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TRANSPORTATION AND THE NATIONAL GOVERNMENT

Volume I - Proposed Revision of National Transportation Policy and Administrative Organization

By: The Brookings Institution

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TRANSPORTATION AND THE NATIONAL GOVERNMENT

Report for the Commission on Organization
of the
Executive Branch of the Government

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VOLUME I

PROPOSED REVISION OF NATIONAL TRANSPORTATION POLICY
AND ADMINISTRATIVE ORGANIZATION

The Brookings Institution
Washington, D. C.

Charles L. Dearing
Wilfred Owen

October - 1948

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The Honorable Herbert Hoover, Chairman
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1626 K Street, N. W.
Washington, D. C.

My dear Mr. Hoover:

In compliance with an agreement between the Commission on Organization of the Executive Branch of the Government and the Brookings Institution dated January 12, 1948, I transmit herewith a report titled "Transportation and the National Government."

As provided in the agreement, this study presents the pertinent facts with respect to: (1) the nature and condition of the transportation facilities of the United States; (2) the extent and character of national action in the provision of transportation facilities and services; and (3) the bases on which federal action is predicated, including a description of the origin and development of present policies.

Volume I of the report presents a summary of findings and conclusions and sets forth briefly a number of specific recommendations for the improvement of governmental performance in the field of transportation. Volume II contains the descriptive and analytical portion of the study and supporting data.

The report was prepared by Charles L. Dearing and Wilfred Owen, with the assistance of Margaret J. Myers and Jean Brownlee. Dr. Marvin L. Fair and Dr. Frederick H. Blachly served as consultants on various phases of the study.

In transmitting this report I wish to express our appreciation of the cooperation and many courtesies extended to us by the staff of the Commission on Organization.

Yours very truly,

Harold G. Moulton

President

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SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The nation's transportation system, composed of railroad, highway, pipeline, water, and air facilities, is the product of a unique joint undertaking. Private enterprise has supplied much of the inventive genius, the production technology, and the managerial drive that has given direction and impetus to the development of the newer forms of transportation. And, until recently, the private investor has furnished the bulk of the capital required to finance experimentation, the launching of new enterprises, and their subsequent expansion. Public enterprise, on the other hand, has supplied a substantial part of the basic facilities over which private equipment has operated, and has participated in a number of other ways in the transport revolution. The federal government has gradually assumed major and controlling responsibility both for the regulation of all transport agencies and for the programming and financing of airports, airways, waterways, highways, and ocean shipping. In fact, the federal role in transportation has grown in scope and magnitude to a point where federal policy exerts a dominant influence on the future role of transportation in the national economy.

From a physical standpoint the development of transport agencies has been impressive. Effective and almost universal competition has supplanted monopoly. The volume and variety of transport services have provided a high degree of mobility at relatively low cost to the consumer, and have added in no small measure to the enrichment of social life and to the efficiency of economic processes.

It would be surprising, however, if a joint venture of such complexity and magnitude had not produced numerous frictions, areas of relative inefficiency, and uneven rates of progress. The analysis in this report has,

in fact, revealed the existence of many defects, both of a policy and organizational nature. Numerous and complex problems have been introduced which have prevented a realization of maximum service and economy in transportation.

In the private sector, where the financial condition of the majority of carriers is notoriously weak, private management has been guilty of ill-advised expansion, failure to achieve maximum economy, and lack of alertness to the possibilities of the newer forms of transportation. Communities and other interested groups have multiplied these problems in numerous ways; for example, by tenaciously resisting the abandonment of obsolete plant and service. Removal of these and other drags on progress will, of course, be necessary, if we are to achieve the desirable volume and quality of transport service at the lowest possible total cost. But we have observed that some of the most critical present and prospective weaknesses in the transportation system are attributable to defects in the policy and administrative organization of the national government.

Vast expenditures for the provision of transportation facilities are authorized with no consideration for over-all transportation requirements or the relationships among transport agencies. The result has been an improvident use of public funds and a failure to program in accordance with priority of need. The use of general taxes rather than user charges to finance these facilities has resulted in an uneconomic distribution of traffic and consequently a misapplication of productive resources. In addition, failure to consider the problems and possibilities of the railroad system in conjunction with the planning of public transportation facilities has prevented the realization of maximum benefits and maximum economy.

