COSTS

The notion of minimizing injury, loss of life, and damage to property must remain in the forefront of all transportation system planning. Safety implies the absence of accidents and as a result, DOT efforts toward achievement of the safety objective will concentrate on accident prevention. Since accidents are impossible to eliminate completely, DOT will also work on the mitigation and amelioration of accidents.

Many expenditures which contribute to efficiency may also contribute to the prevention of accidents. Design features of highways which increase speed and capacity may also contribute to safer movement. Aids to navigation which facilitate the fast movement of air and water traffic also contribute to safer movement.

The establishment of design standards for automobiles to minimize injury to the occupants in the event of a crash, is directed towards mitigating the effects of accidents. Search and rescue programs, and other programs to assist victims of accidents may be viewed as efforts to ameliorate the effects of accidents.

Reduction of the probability of loss of life, injury and property damage, can always be achieved, but the costs of such achievement cannot be ignored. These costs may take the form of increased expenditures, or of a reduction in some other desirable characteristic of transportation, such as speed. A judgment must be made by the Department as to the extent to which society's resources should be expended to reduce the loss of life and human injury in transportation. It must then be reflected appropriately in regulatory decisions and the allocation of resources.

2. POLICY IMPLICATIONS

Most transportation that is offered by common carrier, including pipelines, falls within the regulatory purview of the Department with respect to safety. Much of the Department's significant activity in transportation safety is in the realm of influencing the framework in which private transportation and State and local authorities operate through education, regulation and approval of funds. Research and development is conducted by the DOT to specify requirements that are needed to maintain adequately high safety standards of design and construction in facilities and equipment, as well as the qualification and enforcement of operators.

The policy of the Department will be to provide leadership in developing guidelines so that State and local programs in safety education, regulation and enforcement will be as uniform and effective as possible throughout the country.

SUPPORT OF OTHER NATIONAL INTERESTS

To further all other objectives of the Federal Government whenever they are affected by transportation or the DOT can perform a particular task more effectively and efficiently.

1. BENEFITS AND COSTS

Because of the vital role that transportation plays in the nation's economic and social activity, it has far reaching benefits which must be considered when pursuing the national goals and objectives. Areas where transportation has its greatest impact include:

- National Defense
- Economic Growth
- Social Development
- Advancement of Scientific Research

The DOT is engaged in many programs that support the national defense effort including the Coast Guard Patrol activity in Vietnam, participation by the FAA with the Air Defense Command of the Air Force in common aviation systems relating to air traffic control and aircraft identification, and anti-submarine warfare operations by the Coast Guard.

Transportation can also have great impact on the economic development of the United States. It is felt most heavily in regional development programs such as the Appalachia Project and the Northeast Corridor where the experience and capabilities of the DOT are used to plan, design and develop the transportation portion of the overall program. The impact that transportation has on the balance of payments should also be considered in support of national economic growth.

Social development through transportation is opening up new areas for participation by DOT. It embraces such ideas as providing free transportation to work for the underprivileged, special transportation construction projects using disadvantaged people and transporting inhabitants from a job shortage area to areas where labor is needed.

Advancement of the state of the art in other scientific areas can also be enhanced by related DOT research and development. One of the most applicable areas is the marine nautical sciences. Here, the Coast Guard is engaged in a major R&D effort in the development of Ocean Data Buoy System hardware. This will contribute significantly in understanding the physical environment of the oceans and will assist many other activities outside of the DOT.

In supporting other national interests, one of the major cost considerations is the impact that these outside programs will have on directly related transportation programs. Costs in these cases include budgetary funds, R&D capability and equipment, facilities and manpower availability.

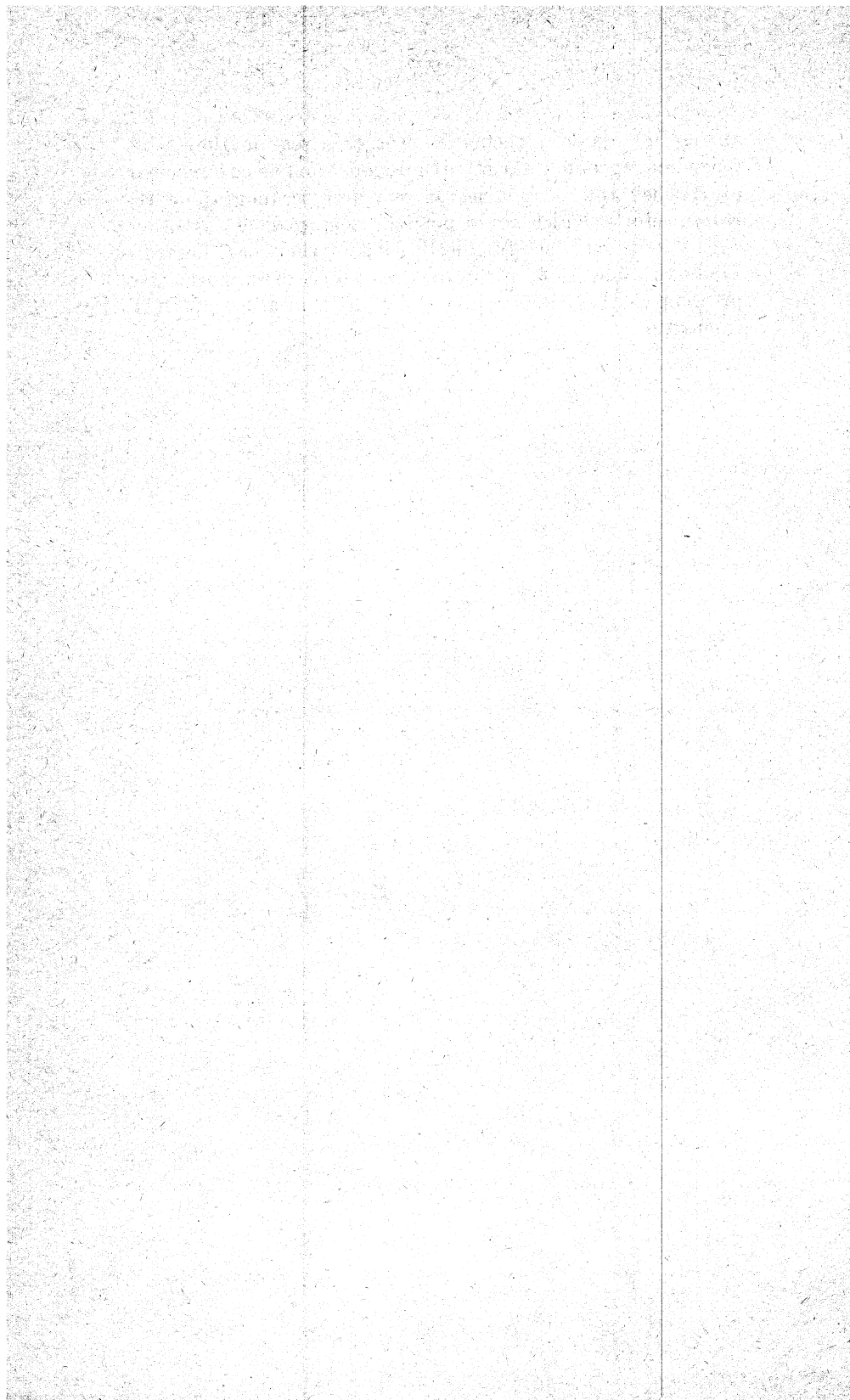
2. POLICY IMPLICATIONS

The Department will lend support to other national objectives where they are transportation related. Also, to be considered are tasks which may not be transportation related, but which the Department has a capacity to perform more efficiently or effectively than other agencies of the Government.

For instance, the Department may take account of assistance to the urban poor by encouraging planning of urban transportation systems which make provision for easy and low-priced access to places of work for unemployed ghetto residents. The Department may wish to encourage the provision of transportation to poor and undeveloped rural areas for the same purpose, although the provision of such transportation might not be justified on strict economic efficiency grounds.

In the design of the Interstate Highway System, provision is made for clearances of bridges and overpasses which would not be necessary except for the need to accommodate military traffic such as outsized missiles and other weapons. The Coast Guard always maintains a capability to assist in national defense. Beyond this, the Coast Guard has a capability to perform marine operations that is unique

among non-defense agencies. For this reason, the Coast Guard engages in a variety of missions such as enforcement of treaties and boundaries at sea, and oceanographic research efforts, which could not be discharged by any other agency without wasteful duplication of the Coast Guard's facilities. The DOT policy in this case is to support these projects to the degree allowed by the allocation of DOT resources.



II

PROBLEMS, PROGRAMS AND INTER-RELATIONSHIPS

The Department of Transportation is responsible for identifying the major transportation problems and issues so that appropriate action can be taken to solve them. The purpose of this section therefore, is to (a) identify the major broad problem areas, (b) highlight the critical issues and related new program requirements and (c) describe the complex inter-relationships of the DOT goals and objectives and problem areas.

A. Problem Areas

The goals and objectives of the Department of Transportation represent the qualities and characteristics which the Department will strive to incorporate within the national transportation system. As such, these goals and objectives are of a long-term nature and should not change.

To achieve these goals and objectives, certain problems must be overcome and new programs must be developed and these of necessity will continue to change. In fact, this dynamic aspect of transportation is why planning is important and why periodic assessment of the problems and appropriate modification of the total Departmental plan and individual program objectives is necessary.

The basic problems of transportation are complex and deep-rooted in nature and cover a broad spectrum of interests, activities, jurisdictions and modal responsibilities. For planning and analytic purposes, however, they can be grouped into a relatively manageable list of broad problem areas which encompasses most of the specific current issues facing the DOT today.

Transportation Problem Areas

Urban Congestion	Community Effects
Terminal/Port Development	Aesthetics
Intercity Movement	Source of Funds
Safety	Program Management
Pollution	Defense Support
Noise	Social/Economic Development

Many of the above basic transportation problem areas are not being pursued in the light of their inter-relationships within the national transportation system. They also do not show the influence of common R&D techniques and consolidated transportation planning statistics and are not taking advantage of sharing common test facilities and equipment.