It has been noted, too, that Congress has not succeeded in welding the various phases of regulatory and promotional programs into an economically

sound and efficiently administered transportation policy. It has set as one regulatory goal the fair and impartial treatment of transportation enterprises and has imposed on them the obligation to provide service without discrimination or preference between individuals and communities. At the same time, it has been deliberately discriminatory in the varying degree of public aid extended to the several transport agencies. It has charged two separate regulatory agencies with responsibility for preventing wasteful and destructive competitive practices in transportation, by rate regulation and by controlling entry and abandonment of business operations. At the same time, it has given other branches of government the power to determine independently the character of physical transport facilities, their location and capacity, and the rates at which they shall be expanded.

Conflict between policy objectives and actual practice is likewise found in the regulatory process itself. Congress has directed that the general level of rates be regulated in such a way that carriers under honest and efficient management may obtain the revenues required to provide a transportation plant adequate for the needs of commerce and national security. But the process has become so encumbered with procedural rigidities that in practice the benevolent intent serves only to delay the adjustments of rates to changing economic conditions, thereby producing financial embarrassment for the carriers affected.

The net result of these diffuse programs is that government restricts with one hand and promotes with the other. It applies control devices appropriate to the regulation of monopoly and simultaneously attempts to enforce competition. Responsibility is so widely and vaguely divided that no branch of government can be charged with the deficiencies of public action in this field. And what is more important, the cumulative effect of the federal program is a division of authority between government and private enterprise

such that neither can be held firmly accountable for efficiency and technical progress in transportation.

The provision of a dependable and adequate supply of transportation services is so vital to economic health and national security that any failure on the part of government and private enterprise working jointly to supply adequate service would necessarily lead to the assumption of full responsibility by government. This follows from the elementary fact that important segments of the total transportation plant can be provided proficiently only by government. Consequently, if government action cannot be reconciled to the motivating forces of the private enterprise system, the sector occupied by the latter will gradually contract and the benefits of this joint arrangement will be lost.

REVISIONS IN POLICY

It has been concluded, therefore, that basic changes in federal policy are necessary if effective development of the transportation system, through the cooperative undertakings of government and private enterprise, is to be secured. Specifically, we recommend the following policy revisions:

1. Transportation programs undertaken or financed by the federal government should be limited to projects of national importance which can best be carried out through federal action.

For example, numerous river and harbor projects have no economic justification; the development of secondary roads should be left to state and local jurisdictions; federal aid for small airports for private flying should be abandoned; a number of aviation safety responsibilities should be delegated as soon as possible to the states; and the activities of the Inland Waterways Corporation should be terminated.

2. The users of transportation facilities, rather than the general taxpayer, should meet the major cost of providing domestic transportation facilities.

General fund appropriations for transportation are warranted when essential to the development of new industries, uniform standards, national defense, or other important national objectives. But as a general principle, user charges are necessary if we are to achieve a distribution of traffic based on cost and service, an economic allocation of resources, and fairness as between transportation users and the general taxpayer. Adoption of this policy requires the imposition of tolls for waterways, an early introduction of user charges to achieve eventual self-support for the airway system, and strict limitation of general fund appropriations for airports, highways, and other transportation developments.

The granting of operating subsidies to domestic airlines has not created financial stability, but instead has fostered uneconomic conditions in the industry. We recommend the divorcing of subsidy payments from mail pay and an early termination of domestic operating subsidies.

In the international field, the necessity for subsidies to enable our carriers to compete with foreign subsidized competition is recognized; and it is also apparent that the requirements of a merchant marine and air transport fleet for national security can be supplied in part through such government support.

3. Proposals for the development of each form of transportation should be evaluated in the light of the entire transport program to determine proper emphasis and desirable priorities.

Separate and isolated consideration of each mode of transport

must be abandoned if government action in this field is to achieve maximum quality and minimum cost in the movement of goods and persons. The opportunity must be afforded to judge, for example, the relative merits of spending for airway modernization as compared to extending inland waterways; and greater attention must be given to the physical interrelationships among transport agencies. In addition, there must be stricter economic tests upon which to evaluate proposed transportation developments in order to reduce gross waste of federal funds.

4. Primary administrative responsibility for maintaining an adequate national transportation system should be centralized in the executive branch of government.

All programming, operating, and management activities should be centered in an executive agency. Promotional and administrative activities now lodged in regulatory agencies should be transferred to the executive in order to free the regulatory process from these encumbrances and to make it possible for the executive branch of government to carry out its constitutional responsibilities.

This clarification of authority and responsibility is required not only for efficient peacetime administration but to assure an adequate supply of transportation facilities in emergencies. Thus the military establishment should be clearly charged with responsibility for specifying the volume and type of transportation facilities needed for war purposes; and these must be financed out of the military budget.

It is now apparent that vague declarations of regulatory policy with respect to national defense are not sufficient to assure adequate wartime transportation facilities. So far, good fortune has afforded sufficient time at the beginning of war emergencies to compensate for

lack of transportation preparedness. But in any future conflict it is unlikely that there will be time to rectify errors of peacetime policy.

5. The national program of transport regulation should be administered by an "independent" commission.

The end purpose of the program for transport regulation proposed in this study is to protect the public against rate and service discrimination and to assure the fair and impartial treatment of the several competitive modes of transport. To this end the control agency must be dedicated to the preservation of equity in its decisions; and it must be constituted and organized to maintain stability and continuity of policy.

Experience indicates that these standards of performance are most likely to be achieved through a continuing, full-time, and expertly staffed agency whose deliberations are removed from intimate control either by Congress or the President. If, as recommended in this report, the functions that are of a strictly executive and managerial nature are restored to the executive branch of government, there would appear to be no need for direct executive control over the regulatory phases of national transportation policy.

6. Regulation should be applied uniformly to all forms of transportation.

Regulatory jurisdiction over all forms of domestic transportation, except air transport, has been consolidated in the Interstate Commerce Commission. The Civil Aeronautics Board, which regulates air transport, has been operating in an administrative vacuum.

This special organizational treatment, designed to assure the sound development of air transportation, has in fact produced overexpansion and financial instability. And there is no reason to believe that prompt correction of these unexpected results can be achieved under current

policy and organization.

Of equal importance, the separation of aviation from the main body of transport control works against the achievement of major regulatory objectives. National policy is dedicated to the maintenance of fair competition among the several forms of transportation, to the prevention of wasteful investment, and to transport integration in the interest of economy and efficient service.

Experience has demonstrated, however, that realization of these desirable objectives can be assured only by centralized application of uniform regulatory standards to all competitive transport agencies. Diffusion of administrative authority tends to produce radically different interpretations of identical statutory objectives and substantive provisions.

For these reasons we have recommended the consolidation of regulatory control over all forms of transportation into one agency.

7. Initiative and responsibility should be restored to private management.

There has been a trend for many years toward the intrusion of regulatory action into the essential functions of business management. The railroads, for example, have been precluded from making prompt and necessary adjustment of rates to changing costs and traffic conditions, with resultant damage to their financial position.

The main difficulty is that every significant managerial decision of the regulated enterprises is subjected to Commission scrutiny, involving judicialized hearings, formal argument and legal briefs. Eventually the regulatory agency decides by majority vote whether the proposal under consideration conforms to some unspecified test of the "exercise of wise business judgment."

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If efficient and dynamic performance from the managers of privately owned transportation companies is to be expected, the exercise of regulatory decisions must be kept within appropriate limits. To this end, we have suggested restricting the regulatory commission's power to make purely managerial decisions, such as whether or not a particular rate adjustment will produce additional net revenue or will tend only to drive traffic to competitive agencies. But full authority over rate and service discrimination and rate relationships would be retained in the regulatory program.

CHANGES IN ADMINISTRATION

In order to carry out these policy revisions, the following changes in federal administration are recommended:

A Department of Transportation should be established to consolidate government expenditure, programming, and operating functions into a single executive agency. This Department would be headed by a Secretary of Transportation with cabinet status. It would include a top programming and policy staff; and authority and responsibility would be delegated to four assistant secretaries in charge of water transportation, civil aviation, highway transportation, and railroad transportation. Other duties would be delegated to an undersecretary.