It was to take this overall view of the national transportation system and of all its interactions that the Department was established. However, to develop an effective and cohesive Department:

- *New programs must be initiated which are directly aimed at solving the critical problems required in developing a cohesive national transportation system.*
- *Procedures and techniques must be established for harnessing the specialized capabilities within the Department, so that their full force may be brought to bear on intermodal problems and issues.*

B. New Program Requirements

The activities now being carried on by the Department reflect, in very large measure, decisions taken and programs initiated before DOT existed. Programs and the research efforts that are currently going forward do not yet portray the full impact of the existence of DOT. It is vital, therefore, to identify the major issues associated with the various objectives so that priorities may be established, R&D initiated and programs implemented.

The following outline summarizes the major issues, current programs and R&D needs by DOT objective. Al-

though the listing of programs is not all inclusive, it does present a good cross-section of the major DOT activities and interests involved in the pursuit of the DOT objectives.

Program Summary

1. ECONOMIC EFFICIENCY

—Major Issues:

Mass Movement at Peak Hours	Future Highway Needs	Terminal Congestion
Airport Access	Rapid Growth of Air Traffic	Airport Development
Development and Use of HSGT	Freight Movement	Port/Harbor Development
State and Local Interfaces	Urban Planning	Project Financing

—Current Programs:

Highway Construction	TOPICS Program	Urban Concept Teams
Airport Access	High Speed Ground Projects	Northeast Corridor
Airport Development	Enroute Facilities	Highway Beautification
Air Traffic Control Landing Aids	C. G. Aids to Navigation	Supersonic Transport

—R&D Needs:

Mass Transit	Integration of Intermodal Systems	Computer Technology to Traffic Control
Federal/State/ Local Planning Techniques	Program Financing	
	New Management Methods	

2. ENVIRONMENTAL IMPACT

—Major Issues:

Air Pollution	Water Pollution	Noise Abatement
Highway Beautification	Joint Development	

—Current Programs:

Noise Abatement	Oil Pollution Prevention	Highway Beautification
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*—R&D Needs:*Noise
AbatementSonic
BoomVehicle Air
Pollution

3. SAFETY

*—Major Issues:*Highway/Vehicle/
Operator Safety

Aviation

Grade Crossing
AccidentsSearch and
RescueRecreational
BoatingPipeline
SafetyHazardous
MaterialsSafety
Education
and
RegulationMotor
Carrier
Safety*—Current Programs:*Highway/Vehicle
Safety R&DAviation
ProgramGrade Crossing
ProgramCoast Guard Recreational
Boating ProgramSearch and
Rescue*—R&D Needs:*Highway/Vehicle
SafetyAviation
Safety

HSGT Safety

Safety Education and
Regulation for All Modes

Pipeline Safety

4. NATIONAL INTERESTS

—Major Issues:

Allocation of Resources to—

Vietnam and Other
Military SupportAeronautical
Sciences

Marine Sciences

Other Non-DOT
Areas*—Current Programs:*Coast Guard Patrol in Vietnam and
Enforcement of U.S. Boundaries and
Treaties at SeaFAA/AF
Common
Systems*—R&D Needs:*

Data Buoys

C. Inter-relationships and the DOT Role

In developing transportation in the United States into a total national transportation system, the goals and objectives tend to become inter-related. In the same manner, the various problem areas related to the different modes of transportation impact one another and make the planning of an integrated transportation system most difficult and complex.

For example, one cannot solve the economic efficiency problem of urban congestion without considering the community impact, the interfaces of the urban system with intercity modes of travel, safety and pollution of the air and water. In selecting the site for an airport, consideration must be given to airport access, the impact that the airport noise has on the surrounding environment, the relationship it has to the safety of the community and provisions for financing and management.

To address problems of this magnitude it is necessary to work across several modes of transportation, provide leadership to a wide variety of interest groups and develop new methods of system design, management and financing. Goals and objectives are most necessary to provide the framework for putting the above actions in the proper perspective and to insure that the total thrust of transportation resource allocation is coordinated and focused into a cohesive plan toward a common end.

Table I shows the inter-relationships of the various goals and objectives with each other and the areas where the various modes within the Department of Transportation are involved. This summary table, although not all inclusive, does point out the magnitude and complexity of the transportation problem and the catalytic role that the goals and objectives play in carrying out the purpose and responsibility of the DOT.

The DOT in general, and the Office of the Secretary in particular must take the lead in developing certain procedures and techniques which will combine and focus the

Table I. PROBLEMS AND INTER-RELATIONSHIPS

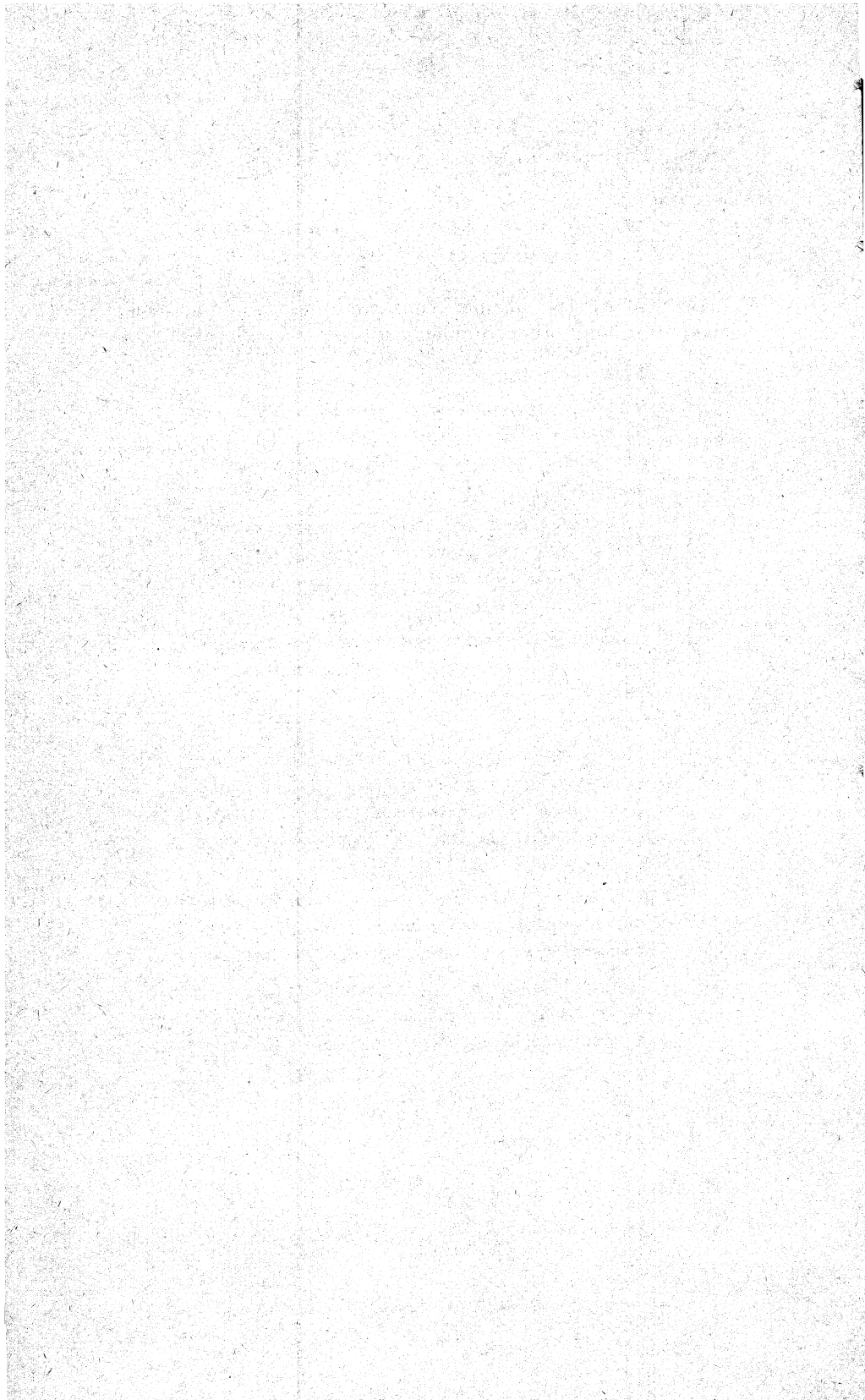
Basic Problem Areas	Goals and Objectives				Modes				
	Economic Efficiency	Environmental Impact	Safety	National Interests	FAA ¹	FHWA ²	FRA ³	CG ⁴	UMTA ⁵
Urban Congestion	×	×	×	—	×	×	×	—	×
Terminal/Port Development	×	×	×	×	×	×	×	×	×
Intercity Movement	×	×	×	×	×	×	×	×	×
Safety	×	—	×	—	×	×	×	×	×
Pollution	×	×	×	×	×	×	×	—	×
Noise	×	×	×	×	×	×	×	—	×
Community Effects	×	×	×	×	×	×	×	—	×
Aesthetics	×	×	—	×	×	×	×	—	×
Source of Funds	×	×	—	×	×	×	×	—	×
Program Management	×	×	—	×	×	×	×	×	×
Defense Support	×	—	—	×	×	×	×	×	—
Social/Economic Development	×	×	—	×	×	×	×	—	×

¹ FAA = Federal Aviation Administration.² FHWA = Federal Highway Administration.³ FRA = Federal Railroad Administration.⁴ CG = Coast Guard.⁵ UMTA = Urban Mass Transportation Administration.

Transferred to DOT July 1, 1968.

specialized talents within the DOT in the critical problem areas. Examples where this special DOT expertise might be applied include:

- *New ideas in financing and administrating transportation projects.*
- *More effective means of encouraging private industry to apply advanced technology in developing new and innovative transportation systems and equipment.*
- *The development of a methodology which will enable the DOT to bring to bear the experience and capability of the total Department in solving intermodal problems.*
- *The development, collection and dissemination of transportation statistical, economic and other information relevant to domestic and international transportation planning.*
- *Leadership in directing and coordinating advanced research and technology in critical and priority areas to insure achievement of the DOT goals and objectives.*
- *Development of a strong posture in international transportation by providing the guidelines and supporting data to protect and expand U.S. transportation interests involved with foreign competition.*
- *Facilitation of freight movement by providing the proper emphasis and technological/systems analysis support on an intermodal basis.*
- *Coordination of hazardous material, common classification and regulation so that intermodal shipments are transported safely and efficiently.*



III

PROGRAM PRIORITIES

Because of the various constraints of funding, time, manpower and other problems in resource allocation, an order of priority must be established as a basis for program selection. Accordingly, the following problems will receive high priority and program emphasis for the foreseeable future.