(1) Office of Water Transportation

The Assistant Secretary in charge of this office would be responsible for administering federal promotional, operating, and programming activities in the field of domestic and foreign water transportation. This division would include:

(a) Promotional, administrative and subsidy responsibilities transferred from the Maritime Commission.

(b) The operations of the Inland Waterways Corporation transferred from the Department of Commerce for liquidation.

(c) The programming of waterway improvements transferred from the Department of the Army, Corps of Engineers.

(2) Office of Civil Aviation

This office would be responsible for all federal programs involving the promotion of civil aviation, both domestic and international: the programming, financing, and operation of physical facilities; the development of a route pattern for air transportation; and the promotion of aviation safety. Functions of this office would include:

(a) The provision of airways; the administration of the federal airport program; aviation safety duties; and other promotional activities transferred from the Civil Aeronautics Administration, Department of Commerce.

(b) Safety activities and route pattern development transferred from the Civil Aeronautics Board.

(c) Responsibility for administering air carrier operating subsidies.

(3) Office of Highway Transportation

This office would carry out the federal aid highway program; all federal highway promotional activities; safety activities involving interstate motor carriers; and the maintenance of a motor vehicle inventory and war requirement estimates.

(a) Federal aid activities would be transferred from the Public Roads Administration, Federal Works Agency.

(b) Safety activities would be transferred from the Bureau of Motor Carriers, Interstate Commerce Commission.

(4) Office of Railroad Transportation

This office would be responsible for continuing evaluation of the adequacy

of basic railroad plant and equipment; the establishment of necessary operating plans to assure efficient railroad transportation in event of war; the administering of car service and safety functions; and the formulation of a railroad consolidation plan.

(a) Car service and safety functions would be transferred from the Interstate Commerce Commission.

(5) Service Agencies

It is also recommended that consideration be given to transferring to the Department of Transportation two existing agencies which provide general service functions in the field of transportation:

(a) The Coast Guard, to be transferred from the Department of the Treasury.

(b) The Coast and Geodetic Survey, to be transferred from the Department of Commerce.

The primary functions of these agencies relate to aids provided for water and air transportation. These agencies should presumably be preserved as individual units.

It is also recommended that there be established an "independent" Transport Regulatory Commission. This Commission would be responsible for control over transport rates, the issuance of operating certificates, carrier relationships, and finance. The Commission's functions would include:

(a) Control over rates, financing, and certificates for rail, domestic water, and pipeline transportation, transferred from the Interstate Commerce Commission.

(b) Control over rate conference agreements, discrimination, and reparations from the Maritime Commission.

(c) Control of air carrier rates and certificates from the Civil Aeronautics Board.

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The full effect of the changes in administrative organization recommended in this report can be achieved only insofar as basic deficiencies in national transportation policy are removed. However, by first accomplishing revisions in organization, the resulting unified administration and coordinated programming of transportation activities will serve to motivate necessary legislative changes in policy.

Structural revisions alone cannot be expected to produce substantial economies. But administrative and policy revisions combined should produce real savings by the elimination of unnecessary and wasteful expenditure.

The extensive range and complex character of government action in the field of transport promotion and regulation are set forth in Volume II of this study. Part I of Volume II describes the types of transportation facilities that are constructed and maintained by the national government; how the government is organized for this purpose; and how much money is spent. Attention is also directed to the physical structure of the nation's transportation system, the functions performed by each of the several transport media, and the extent to which the national government has influenced this development. Part II is devoted to analysis of the government's regulatory functions. The varying objectives of regulatory action and the administrative devices used in the attempt to achieve these goals are described; and the major issues of public policy are identified.

Volume I is a general summary of the report. It includes an evaluation of national transportation policy, specific recommendations for revision of policy and administrative organization, and a review of the special problem of maintaining a transportation system adequate for national security.