- *Mass Transportation*
- *Safety*
 - Highway/Vehicle*
 - Aviation*
 - Recreational Boating*
 - Railroad*
 - Pipeline*
 - Hazardous Material*
- *Environmental, Aesthetic and Community*
 - Highway Impact*
 - Noise*
 - Pollution*
 - Joint Development*
- *Terminals*
 - Passenger and Cargo*
- *Development of High Speed Ground Transportation*
 - Passenger and Cargo*
- *Marine Sciences*
- *Research and Development*

All of the above high priority problems will be vigorously pursued. However, in selecting the individual programs within these major categories, each program will be judged on its merits within a cost/benefit framework.

A. Mass Transportation

This priority problem area, which has both efficiency and safety considerations, involves mass movement of people, improved traffic flow and use of improved vehicles. This problem has been singled out because it is deep-rooted and solving it will have far reaching effects on other related but less serious problems.

Solution of this problem will require devoting time, manpower and money to the development of organization, administrative, political, financial and technological innovations. It will involve new ideas and concepts, as well as interface with federal, state and local agencies.

B. Safety

The Department of Transportation is dedicated to the improvement of the transportation safety record of the country. Although safety will be attacked across the board, high priority will be given to decreasing the number of deaths on the highways. Highway fatalities have been increasing at a greater rate than other modes over the last several years, and therefore, require intensified attention and concentration. In doing so, the DOT must attack the two basic problem areas of vehicle/operator and highway safety in much the same manner as the aviation industry has proceeded in the past.

Also within the safety area, important problems of somewhat lesser priority are aviation, recreational boating, railroad safety including new high speed ground transportation operations, pipeline safety and shipments of hazardous materials.

C. Environmental, Aesthetic, Community Effects

High priority must be given to reducing the adverse aesthetic, environmental, and sociological impacts of our

national transportation system, and, where possible, providing positive impacts in these areas. Highway impacts in dislocation and deterioration of property are particularly important problems. Airport and highway noise and the sonic boom are also priority problems in this area, as are air pollution and water pollution from ships, boats and offshore oil rigs. Finally, the need for beautification and scenic enhancement requires greater emphasis.

D. Terminals

Terminal problems involving both passenger and cargo require increasing attention. Congestion at air terminals and the facilitation of passengers and cargo at the modal interfaces at air, sea, and intra-urban terminals are the priority fields of attention in this area.

E. High Speed Ground

The increasing density of several major corridors—e.g., the Northeast Corridor and Milwaukee, Chicago, St. Louis—combined with increasing air, automobile and motor carrier congestion in these areas, provides a growing priority for improved high speed ground transportation systems for passengers and cargo.

F. Marine Sciences

The Coast Guard will continue to devote a major share of its R&D funds for the development of an advanced data buoy system for marine and meteorological research, which has great potential benefits for many industries, science and national defense.

G. Research and Development

Research and development is an important factor in each of the above priority programs. However, to give it special attention and highlight the various dimensions of research and development support required, it is listed as a separate priority. It includes such aspects of R&D as the development of transportation systems and equipment; economic

and systems analysis to develop new systems concepts and vital decision and policy making data; and the special role of providing leadership and encouragement for private industry R&D.

Table II illustrates the role that research and development must play in future transportation plans and the areas of special modal interests and responsibilities.

Table II. PRIORITIES AND R & D

Priority Programs	Research and Development				Modes				
	Hardware	Demonstration	Economic/ Systems Analysis	Financial & Management Techniques	FAA ¹	FHWA ²	FRA ³	CG ⁴	UMTA ⁵
Mass Transportation -----	×	×	×	×	×	×	×	×	×
Safety -----	×	×	×	×	×	×	×	×	×
Environmental, etc. -----	×	×	×	×	×	×	×	×	×
Terminals/Ports -----	×	×	×	×	×	×	×	×	×
HSGT -----	×	×	×	×	×	×	×	×	×
Marine Sciences -----	×	×	×	×	×	×	×	×	×

¹ FAA = Federal Aviation Administration.² FHWA = Federal Highway Administration.³ FRA = Federal Railroad Administration.⁴ CG = Coast Guard.⁵ UMTA = Urban Mass Transportation Administration.

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APPENDIX C.—SUMMARY OF SAFETY RECOMMENDATIONS—NATIONAL TRANSPORTATION SAFETY BOARD (MAY 1967–DECEMBER 1967)

NATIONAL TRANSPORTATION SAFETY BOARD—SUMMARY OF SAFETY RECOMMENDATIONS, MAY 1967–DECEMBER 1967

1. Aviation safety recommendations (summary list).
2. Surface transportation safety recommendations (summary list).
3. Safety recommendation letters.

AVIATION SAFETY RECOMMENDATIONS

Recommendations for remedial action

During 1967 the Board forwarded 35 safety recommendations to the Federal Aviation Administration. A breakdown of these recommendations according to type of aircraft and operations is shown in the following table:

Air carrier:	
Turbojet	5
Turboprop	3
Piston-engine	2
General aviation:	
Turbojet	1
Piston-engine	17
Rotorcraft	2
Miscellaneous	5
Total	35

Following is a summary of each safety board recommendation together with corrective action taken.

Air carrier—Turbojet aircraft

It was recommended that on the Boeing 707, 720, and 727 model aircraft, a positive-type locking device be required on the rudder pedals. The FAA has advised that the manufacturer is preparing service bulletins for the installation of a rudder positive lock device on these aircraft.

It was recommended that on Boeing aircraft the manufacturer's production, repair, and inspection of the yaw damper coupler be reviewed and improved testing procedures be implemented. The FAA sent instructions to all FAA regions for the evaluation of production test procedures and for the users maintenance manual test procedures. The FAA also conducted a detailed inspection of the manufacturer's production and repair station facilities.

On the BAC 1-11 the Board recommended that a fireproof barrier be provided at the fuselage top skin between fuselage stations 936 and 958 and the aluminum alloy wall separating the hydraulic bay and the auxiliary power unit air intake plenum chamber be replaced with suitable fireproof material; additionally, as a precautionary measure, recommended that until such time as suitable barriers were provided the in-flight use of the APU be restricted. The FAA concurred in this recommendation and worked closely with the manufacturer to provide additional fireproof barriers. In addition, the carriers have prohibited the in-flight use of the APU until the modifications were completed.

On the General Electric JT805 engines, installed in CV-880 aircraft, it was recommended that compliance with GE service bulletins be made mandatory to preclude failure of the seventh- and eighth-stage discs.

Reevaluate DC-9 auxiliary power unit exhaust installation. FAA advises that there was no design deficiency, but a maintenance bulletin was issued to alert all DC-9 operators.

Air carrier—Turboprop aircraft

On the Convair 580 it was recommended that the pitch lock capability of the Allison aero products propeller with respect to rate of blade angle change be

reliably established and correlated with maximum blade angle change rates that might be encountered; and, if a deficiency was found to exist, that it be corrected. Also, that the quality control system and procedures of the Allison Division of General Motors Corp., as it pertains to propeller manufacture and service, be reevaluated. FAA issued an airworthiness directive to correct the blade angle change rate and the manufacturer corrected, to the satisfaction of the Special Production Certification Board, the quality control deficiencies that had been noted.

On L-188 aircraft it was recommended that National Airlines maintenance procedures and practices be revised to assure that acceptable standards of airworthiness are maintained. FAA advised this was accomplished and deviations have been corrected.

On the Allison propjet Convair it was recommended that the electrical system be evaluated based upon a study of potential hazard. The FAA conducted a detailed analysis and reevaluation of the electrical system. They determined that the system complied with applicable regulations and that adequate protection was provided to the electrical bus.

Air carrier—Piston engine aircraft

All operators of the Convair 340, 440, 580 model aircraft be alerted to the possibility of improper heater installation and to review the electrical system on these aircraft to determine the need for modification of the circuit protective devices. The operator involved in the accident issued a directive to inspect all their aircraft for proper heater installation. The FAA is in the process of issuing an alert bulletin on the proper procedures for the heater installation and also an FAA engineering review is being made to determine the need for modification of the circuit protective devices.

On the Douglas DC-3 it was recommended that the fuel hose connector in fuel feedline aft of the rear spar be inspected for condition. FAA published a bulletin covering the inspection of all DC-3-type aircraft modified with auxiliary fuel tanks.

General aviation—Jet

On the Gulfstream aircraft it was recommended that a red warning light with adjoining placard be installed to warn that the flight safety switch is placed in the emergency position and that the cruise pitch locks must be removed manually. FAA substituted amplified information in the Gulfstream flight manual rather than implement the provisions of the basic recommendation.

General aviation—Piston engine aircraft

On Beechcraft model 18 aircraft it was recommended that all wing spar and wing attach fittings be inspected by radiographic and magnetic particle methods prior to further flight. The FAA issued an airworthiness directive requiring all Beechcraft model 18 aircraft be grounded and inspected as recommended.

On all Beechcraft model 18 aircraft it was urged that Airworthiness Directive 65-7-2 be reevaluated and the inspection of the Hartzell propeller blades be accomplished at intervals adequate to insure continued airworthiness.

On the Beechcraft C-45H aircraft a mandatory inspection to detect fatigue cracks of the wing lower spar cap was recommended. An airworthiness directive requiring the recommended inspection was issued by the FAA.

On the Beechcraft model 95-B55 it was that the fuel system be reevaluated. The FAA has undertaken a reevaluation of the fuel system.

On the Beech King Air it was recommended that certain modifications be made mandatory to prevent the recurrence of engine induction system icing. Revisions to the flight manual have been issued to all owners and modifications were incorporated in aircraft.

On the Piper PA-28 aircraft it was recommended that an airworthiness directive be published requiring an internal inspection of the main fuel tanks for evidence of peeling or flaking of the tanks sealant compound. FAA is in the process of issuing an airworthiness directive requiring a periodic inspection of the fuel tanks as recommended.

It was recommended that spin characteristics on the Piper PA-30 aircraft by reevaluated with respect to recovery techniques. The FAA initiated a reevaluation program which is still in process.