CHAPTER I

CRITICAL DEFECTS OF NATIONAL TRANSPORTATION POLICY

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Some of the most critical weaknesses in our transportation system are attributable to defects in the policy and administrative organization of the national government. Federal activities exert a profound influence on the provision and management of transportation services. But the various promotional and regulatory programs are loosely organized and not governed by any coherent set of principles. In final analysis, government policy in this field is characterized by defects in the programming and expenditure of public funds, unattainable regulatory objectives, and indeterminate division of authority and responsibility between government and private management.

A. DEFECTS IN PROGRAMMING AND PUBLIC EXPENDITURE POLICIES 1/

The federal government has spent some 30 billion dollars for the provision of transportation facilities and services in little over three decades. These outlays, augmented in some cases by state and local matching and maintenance expenditures, have been a major factor in determining the nature and extent of the transportation system.

Despite the physical accomplishments which such expenditures have made possible, it cannot be said that maximum progress has been made toward providing efficient and economical transportation services. Major defects in promotional policy have caused federal achievements to fall far short of potential goals. Federal activity has been marked by vague objectives,

1/ Supporting analysis for the conclusions set forth in this section will be found in Vol. 2, Part I.

questionable methods of economic justification, narrowly conceived programming of expenditures, unsound financial policy, and defective administrative management.

Basically, the weakness in federal policy is the failure to recognize that the ultimate objective is to achieve the best possible transportation system for the movement of persons and goods. Because different treatment of the several transportation agencies has been required throughout the history of federal transportation development, it has been assumed that for this reason the needs of each transportation agency should be considered in isolation. The result has been neglect of over-all transportation objectives and failure to view the transportation problem as a whole. Instead there has been a preoccupation with the individual problems of individual transportation agencies.

Although the interrelationships among transportation agencies are generally ignored by federal policy, the fact remains that recognition of these relationships is basic to any sound determination of economic justification, to the establishment of priorities for public expenditure, and to intelligent consideration of the impacts of federal transportation activity. Failure to think or act in terms of over-all transportation requirements has meant that no individual or agency has been in a position to weigh, for example, the relative financial needs of waterways and airways, or to evaluate the net results of all the various federal transportation undertakings. This failure has meant either outright waste of public funds or the loss of opportunity to achieve full benefits from public expenditure.

Revisions are necessary in federal transportation programming and procedure. The upward trend in the scope and magnitude of federal transportation activity stresses more than ever before the need for assuring that the

Expenditure of federal funds is directed to the desired objectives. Since the war, national transportation activity has expanded to include a vastly augmented responsibility for roads and streets, which has more than doubled the prewar mileage of facilities eligible for federal funds. A new federal aid program for airport development and an entirely new concept of air navigation aids have likewise been included in the category of federal projects; and plans for the development of merchant marine and river and harbor programs likewise suggest new high levels of peacetime activity.

Moreover, the physical needs of our transportation system today are very extensive, including not only the heavy maintenance and replacement requirements of existing facilities, but the tremendous demands of modernization. There is developing a realization that our principal highways are grossly inadequate to meet the demands of motor traffic; that bold concepts of design must supplant the orthodox and often inadequate approach to these problems. The installation of an all-weather airways system, basic to the safety and regularity of air transportation, is another project demanding early completion. It is likewise evident that modernizing and consolidating of terminals is long overdue. For, these facilities account for a high percentage of the cost of transportation, measured in time and money.

In view of the magnitude of transportation requirements, the role of the federal government must be clearly defined and relative importance of projects must be determined. Consideration must be given to the degree of national importance which attaches to various aspects of the transportation program in order that federal action may be concentrated on projects best adapted to the federal action and most urgently needed from the standpoint of the country as a whole. There is no apparent basis for the relative emphasis now placed on the several transportation agencies by federal promotional programs, and in some

cases the desirability of any participation on the part of the federal government is open to question. Finally, even where legitimate federal objectives are involved, justification of federal participation is often so vague that the merits of the program are difficult to judge. In the case of alleged national defense requirements, for example, no attempt is made to impose upon the military the responsibility for stating in specific terms what their needs may be.

It follows, then, that an attempt must be made to establish a more definitive federal role in this field. The size and character of federal programs must be determined with reference to specific national objectives. There must be a careful appraisal of the various transportation projects to be accomplished in order that the greatest needs and the most appropriate priorities may be agreed upon. These determinations cannot be made in a vacuum for each form of transportation, but only through consideration of the needs of the transportation system as a whole.