On the Aero Commander it was recommended that a one-time inspection on all high-time/short-haul wing spar caps be made. The FAA issued an airworthiness directive requiring the recommended inspection.

It was recommended that all general-aviation airplanes equipped with solid-type visors be surveyed to determine the extent to which vision is impaired. FAA concurred, will conduct a survey and issue an advisory circular if an unsafe condition is found.

On Beech D-18 it was recommended that a visual inspection of aircraft elevator trim tab be conducted prior to each flight. FAA issued an inspection aid calling attention to this item at each 100-hour inspection.

It was recommended that operating regimes on the Beech D-18 be reviewed and reevaluated to preclude failure of the wing spar. The FAA issued telegraphic AD-67-16-1 requiring inspection.

On the Cessna 188 it was recommended that the FAA issue an airworthiness directive to counteract single-failure rudder pedal. The FAA initiated a program in conjunction with the manufacturer to preclude further rudder pedal failures and they feel that this action will obtain the safety objective of the recommendation.

Recommended reevaluation of the landing gear extension system of the Mooney M-20C and M-20E. The manufacturer initiated a corrective program which was concurred in by the FAA to correct the problem. In addition, the FAA determined that lubricants other than that specified were being used. An inspection aid emphasizing the use of proper lubricant has been issued.

Recommended that the Piper PA-30 aircraft be tested to determine configuration and pilot input required to precipitate flat-spin mode; and determine if adequate recovery control is available. The FAA concurred in this recommendation and immediate coordination was established with NASA and Piper for wind tunnel tests. During the interim period, while the solution was being investigated, an alert has been issued to all FAA inspectors. The FAA has also issued an advisory circular to all pilots and operators warning against stalls and emphasizing the use of proper techniques in demonstration of minimum control speeds.

On Piper PA-28 and PA-32 recommended inspection of three-point suspension of float-attach bolts. The Safety Board, FAA, and the manufacturer, investigated this matter and Piper issued instruction to change all bolts with higher strength.

On Piper PA-23/250 recommend an AD to check Bendix fuel flow dividers. FAA, in conjunction with the manufacturer, investigated and corrective action will be taken if appropriate.

General aviation—Rotorcraft

On the Space Gyroplane it was recommended that the manufacturing process and quality control procedures of the manufacturer's rotor blades be inspected by the FAA. The FAA issued an AD on the inspection of Space Gyroplane rotor blades presently in use and informed the Board that the manufacturer is not now manufacturing rotor blades, but if manufacturing activities are resumed, the rotor blades will be individually inspected by the FAA inspectors.

For all Hiller UH-12 helicopters it was recommended that the flight manuals be revised to include the proper procedures for engaging the mercury drive clutch and a placard mounted near the engine/rotor tachometer specifying the maximum acceptable engagement times. The FAA did not believe that a change in the manual was necessary.

Miscellaneous

It was recommended that the neutron activation system for bomb detection be added to the FAA's "Bomb Detection System Study." The method suggested by the Board was noted by the FAA.

It was recommended that a safe and uniform set of standardized basic procedures be established by FAA for ground equipment operation. FAA issued a maintenance bulletin on procedures for ground equipment.

The minimum fire protection standard for nonejectable cockpit voice recorders was recommended to be increased to afford more protection to the tape during post-crash fires. FAA is requesting information from the recorder manufacturers to provide the basis for rulemaking, contemplated to increase protection for the voice recorder tape.

It was recommended that air carriers provide information to passengers, prior to takeoff, on the location of emergency exit windows and on procedures necessary for use of these exits. FAA is presently conducting a study on improved briefing of passengers with respect to the location of emergency exits and aircraft evacuation procedures.

Placement of an obstruction light on an unlighted tower in the approach zone, Syracuse Airport was recommended. This matter has been taken up by FAA with the Niagara Power Co.

SURFACE TRANSPORTATION SAFETY RECOMMENDATIONS

During 1967, the Board issued a total of 31 recommendations to the Congress, the Federal Highway Administration, the Federal Railroad Administration, the Coast Guard, State authorities, and to private carriers. A breakdown according to mode of surface transportation follows:

Marine accidents

In the Board's report on the *Daniel J. Morrell* casualty in Lake Huron, it was recommended to the Coast Guard that vessels built prior to 1948 and over 400 feet in length be strengthened. Alternatively, operations of these vessels should be curtailed during adverse weather and sea conditions.

It was also recommended that a progressive structural renewal be implemented on an individual ship basis after completion of a special inspection program then in progress.

Railroad accidents

The Safety Board, in its report on the New York Central collision of May 22, 1967, recommended to the railroad industry that it undertake a reappraisal, a self-assessment, and corrective action to remedy inadequacies in company operating rules and procedures, personnel training, organization, use of modern technology, and application of modern techniques.

The Board, in addition to the above, recommended to the Federal Railroad Administration and the Congress that the conditions found to occur in the New York Central accident should be considered in connection with their review of railroad safety legislation now pending in the Congress.

Railroad-highway accidents

The Board, in its review of the grade-crossing accident which occurred in Sacramento, Calif., recommended to the Department of Transportation and to the industry that they include in their current and future study of grade-crossing accidents, the problem presented by "booby-trap" crossings.

The Board recommended that agencies for law enforcement consider adequate enforcement at grade crossings to be as important as enforcement at signals governing highway intersections.

The Board recommended that the Federal Highway Administration study the problem of questionable audibility of external sound signals now utilized for warning drivers of motor vehicles at grade crossings.

The Board recommended that the Department of Transportation prepare broadly acceptable grade crossing hazard ratings or other objective criteria of grade crossing protection needs so as to formalize comparisons of the grade crossing values on a broader basis than local judgments and surveys.

The Board recommended that the Congress and the Department of Transportation review the application of Federal funds for grade-crossing safety protection by the States, and consider whether legislation should be sought to extend the use of Federal funds beyond the Federal highway system.

The Board recommended that the Secretary of Transportation seek legislation to authorize the Federal Railroad Administrator to prescribe regulations requiring:

- (a) Emergency means of escape from railroad passenger cars.
- (b) Emergency lighting for railroad passenger cars.

The Board recommended that the Federal Railroad Administrator initiate studies and action that will insure that, in emergency, passengers can reliably escape from regular exits of passenger-carrying railroad cars.

The Board recommended that the Department of Transportation include in its grade-crossing protection study and action program the problem of motor vehicles stalling on railroad tracks and methods of warning approaching trains to prevent a collision.

It was recommended to the Federal Highway Administration that it consider the existing regulations to require an emergency means within motortruck cabs for the release of braking systems activated by the loss of air pressure; require motor vehicles of unusual size and those carrying hazardous cargo to use grade crossings offering a minimum risk; to require that emergency flares be carried on all motor trucks for use in providing visual warnings in emergencies and require drivers of such trucks to demonstrate knowledge of and use of such signals.

Highway accidents

The Board has recommended to the Federal Highway Administration that it work with State highway departments to examine the need for and feasibility of developing methods and procedures for advance warning to motorists of areas of reduced visibility.

The Board recommended to the Department that it undertake an augmented program to:

1. Inform and instruct shippers and manufacturers of the requirements of the regulations concerning the proper packaging of dangerous cargo.
2. Include on the shipping documents proper identification and certification of dangerous cargo offered for shipment.
3. Pursue a vigorous enforcement program against those persons who fail to comply with such regulations.
4. Continue their efforts to develop improved methods for more clearly setting forth on shipping documents the degree of hazard connected with the cargo being shipped.

5. Continue to work toward improving the content of the placard system for hazardous material shipments to impart to all concerned the nature and degree of danger involved, and especially to those who may, in case of an emergency, be called upon to undertake police and firefighting responsibilities.

It was recommended that the FHWA review the adequacy and goals of its accident investigation methods, techniques, and procedures, and in so doing give consideration to the establishment of a small corps of investigators trained to investigate accidents on a highly selective basis with the prime purpose of developing methods, techniques, and procedures for collection of data that will be helpful in accident prevention programs. This approach accepts the proposition that the basic responsibility for the overall investigative process in motor vehicle accidents is, and should continue to be, that of State and local enforcement officers.

The Board recommended that the FHWA (and other administrations in the Department) consider utilization of the facilities of the National Aircraft Accident Investigation School, and develop a training program and curriculum to provide basic training for FHWA accident investigators and for State and local enforcement officers at their option.

APPENDIX D.—LETTERS FROM THE NATIONAL TRANSPORTATION SAFETY
BOARD TO THE GOVERNMENT AGENCIES

Hon. WILLIAM F. McKEE,
*Administrator, Federal Aviation Administration,
Department of Transportation, Washington, D.C.*

MARCH 26, 1968.

DEAR GENERAL McKEE: In our investigation and analysis of general aviation accidents, we consider all relevant aspects of meteorological facilities, services, and procedures. Our analysis of aircraft accident data covering general aviation during the year 1966 has recently been published. Among other things, this analytical summary reveals that weather was shown as a direct cause in only 2.4 percent of all such accidents and 6 percent of these were fatal. However, it also shows that weather was cited as a related factor more frequently than any other (751 accidents or 13.1 percent of the total and, of these, 22 percent were fatal). Similar figures could be quoted for previous years. In the light of such statistics, it is incumbent upon all concerned to seek ways and means of improving the record.

Based upon all the information at our disposal, it is our conviction that improved meteorological facilities, services, and procedures could have reduced substantially the degree of hazard involved in these general aviation operations. Our recommendations relative to such improvements are attached hereto. Some of these recommendations have been stated by the Board previously. Many of the others are not original with the Board; some were highlighted by the Environmental Science Services Administration (ESSA)/Federal Aviation Administration (FAA)/industry survey conducted last year. Nevertheless, we feel it imperative that an effort be made to identify areas of the aviation weather service that are in need of improvement so that the responsible agencies may undertake effective corrective action.

The Board is aware that implementation of this entire program would involve very substantial increases in funds available for such purpose. We are also aware that there are overall budget considerations which would make the rapid implementation of such a program unrealistic in terms of early complete accomplishment.

However, as a long-range program we believe our recommendations are worthy of adoption. We also believe some of the improvements suggested are susceptible of accomplishment without basic change in existing programs, but rather by more affirmative attention to them. Recommendations Nos. 6, 17, 20, 21, 22, 24, and 25 are examples of the sort of thing we have in mind as subject to improvement along the lines just mentioned.

In view of the memorandum of agreement between the FAA and ESSA dated August 2, 1965, and in the interest of facilitating coordination between your two agencies, a similar letter transmitting our recommendations is being forwarded to the Administrator of ESSA.

Sincerely yours,

JOSEPH J. O'CONNELL, Jr., *Chairman.*

NATIONAL TRANSPORTATION SAFETY BOARD RECOMMENDATIONS FOR IMPROVEMENTS
IN THE AVIATION WEATHER SERVICE

1. Increase the number of aviation weather observing sites. There are many gaps in the network both in the contiguous United States and in Alaska. Even taking into account the Supplementary Aeronautical Reporting Stations (SAWRS), there is still only about one observing station for each nine airports and only a portion of them are open on a 24-hour-per-day basis.
2. A vigorous program of quality control of aviation weather observations should be developed. A basic requirement of the aviation community is detailed, accurate reports.

3. Cloud-height measuring equipment should be provided at all aviation weather observing stations. The practice of estimating cloud heights is simply not conducive to providing accurate information or to safe aircraft operations.

4. Additional efforts should be made to standardize the location of weather instruments at airports. We have in mind particularly, standard locations for representative measurements of wind and cloud height over the airport and cloud information from that area along the approach path where "decision height" is involved.

5. Methods should be developed for measuring and forecasting low-level wind shear in the terminal area.

6. In order to insure more accurate visibility observations, adequate visibility reference markers (particularly nighttime markers) should be provided for the guidance of observers. A survey of copies of visibility reference marker charts should reveal those locations where inadequacies exist, and corrective action should be taken thereafter. These inadequacies have been revealed on numerous occasions during aircraft accident investigations such as at Freeland, Mich., Barnes Airport, Westfield, Mass., Miles City, Mont., Ardmore, Okla., and Cincinnati, Ohio.

7. Continued efforts should be made to expand the upper air observing network and to increase the number of rawinsonde ascents to four per day. Gaps in the network are numerous and two ascents per day are certainly not optimum for aviation purposes.

8. The weather radar network should be expanded, particularly west of approximately 100° west longitude, and weak, obsolete, war-surplus equipment should be replaced with up-to-date, long-range weather radar sets.

9. It is recognized that it is generally impractical to base a staffing plan on the "bad weather" situation. It appears, however, that some revisions or expansions are required, so that a continuous weather watch could be maintained and improved pilot briefing services provided at those locations manned by one person during certain hours. There are many locations where a single person is faced with a mountainous workload during bad weather, and making aviation weather observations in an accurate and timely manner may have to take a lower priority than other assigned duties.

10. Continue the expansion of the runway visual range (RVR) program including the multiple installation of transmissometers. When more than one transmissometer is installed along an instrument runway, appropriate procedures will be required to standardize the extent and type of RVR information to be provided to the pilot; for example, information from the touchdown zone, rollout area; and/or center of the runway complex. It is also clear that in the low-visibility ranges, additional research is required into the means to adequately assess RVR.

11. A means of measuring slant visibility or slant visual range which a pilot would experience on an approach to landing would certainly enhance air safety.

12. In view of the enthusiastic support by the users of the pilot-to-forecaster experimental programs at Kansas City and Washington, it is suggested that serious consideration be given to establishing an operational program on a national basis.

13. The transcribed weather broadcasts (TWEB) network should be expanded to provide coast-to-coast coverage.

14. The pilots automatic telephone weather answering service (PATWAS) should be greatly expanded to provide its service to many additional areas, particularly those areas where live weather briefing may not now be available.

15. There is a need for more pilot weather briefing facilities.

16. Substantial improvements in weather briefings could be realized by the provision of facsimile equipment for all weather briefing facilities. This would also assist in the desired standardization of pilot weather briefing procedures.

17. Additional efforts should be made to improve and standardize weather briefing displays.

18. Provisions should be made for additional telephone lines to weather briefing facilities. In this connection, arrangements could be made for the caller to receive (when the briefers are occupied) a recorded announcement to stand by for a briefing. Receipt of such an announcement would certainly be an improvement over a busy signal and in many cases would lead to a pilot receiving a slightly delayed briefing instead of being tempted to depart with no information.

19. In order to assist the Safety Board in accident investigations and for ESSA/FAA quality control purposes, audio recording of pilot weather briefings is advocated.

20. Aviation stands to benefit from information derived from weather satellites. Accordingly, it is considered that special efforts should be made to devise refined techniques and procedures for providing aviation-oriented weather satellite information on a national basis.

21. The terminal forecasting program should be expanded. Terminal forecasts are currently available on a routine basis for only about 5 percent of the airports in the United States.

22. There continues to be a need for improved delineation of aviation forecast area boundaries. A revision of the present system of delineation should be considered in order to define more precisely the area boundaries—perhaps a reassignment of areas of forecast responsibility to make the boundaries contiguous with State boundaries.

23. We adhere to the belief that a centralized clear air turbulence (CAT) forecasting center should be established, similar to the severe local storms (SELS) unit. Certainly safety, efficiency, and economy would be enhanced by such an establishment.

24. Continued efforts should be made to improve the procedures for obtaining and disseminating inflight weather information.

25. We are concerned with instructions to forecasters regarding the modifiers to be used for inflight advisories (SIGMETs) containing clear air turbulence (CAT) forecasts. Forecasters are directed to use the phrase "moderate or greater" in CAT forecasts and may only use "severe" or "extreme" in CAT reports. These instructions (in chapter D-22 of the Weather Bureau Operations Manual) appear to be contrary to preceding instructions (in that manual) which call for SIGMETs to be issued when (among other things) "severe" or "extreme" turbulence are expected. Unfortunately, "moderate or more turbulence" includes all intensities except "light." Furthermore, it seems unfair and certainly not very helpful to the pilot not to be apprised of the forecasters' thinking and intent in regard to the category of turbulence to be anticipated.

26. There has always been a requirement for more accurate aviation weather forecasts, particularly for the terminal area, and research into improved forecasting methods should continue to be pursued. Research should also be conducted to develop objective methods for measuring or forecasting the intensity of icing and turbulence.

MARCH 14, 1968.

Hon. WILLIAM F. MCKEE,
*Administrator, Federal Aviation Administration,
Department of Transportation, Washington, D.C.*

DEAR GENERAL MCKEE: The Safety Board has become increasingly aware in recent months of the very rapid expansion in the operations of the air-taxi operators, and within that group a similar burst of activity on the part of the scheduled air-taxi operators.

Also of interest to us, and in the same general area, is the rapidly expanding use of such operators by the Post Office Department in the contract carriage of mail.

A description of the nature and present scope of the operations of this group will serve as a background against which the safety of such operations, a matter of real concern to the Safety Board, can be appraised.

There are, as you know, more than 3,800 air-taxi operators in the United States. As of October 1, 1967, scheduled air-taxi operators totaled 165, an increase of 42 percent over the 116 reported only 11 months before. Another indication of the rapid rate of growth of this segment of the industry can be gleaned from the fact that there were only 12 scheduled air-taxi operators 4 years ago, and that during the same period the number of aircraft utilized by them increased from 72 to 685.

Although this figure may not be entirely precise, it is our information that during the calendar year 1967 scheduled air-taxi operators carried over 3 million passengers.

It is worthy of note that at least two certificated airlines have contracted with scheduled air-taxi operators to operate a segment of the certificated carriers' routes and that there are some 42 interline agreements between certificated airlines and scheduled air-taxi operators for the onward carriage of airline passengers.

In this connection, it is also worthy of note that in the contractual arrangements for the operation of route segments by air-taxi operators there are no affirmative references to the safety of such operations (other than requirements

for insurance coverage imposed by the certificated carrier—and these could hardly be said to contribute to safety). Nor do the interline arrangements evidence concern as to safety by anything other than protection against airline liability through insurance.

The Post Office Department has, within the past year, become a very important contributor to the expansion of this segment of aviation through its contracts for the carriage of mail. Some indication of the rate of growth in this area can be gleaned from the fact that in 1966 the Post Office Department paid air-taxi operators about \$180,000 for carrying mail; in 1967 the amount was in the neighborhood of \$3,500,000; and in 1968 the Post Office expects the figure to go as high as \$8 million.

By the end of 1967 there were in the neighborhood of 80 mail routes being operated by some 35 air-taxi operators. The Post Office Department expects to have from 180 to 200 routes in operation by June 1968, presumably with a commensurate increase in the number of air-taxi operators involved.

In contrast to the contractual arrangements between air-taxi operators and air carriers, the Post Office Department has imposed safety requirements in its contracts which go substantially beyond those presently required by the Federal Aviation Administration under part 135 of the Federal Air Regulations, and they are intending to make such requirements more stringent almost immediately, since they are far from satisfied with the safety record of their contractors in recent months. (Four aircraft losses between November 25, 1967, and January 28, 1968, with attendant loss of mail and lives.)

By and large, it is our understanding that the contractual safety requirements imposed and to be imposed by the Post Office Department are intended to reach a level of safety in operations at least equal to what may come out of the next proposed modification of part 135.

Certainly, such contractual requirements are far more stringent than are required of air-taxi operators generally, or of scheduled air-taxi operators in particular, by the existing Federal Air Regulations, and any substantial amendment in the existing part 135 cannot be looked for (because of rulemaking requirements) for at least 6 months, and more probably a year.

The Board is well aware that the FAA has been addressing itself to this emerging problem with a high sense of its importance and urgency, and as we both know the Post Office Department has quite recently expressed concern about the safety of their contract operations in a series of meetings with both the FAA and the NTSB.

It is our understanding that the FAA is disposed to cooperate with the Post Office Department not only in advising with them as to the type of contractual safety provisions they might wisely impose, but also to assist in the implementation of the Post Office Department's program by some type of surveillance over the operators to see to it that the contractual obligations imposed upon them in the interest of safety are in fact being complied with. This we applaud.

But this brings us to the proposition that at this point the Post Office Department, with the help of the FAA, is imposing a higher level of safety regulation on air-taxi operators carrying mail than the Government imposes on the same, or other, air-taxi operators who are carrying passengers for hire.