More uniform procedures must be adopted for carrying out federal transportation activities. We have seen that the growth of federal transportation activity in separate compartments has resulted in a diversity of procedure which in most instances reflects the failure to view at once the several aspects of federal transportation policy. Waterway proposals, for example, are submitted to Congress by interested groups or individuals, and their economic justification is determined by a branch of the military establishment which has no responsibility or concern for transportation needs as a whole. The Congress then makes the final determination of the individual projects to be included in the river and harbor program, and appropriates funds to cover their construction, maintenance, and operation. In the case of federal aid for highways, the planning of a desirable program is a state function, but

all projects must be contained in a limited system of eligible routes selected with federal approval. Federal funds for highway purposes are allocated among the individual states on the basis of a specific formula prescribed in the law; and these funds are limited to construction purposes and must be matched by the states.

There are numerous other procedural variations among the several federal promotional programs. All federal highway aid is channeled through the states, whereas airport funds may be granted directly to local units. Federal authorizations for highways constitute contractual obligations which are made available in full through subsequent appropriations, whereas authorizations for other transportation projects may or may not be appropriated. Operating subsidies for ocean shipping are granted in the form of direct payments to ship operators, while in the case of airlines these subsidies are included in payments for the carriage of the mail.

There has been a lack of effective transportation planning for national defense. Failure to plan the development and organization of transportation facilities to meet the emergency requirements of war has been another serious defect in federal policy. That the results have not been disastrous may be attributed to the fortunate circumstances which have afforded us the time and opportunity to devise emergency procedures for achieving effective operations. During the past war we were able, after the start of hostilities, to establish a central agency in the federal government and to experiment until effective procedures had been developed. Likewise we were able to compensate for lack of foresight by creating with phenomenal effort a shipbuilding industry and merchant fleet, a new pipeline network, a synthetic rubber industry, a rationing system, and other emergency solutions. The success which attended these efforts was fortunately great enough to overcome the failure to anticipate

their importance. But tremendous risks were involved in gambling with the transportation system.

The prospect that another war would strike without warning and that extensive destruction would be suffered by our country, including its transportation system, makes it even clearer that the good fortune which has thus far brought victory cannot be relied upon in the future. It will be necessary to have in being at the beginning of any future conflict the transportation facilities necessary to carry us through; and the operating pattern and organization capable of assuring effective operations. Unless these plans are laid during peacetime, and the machinery established for their prosecution, it would be futile to expect the war-supporting economy to be adequately sustained.

In summary, the programming of public transportation facilities is characterized by differences, discrepancies, and omissions which are inevitable when the transportation problem is looked upon as half a dozen separate problems. There are no uniform standards by which federal agencies may determine economic justification, no over-all estimates of traffic needs and trends upon which to judge alternative projects, no uniformity with regard to the manner of establishing physical plans, no opportunity for physical integration of facilities, and no consistency with respect to distribution of federal funds, permissible types of expenditure, and state matching requirements.

There is need for revising financial policy. One of the fundamental difficulties of national transportation policy stems from the fact that rail-road and pipeline facilities are privately owned and financed, whereas the basic facilities required for transportation by air, water, and highway are publicly provided and financed for the most part through general taxation. These public expenditures provide varying degrees of aid to owners and users

of private transportation equipment, who compete with the operations of privately financed facilities as well as among themselves. Since the cost paid for the operation of equipment over the public ways reflects only part of the true cost of providing the service, the choice of transportation method made by consumers and shippers is not based on relative economy, but only on that part of the cost not defrayed by subsidy. In other words, the degree to which these several forms of transportation are patronized, and the nature and extent of public and private investments in transportation facilities and equipment, are determinations which often reflect the generosity and unevenness of legislative appropriations rather than the ability of an agency to attract traffic at rates which will cover cost.