Three million passengers carried for hire by scheduled air-taxi operators in 1967 is not only a respectable number, involving a dollar volume many times that of the \$3,500,000 Post Office expenditure during the same year, but of much more significance from the standpoint of our present discussion, has involved a death and injury toll which cannot be viewed with anything approaching equanimity.

Preliminary figures indicate that there were some 84 deaths in air-taxi operations in 1967, of which 61 were passengers and 23 were crew. Figures for 1966 indicate a passenger fatality in air-taxi operations of 32, about one-half the level of 1967.

The area we are talking about is so new and so rapidly changing that comparative statistics are not worth much. However, the 1967 toll in absolute numbers is of sufficient magnitude to justify concern and affirmative action.

This rapid growth is being encouraged by the Federal Government both by expanded authority through the Civil Aeronautics Board and the expanding contract operations of the Post Office Department. Then, too, the contracts between certificated carriers and air-taxi operators, as well as interline agreements between the two, would indicate a growing belief by at least some certificated airlines that the air-taxi operator fulfills a need. All in all, it can safely be assumed that the expansion is desirable and should be both encouraged and helped.

It is of concern to us that this record rate of growth, however desirable it may be, is being accompanied by a preoccupation with economic growth and very little, if any, attention is being paid to the safety obligation imposed by the equally rapid change in the role of this class of carrier. It seems clear that we cannot wait 6 months to a year for the evolution of a more modern regulatory scheme through the upgrading of part 135.

In recent months, as the FAA has observed appreciable laxity in operating techniques of certificated carriers, it has acted promptly and sent teams in to review practices and to force an upgrading of them. We are of the view that the technique could be used in the area under discussion, although admittedly the assignment would be radically different, as will be developed later.

In this connection, it might be observed that air-taxi operators, including scheduled air-taxi operators, are conceived of organizationally within the FAA as being essentially a part of general aviation. This was once true and may still be true for the bulk of air-taxi operators, but it is by no means true for scheduled air-taxi operators or those under contract with the Post Office Department. This would suggest that not only should these carriers be classified as air carriers, but should be treated as such both within the structure of FAA and, in the longer pull, from the standpoint of safety requirements.

Another analogy of possible use in FAA consideration of this problem is its Project 85 which, as recently as in September 1967, was set up on a test basis to encourage accident prevention in general aviation. The essence of this proposal, as we read it, is to upgrade the operations involved not by surveillance but by helping and by teaching. It is suggested that if Project 85 were narrowed down so as initially to make its principles specifically (and solely) applicable to scheduled air-taxi operators and air-taxi operators under contract to the Post Office Department, the possibility for success of the venture would be substantially enhanced. Experience with this more limited group could provide valuable information as a prelude to expansion to other general aviation areas later, as resources permit.

It is also suggested that personnel presently assigned as air carrier inspectors (whose job it is, basically, to monitor highly sophisticated and, it can be assumed, highly effective operations related to safety) could effectively be utilized in implementing such a program. Certainly 165 scheduled air-taxi operators and 35 or more air-taxi operators under contract with the Post Office Department (most of whom are within the 165) would be a manageable number for intensive effort, where 90,000 members of the general aviation fraternity might not be.

Summing all this up, the Board is of the view that concerted and speedy action by both industry and Government is required to adequately cope with the situation described. A suggested program follows:

I. BY THE INDUSTRY

A. Organized groups of scheduled air-taxi operators are urged to devote their energies to the safety of their operations to an extent more reasonably related to the amount presently being expended for the enhancement of their economic opportunities. For example, it would not seem either beyond the capabilities of these organizations or adverse to the intelligent self-interest of their members were they to institute programs devised to give expert guidance to operators in setting up operating rules and establishing desirable operating practices in areas involving safety (a large portion of accidents in this field are attributable to deficiencies in operations; that is, inadequate maintenance, inadequate training, and so forth).

B. Scheduled airlines are urged to take affirmative action commensurate with their responsibility for the safety of passengers being carried by scheduled air-taxi operators pursuant to interline agreements or specific contracts for the operation of route segments. Here, if the carriers are unwilling, for whatever reason, to assume affirmative responsibility for safe operations of air-taxi operators with whom they have either interline agreements or specific contracts to operate route segments, serious consideration should be given to having the CAB condition its approval of any such contractual arrangements on the existence of contractual undertakings by each air-taxi operator to comply with a set of safety rules comparable or at least equal to the then contractual arrangements between the Post Office and its airmail carriers.

II. BY THE GOVERNMENT

A. The Federal Aviation Administration should launch immediately a program addressed to the scheduled air-taxi operators and the operators under contract with the Post Office Department, which would involve not only surveillance of the conventional type, but also the teaching of this group how better to perform a basically common carriage operation, with emphasis on associated safety aspects. This program should include sending in FAA teams to review and accomplish the necessary upgrading of their safety practices; and

B. That the FAA place the safety supervision of scheduled air-taxi operators and Post Office contract operators organizationally under FAA staff associated with the handling of air carrier safety operations, and proceed promptly to establish safety programs and standards for them commensurate with their current and long-range status, activities, and importance in aviation.

Admittedly, the programs recommended herein for action by the Federal Aviation Administration, the air carriers, and the air-taxi operators, are beyond the scope of what the administration and the industry have been either equipped or expected to do, and might not even be favorably received by the group of air-taxi operators such programs would be intended to help.

However, the need is real and immediate and it is our view that the situation will not wait either for "as usual" industry practices or for the ordinary regulatory process to catch up to it.

Sincerely,

JOSEPH J. O'CONNELL, Jr., *Chairman.*

JUNE 3, 1968.

Adm. WILLARD J. SMITH,
Commandant, U.S. Coast Guard,
Washington, D.C.

DEAR ADMIRAL SMITH: The Board shares your concern and that of the Department of Transportation regarding recreational boating safety. We are analyzing the individual accident reports involving loss of life, and also your annual report of boating statistics for 1967. President Johnson's consumer message announced the proposed Recreational Boating Act of 1968, and we will be interested to follow its legislative progress. The National Transportation Safety Board will be willing to assist you and the Department in any way we can to support this program, or others needed to improve boating safety.

After the Lake Michigan accident last August, the thought occurred to us that a larger number of marine boards of investigation would serve several useful roles in promoting recreational boating safety. More public information and safety education result from such public investigations than from the routine one-man investigations. Secondly, the final report of marine boards of investigation receives much wider distribution in the marine industry.

We appreciate the fact that these proceedings require more time of senior officers, but they are more apt to produce recommendations to prevent future accidents. The need for additional emphasis on recreational boating safety preventive programs is apparent from the relatively large number of fatalities in this field in comparison with those experienced by commercial vessels. For example, in the calendar year 1967, most of the 4,113 recreational boating accidents occurred on small open boats, as follows:

Size of boat involved	Number of boats involved	Cumulative percent, boats	Fatalities	Cumulative percent fatal	Number of persons injured	Cumulative percent injured
Less than 16 feet.....	1,501	28.5	677	51.6	442	32.4
16 to less than 26 feet.....	1,884	64.2	298	74.4	564	73.7
26 to less than 40 feet.....	716	77.8	76	80.1	148	84.5
40 to less than 65 feet.....	157	80.7	25	82.0	23	86.2
65 feet and over.....	22	81.2	1	82.0	.....	86.2
Unknown.....	994	100.0	235	100.0	188	100.0
Total.....	5,274	.....	1,312	.....	1,365	.....

The predominance of accidents in such small boats warrants, we believe, selection of several such accidents, or a series of them at or about the same date, for marine boards of investigation. A few selected geographical areas of densely populated pleasure boats such as the Great Lakes, Gulf and Florida Coasts, In-

land Waterways, California, Pacific Northwest, or east coast, seem to have the most potential for accidents of this type. The recent capsizing of a 14-foot outboard boat on May 26, off the coast of Maine, with loss of eight lives, is an example of this type of accident. Should several accidents occur in such areas involving a number of small open boats, you may wish to consider convening marine boards to review them during the current boating season. Lessons learned from such accidents in small boats, extensively publicized, could serve a useful accident prevention and safety promotion purpose in the fast growing but hazardous sport.

Sincerely yours,

JOSEPH J. O'CONNELL, Jr., *Chairman.*

APRIL 3, 1968.

HON. A. SCHEFFER LANG,
*Administrator, Federal Railroad Administration,
Department of Transportation, Washington, D.C.*

DEAR MR. LANG: The National Transportation Safety Board's review of data covering the last several years for train accidents shows progressively worsening trends in rates, occurrences, deaths, and damage. Furthermore, and especially disturbing, many train accidents in recent years have involved hazardous or poisonous materials, resulting in fires, or the escape of poisonous or hazardous materials followed by evacuation of populated areas. The latter collateral factors, coupled with a rising accident rate, increase the probability of catastrophic occurrences.

Total train accidents¹ increased from 4,149 in 1961 to 6,793 in 1966, up 63.7 percent, and according to preliminary figures increased to 7,089 in 1967, up 71 percent over 1961. Train accidents per million train-miles increased from 7.09 in 1961 to 11.29 in 1966, up 59.2 percent. Deaths in train accidents increased from 158 to 214, or by 35.4 percent. Reported loss and damage to lading in train accidents (which excludes rough handling) increased from \$9.3 million to \$18.6 million during the 1961-66 period, or up 100 percent; such loss and damage was up from \$15,800 to \$30,900 per million train-miles, or up 95.6 percent. Track and equipment damage reported in train accidents increased from \$50.4 million to \$99.0 million, up almost 100 percent; such track and equipment damage was up from \$86,200 to \$164,500 per million train-miles, or up 90.9 percent.

Deraillments, the single most important cause of train accidents, increased from 2,671 in 1961 to 4,447 in 1966, up 66.5 percent, and the rate of deraillments per million train-miles increased from 4.57 in 1961 to 7.39 in 1966, up 61.7 percent. Deraillments, as the largest single cause of the 6,793 train accidents in 1966, accounted for 4,447 or about 65 percent of all train accidents in 1966, and over 80 percent of the damage to track and equipment. Collisions, the next most frequent cause, accounted for 1,552 or 23 percent of 1966 train accidents.

The Interstate Commerce Commission's "Accident Bulletin," now under jurisdiction of the Federal Railroad Administration, reflects in detail the primary causes of deraillments, comparing 1961 with 1966. (See exhibit A.) Defects in or improper maintenance of way and structures accounted for 21.6 percent of all deraillments in 1961 and this increased to 31.2 percent in 1966. Further, both in numbers and in proportion of total deraillments, those caused by defects in or improper maintenance of way and structures have become an increasingly significant factor in deraillments, increasing by 140 percent and by 44.5 percent respectively. Defects in or failure of equipment, on the other hand, though still the largest group of causes of deraillments, had declined as a proportion of derailment causes from 47.5 percent in 1961 to 34.9 percent in 1966. Deraillments charged to negligence of employees accounted for 12.3 percent of all deraillments in 1961 and 12.4 percent in 1966, almost the same proportion, although the number of deraillments caused by employee negligence increased by 68.1 percent.

Statistics as to deraillments resulting from defects in or improper maintenance of way and structures, which resulted in train accidents, are set forth in detail in exhibit B. It clearly shows how progressively deteriorating track conditions are causing deraillments.

The railroad accident picture is extremely serious. Furthermore, higher speeds, longer and heavier trains, and the growing carriage of deadly and hazardous materials may well increase the already serious consequences of unsafe practices.

¹ Excludes train-service and nontrain accidents.

We are sure you are aware of the disquieting picture described in this letter, and concur in the view we hold that every reasonable step be taken to arrest and reverse the trend toward increasing incidence of train accidents. Recognizing that there are limits both to your resources and your authority nonetheless we recommend that all available resources at your disposal be applied to reverse these accident trends. Increased attention to accident investigations and the issuance of more published accident investigation reports are several possibilities; others are increased inspections addressed to the worst areas of accident cause and to railroads where a disproportionate number of accidents occur.

Collaterally, we recommend that the Federal Railroad Administration initiate studies which would go beyond the data provided in current accident reports, with particular attention being given to derailments. Studies should include such factors as level of maintenance, types of inspection techniques used by railroads, influence of operating rules on accident causation, and employee responsibility for unsafe practices. Other areas deserving of attention or review include the use and value of railroad employee safety incentives, research and development to determine how management and employees, individually or jointly, can improve safety techniques and reduce accidents, and the possible borrowing and adaptation of successful safety practices from other transportation modes. The results of such studies should lead to initiation of new or augmented action programs by the Federal Railroad Administration to improve railroad safety.

We are aware that current regulatory authority does not encompass many areas related to the causes of many railroad accidents. Our concern about the state of railroad operations vis-a-vis safety was indicated in the recommendations accompanying our report on the railroad collision in New York City, where we stated that there is clear need for a reappraisal, a self-assessment and corrective action by the railroad industry.

We believe that the primary responsibility for improved railroad safety should rest upon railroad management and labor. However, we reiterate here that if it appears that they cannot or will not accept the challenge promptly to arrest the worsening railroad accident picture, consideration should be given to supporting or proposing Federal legislation which would provide additional safety regulatory authority for the Department of Transportation in the railroad safety field.

Sincerely,

JOSEPH J. O'CONNELL, Jr., *Chairman.*

EXHIBIT A

	Number of derailments			Proportion of primary causes of derailments to total derailments			Derailments per million train-miles		
	1961	1966	Trend (percent)	1961	1966	Trend (percent)	1961	1966	Trend (percent)
Primary cause of derailments:									
Defects in or improper maintenance of way and structures.....	577	1,388	+140.0	21.6	31.2	+44.5	0.99	2.31	+133.0
Defects in or failure of equipment.....	1,268	1,550	+22.2	47.5	34.9	-26.5	2.17	2.58	+18.9
Negligence of employees.....	329	553	+68.1	12.3	12.4	+1.8	.56	.92	+64.3
Other.....	497	956	+92.4	18.6	21.5	+15.6	.85	1.59	+87.1
Total derailments.....	2,671	4,447	+66.5				4.57	7.39	+61.7

EXHIBIT B

	1961		1966		Trend (percent)	
	Number of derailments	Proportion of total derailments (percent)	Number of derailments	Proportion of total derailments (percent)	Number of derailments	Proportion of total derailments
Defects in or failure of tie and/or tie-plates.....	27	4.7	107	7.7	+296	+63.8
Improper track alignment.....	15	2.6	55	4.0	+266	+53.8
Defects in or failure of frogs and/or switches.....	93	16.1	267	19.3	+187	+19.9
Improper superelevation of track.....	24	4.2	60	4.3	+150	+2.4
Defects in or failure of rails and/or rail joints.....	326	56.5	661	47.6	+103	-15.8
Other.....	92	15.9	238	17.1	+159	+7.5
Total.....	577	100.0	1,388	100.0	+140	

APPENDIX E—REPORT TO THE PRESIDENT ON URBAN TRANSPORTATION ORGANIZATION

(Prepared jointly by the Department of Housing and Urban Development
and the Department of Transportation, February 24, 1968)

INTRODUCTION

On March 2, 1966, when he proposed the establishment of a Department of Transportation, the President said:

"The Departments of Transportation and Housing and Urban Development must cooperate in decisions affecting urban transportation * * *. The future of urban transportation * * * depends upon * * * rational planning. If the Federal Government is to contribute to that planning it must speak with a coherent voice. The Department of Housing and Urban Development bears the principal responsibility for a unified Federal approach to urban problems. Yet it cannot perform this task without the counsel, support, and cooperation of the Department of Transportation."

The President at that time proposed no specific changes in Federal organization or programs for fostering the development of urban mass transportation. Rather, he announced that he would ask the two Secretaries to recommend within 1 year after the creation of a Department of Transportation "the means and procedures by which the cooperation can best be achieved—not only in principle, but in practical effect."

During the congressional hearings on the Department of Transportation bill, it was pointed out that—

"Mass transportation is a very new Federal interest. Program decisions have impacts on interstate transportation and on national transportation policy as well as on general urban planning and development. Some of the effects are only beginning to emerge. The Federal mass transit assistance program consists of complex and interrelated functions which should be identified and analyzed before decisions are made on their final assignment, whether individually or as an entity, to the Department of Housing and Urban Development or to the Department of Transportation."

The Congress endorsed this view and provided in the Department of Transportation Act for a joint study and report to the President, for submission to the Congress, on the "logical and efficient organization and location of urban mass transportation functions in the executive branch" (sec. 4(g) Public Law 89-670). Significantly, the Congress recognized the complex nature of urban transportation by indicating that the basic objectives of any policy and program changes should be the development of urban transportation systems that "most effectively serve both national transportation needs and the comprehensively planned development of urban areas."

Shortly after the activation of the Department of Transportation on April 1, 1967, we began the study called for by the President and the Congress. The Bureau of the Budget was advised periodically of the progress of the study. The report briefly summarizes the deliberations of officials of the two Departments over the past year.

FINDINGS AND RECOMMENDATIONS

We have, from the start, been in agreement on the guiding philosophy of the study. The approach has been to test each alternative by the public interest criteria laid down by the Congress in recognizing that any reorganization of Federal mass transit programs should contribute tangibly to the expectation of improvement in the economic and social circumstances in which all Americans live.

It was recognized that it is difficult to make distinctions between national transportation and urban transportation because transportation systems and operations are inextricably interrelated. Transcontinental rail and motor freight movements typically begin and end in city factories and warehouses. Intercity air

travelers begin their journeys by automobile, taxi, or bus from urban residences or offices and end at downtown hotels or offices via connecting surface transport—often the most time-consuming portions of their journey.

On the other hand, the key role played by urban transportation systems in shaping the structure of cities and in influencing the rate and nature of their growth—and their great impact on the quality of city life as measured by noise, air pollution, vibration, congestion, inconvenience, and impairment of esthetic values and cultural amenities—has long been recognized and is being given increasing attention. Transportation will support the realization of urban goals and objectives only to the extent that transportation systems and investments are consistent with sound urban development.

Thus, any set of recommendations must foster two goals: that of an efficient transportation system, and that of sound urban development. These considerations and their implications have led us to certain conclusions as to the nature and scope of the reorganization and adjustments in interdepartmental relationships required in the area of urban mass transportation. We are in agreement on two major actions: (a) the transfer of the Federal mass transit operating programs to the Department of Transportation, and (b) the strengthening and extension of the urban planning assistance and coordination role of the Department of Housing and Urban Development.

We therefore recommend that there be transferred to the Secretary of Transportation such functions and authorities as he may need to provide effective leadership in urban transportation matters. Interdepartmental agreements will also be used to treat specifically and in detail the ways in which the Departments will work together in the relating of transportation to urban development, including the formulation, as needed, of standards, criteria, rules, and regulations. We call attention to the fact that there is already set forth in the Department of Transportation Act (sec. 4(g)) a strong statement of congressional policy to guide the Departments in evolving arrangements for program coordination.

The two Departments have already begun the task of developing agreements essential to the success of the reorganization at both Federal and local levels.

It is our intention that these recommendations have the following effects:

1. The recommended changes will strengthen the Department of Housing and Urban Development's program coordination, including coordination of urban transportation programs, by concentrating in the Department of Housing and Urban Development technical and financial assistance for comprehensive planning.

2. By concentrating the capital grant and loan programs for urban transportation in the Department of Transportation, assure most effective employment of its expertise in systematic analysis of transportation problems. Rail-transit programs, for example, will benefit by integration with intercity rail transportation activities.

The consolidation of staff and funding for these programs at the Federal level should prevent duplication of activities and assure a more appropriate allocation of funds in accordance with the urgency and magnitude of problems in each program area.

3. Integrate all technical and financial aids available for urban transportation with those currently available to meet national transportation needs and will locate the responsibility in a single Federal agency. The improved coordination made possible by these changes should substantially increase the effectiveness of both systems and thus meet one of the two objectives laid down by Congress in section 4(g) of the Department of Transportation Act which is that urban transportation policies and programs be shaped to provide a maximum contribution toward meeting national transportation needs.

4. Assure the consistency of urban transportation systems and project plans with comprehensive development plans, enhance the coordination and approval role assigned to the Department of Housing and Urban Development for comprehensive urban planning, and increase the constructive contribution of urban transportation to the achievement of community goals and objectives in accordance with the other principal objective of section 4(g) of the Department of Transportation Act.

In summary, these changes should materially help to (a) balance program interests through the comprehensive planning process; (b) recognize the Department of Housing and Urban Development as the coordinating agency for Federal programs affecting urban areas; (c) consolidate technical and financial assistance for transportation programs in the Department of Transportation with a resulting

increase in efficiency and economy; and, (d) further structure Federal grant-in-aid programs for transportation to foster initiative and decisionmaking responsibilities in local agencies directly representing the area affected by federally aided programs.

The remainder of this report is devoted to the development of the positions summarized above and to the relationship of the recommendations to current Federal programs.

IDENTIFICATION OF FUNCTIONS

The first task of the Departments was to identify the "complex and interrelated functions" affecting urban transportation that were referred to during the hearings on the Department of Transportation Act. After a careful examination of existing Federal transportation programs, we recognized four major functions as being essential to the successful implementation of sound urban development and urban transportation programs. They are: (1) planning; (2) research and demonstrations, (3) capital investment, and (4) operations.

It should be stressed that most of these functions are not the direct responsibilities of the Federal Government. The Federal Government, for example, offers technical and financial assistance to State and local planning agencies, but it does not actually prepare plans for urban transportation facilities. The Federal Government does not directly participate in the operation of urban transportation systems. It can and does, on the other hand, perform transportation research, both through in-house and contract efforts.

Demonstrations are assisted both financially and technically, but not ordinarily performed by the Federal Government. In the case of the high-speed ground transportation program collaboration is largely between the Federal Government and private industry, in this case the railroads, rather than between the Federal and State Governments.

The functions listed above are thus activities which must be carried on somewhere if we are to achieve public purposes in the field of urban transportation. They may be performed by any level of government. In some instances they may be performed by private enterprise, or by government and business cooperatively.

Further analysis disclosed that one of these major functions, research and demonstrations, is more commonly performed as an adjunct of the other three functions than as an independent activity or end in itself. Research and demonstration grants may be made to test proposed new or improved operating procedures and to demonstrate the feasibility for broader application.

We also concluded that there are three important kinds of urban and transportation planning. They are: (1) comprehensive planning; (2) systems planning; and (3) project planning. These distinctions are important because they facilitate the resolution of the organizational issues with which this report is concerned.

In summary, in rearranging Federal urban transportation responsibilities, we must provide for:

1. Planning:
 - (a) Comprehensive development planning.
 - (b) Systems planning.
 - (c) Project planning.
2. Research and demonstrations.
3. Capital investment.
4. Operation.

Each of these functions must be carried out if transportation facilities and services satisfactory in themselves and compatible with other public service systems as well as with comprehensive community development plans and objectives are to be achieved. Each of them, except for administration and operations in which there is presently no Federal participation, will now be treated in somewhat greater detail.

1. Planning

(a) *The comprehensive plan*

To warrant the commitment of public resources, an urban transportation program, like any other well-founded and orderly program of public investment, should originate in and be consistent with officially approved and publicly supported comprehensive community development plans. The policy expressed in this statement has been repeatedly endorsed by the Congress. It is entirely consistent with the workable program requirements of the Housing Act of 1949; it was the rationale of the section 701 planning program of the Housing Act of 1954, and

the statutory planning requirements associated with various grant programs administered by the Department of Housing and Urban Development.

Urban transportation planning must begin, therefore, with the formulation and adoption of broad community goals and objectives to which all development in the area concerned and all project plans should conform. It means decisions by local people, through their local organs of government, as to what kind of place they want their community to become. It means decisions on the kinds, amounts, and quality of public facilities and services that are to be provided and the standards, scheduling, and constraints to be imposed thereon. It means deciding whether, when, where, and how much is to be done. It means moving away from the imposition of decisions from above and means moving toward a new Federal-State-local cooperative relationship.

Comprehensive planning includes land-use planning and the formulation and adoption of policies to implement such plans, including decisions on the location of airports, transportation corridors, public parks, schools and hospitals, sewage systems, and so forth. The comprehensive planning process entails surveys of existing land use and forecasts of future use, reflecting the employment of zoning, taxing, and other land-use policy instruments. This planning also requires consideration of transportation problems and needs, since transportation decisions influence (often decisively) other location decisions, the overall design of the community, and the realization of community goals and objectives.

Comprehensive plans involve evaluation of alternatives—including alternative transportation networks and service levels. Similarly, comprehensive plans must consider available resources and priorities in their application.

Comprehensive planning of this order is not always achieved at the present time. Often important determinants of land use are not taken into account explicitly in the planning process at the local level. Despite the creation of metropolitan planning agencies through the 701 program, comprehensive plans do not always make explicit the application of general goals and objectives in terms of positive performance standards or constraints to be honored in subsequent system and project planning, nor do they always provide a realistic framework for decision-makers.

Since the Department of Housing and Urban Development exercises the primary Federal responsibility for technical and financial assistance for comprehensive planning, the transportation elements of the comprehensive plan should be vested in the Department of Housing and Urban Development. An augmented 701 planning program will be essential to meet this objective. As part of its responsibility, the Department of Housing and Urban Development should perform or contract for research on planning methodology; conduct or make grants for the conduct of demonstrations relating to comprehensive planning objectives; grant scholarships for the training of planners; sponsor conferences and other activities to improve the skills of planners and the quality of planning functions; seek to develop mechanisms by which communication between citizens, elected officials, and planning technicians can be facilitated, including devices to carry approved plans into action; and, finally, should review locally approved comprehensive plans for conformity with its technical standards and requirements as a basis for consideration of further Federal aid in whatever functional area the comprehensive plan may call for action.

We wish to emphasize that in the comprehensive planning process, local people, acting through their officials, should make the basic choices on location of urban highways and public mass transit corridors, airports, terminals, parking, and other ancillary transportation facilities in urban areas, consistent with regional and national transportation plans and goals. We recognize further that the comprehensive planning responsibilities in urban areas having populations of 50,000 or more should generally be lodged in an officially designated comprehensive planning agency for the area concerned.

In order to strengthen the comprehensive planning process in urban areas, the Department of Housing and Urban Development should exercise its leadership in providing technical and financial assistance to areawide planning agencies.

(b) *System planning*

Transportation system planning as conceived in this report is a phase of planning that effects a connection or transition between the comprehensive plan and transportation project plans. Both Departments have interests and responsibilities in this activity and must play active and constructive roles. The division of responsibilities can be stated simply, but the working out of detailed planning criteria, funding arrangements, controls of research, training, and other related

programs is exceedingly difficult and left to the more flexible administrative agreements mentioned earlier in this report. We agree that more effective arrangements are needed and can be developed.

(c) Project planning

Project planning, as the term is used in this report, means the preparation of detailed plans, designs, drawings, specifications, cost estimates, and solutions of field problems involving engineering and construction techniques for specific construction projects. With respect to highways, for example, project plans include geometric design, route alignment within approved corridors, specifications and cost estimates; with respect to airports, project plans include the number and direction of runways, tower and hangar locations, and gates and other operating appurtenances as well as engineering specifications and cost estimates.

Locally, project plans should be prepared by the agency which is to develop and operate the facilities or services in question. Before transmittal to the Federal program agency, they should be submitted to appropriate local planning agencies for determination of conformity with community development plans. Plans involving projects that extend beyond the local jurisdiction would also be submitted to regional or State planning agencies for review. These project plans are the how of problem solving in the various broad areas of publicly sponsored activities—transportation, education, urban renewal, recreation, etc.

Eligibility for Federal aid for all transportation projects should be determined on the basis of a consistent technical review. This review should consider local preferences concerning design specifications as they are developed in the comprehensive and transportation system planning process. It should also reflect research developments as they occur, for example, in highway safety, air pollution abatement, and reductions in noise and vibration levels.

The two departments will work together closely on criteria and planning for relocation in the interest of consistent treatment of persons and enterprises displaced by federally aided transportation projects.

2. Research and demonstrations

As already noted, research and demonstration activities tend to be adjuncts of the other major functions. Existing statutes provide a basis for federally assisted or directly coordinated research and demonstration projects bearing on the various aspects of planning, investment, and operations of urban transportation programs. This means the social and economic aspects of transportation as well as transportation technology and other "internal effects."

The Department of Housing and Urban Development and the Department of Transportation will develop, jointly, a program of projects and priorities for urban-related transportation research, development, and demonstrations. The Department of Housing and Urban Development will be concerned especially with (a) those portions of the program designed to reveal or evaluate the impact of transportation on urban areas and to delineate those general characteristics of transportation systems expected to have an important impact on the urban environment; and the Department of Transportation with (b) those portions which deal with component, subsystem and system development, engineering, and testing. This will normally mean that the Department of Transportation will have primary responsibility in the area of "internal systems and program effects and requirements," the Department of Housing and Urban Development having primary responsibility in the area of "external personal and community effects and requirements."

The precise division of responsibility, details of financing, the development of program criteria, and the coordination of joint or related activities should be worked out in agreements between us or by other administrative devices.

3. Capital investment

All Federal financial assistance for urban transportation capital investment programs would be located in the Department of Transportation. Insofar as the problems of capital investment in urban transportation facilities and equipment at the Federal level can be solved by organizational changes, we are convinced that transfer of the mass transportation grant and loan programs to the Department of Transportation will achieve the desired result.

Some of the basic problems are not primarily in the realm of Federal organization. They arise from the nature of and differences among current statutory policies and programs. More study will be needed to evaluate the effects of differences in allocation formulae, cost-sharing ratios, authorizations and appropriate

tions and other terms and conditions of capital assistance on local planning and decisionmaking as well as on the competitive and financial viability of urban transportation systems. Under section 4(g) of the Department of Transportation Act, we are required to carry on a continuing review of urban transportation policies and programs and to report annually to the President and the Congress making recommendations for any desirable policy and program changes. This is ample authority to enable us to undertake constructive program analysis and to develop recommendations for changes in Federal policies that will improve the allocation of Federal resources in transportation and their benefits and effects on urban development.

4. Operation

At the present time there is little Federal participation in the operation of urban transportation systems. Federal policy, both congressional and executive, is explicitly against Federal intervention in the operation of local transportation services. Present statutory authority for transportation research and for demonstration and training aid is broad enough to allow some involvement in management training and to permit federally sponsored evaluation of the administrative and service practices of local systems.

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