An economic development of transportation and a productive use of resources therefore call for the financing of facilities through charges levied on the users. The achievement of self-support through user charges will not completely overcome the financial inequalities between privately owned railroads and publicly provided facilities. And it must be recognized that in some cases the goal of achieving self-support may be only partially attainable due to legitimate general fund expenditures to promote federal objectives which might otherwise be impossible of achievement. But, insofar as we can approach a condition of self-support, we will move closer to an allocation of traffic based on relative economy, and therefore to an allocation of resources designed to achieve maximum results at minimum cost.

It is not contended that the federal government has no right or obligation to invest general tax funds in transportation facilities; on the contrary, there are circumstances in which such a use of public funds is warranted and necessary. As pointed out later such federal objectives as assuring adequate facilities for national defense or promoting uniformity or minimum

standards among the several states may be legitimate objects of federal expenditure. Wherever possible, however, user charges afford the best means of paying the transportation bill. For, in addition to the desirability of including transportation costs in the final determination of prices, and of avoiding the distorting effects of subsidy, user charges have additional merits which further the attainment of transportation objectives. Direct charges for transportation services are a useful expedient in lieu of general taxes because they provide a continuing source of revenue on a fairly predictable basis, as the productivity of the gasoline tax for highways attests. This financial continuity in turn serves as a basis for long-range budgeting and preserves capital investments.

User taxes also reduce the amount of waste which occurs in the development of transport facilities, for the beneficiaries who urge the provision of transportation facilities know they must pay the bill, and they are therefore more prudent in the type and extent of the proposals they submit. For example, the uneconomic expansion of inland waterway facilities would not continue at the present rate if those who espoused them knew that they would be held responsible for their support. Finally, user revenues are to be preferred over general funds because today, when federal expenditures and the scope of federal activity are expanding, there is need, wherever possible, of promoting fairness as between general taxpayers and specific users who benefit directly from transportation developments. Since it is possible to identify the users of public transportation facilities, and to measure the extent of their use, it is clearly desirable to charge directly for the provision of these services.

It is recommended, therefore, that as a general principle the financing of transportation facilities should be accomplished through tolls or other

special charges imposed on the users. The precise methods to be applied in collecting these revenues, the extent to which current problems can be remedied by this change in financial method, and the element of time required to achieve self-support, are considerations which must be determined for each form of transportation and in some cases for individual projects. Considerations of this nature should be among the initial responsibilities to be assumed by the federal government as soon as a reorganization of federal activities provides the machinery for investigations of this scope.

Exclusion of the railroads precludes effective programming. Federal policy raises the question not only of the financial inequalities between privately and publicly provided facilities, but of the wisdom of excluding from federal transportation development all consideration for the physical condition and service potentials of the railroad plant. During the decade ahead, public agencies will participate in large-scale development of air, highway, and water transportation facilities. These developments cannot be intelligently programmed without consideration for the future role to be played by the railroads, the impact of public facilities on the financial and physical condition of the railroads, and the opportunities for supplanting rail services or physically coordinating them with other transportation agencies.

To illustrate, today a phenomenal increase is taking place in the volume of motor traffic and in the physical requirements of highway modernization to accommodate this trend. One of the factors adding substantially to these physical needs is the spectacular increase in heavy truck transport. The rise in intercity truck traffic can be attributed either to the lower costs or the better service afforded by highway transportation compared to rail; and these advantages may be due to one or more of several causes. The truck may be in

a favored position due to technical advantages over the railroads. Or its advantage may be due to favorable treatment of government, in the form of either subsidy or preferential tax and regulatory policy. On the other hand, the relative position of highway and rail carriers may be due to remedial defects in the railroad system itself, including the failure to consolidate or modernize.

From a national standpoint the question to be answered is whether funds should be spent to accommodate further shifting of freight traffic from rail to highway, or whether steps should be taken to achieve better and more economical railroad service. Today there is no other alternative than to neglect the possibilities of railroad modernization, regardless of where this course may lead. The probability is, however, that it will lead to further loss of traffic by the railroads, higher rates of expenditure for alternate highway facilities, further deterioration of the railroads, and ultimate public support of essential railroad services.

There is no suggestion here that the inevitable shift of certain classes of traffic from the railroads due to technological change should be resisted. It is merely pointed out that for certain types of work, particularly long haul and mass movement of freight, the railroad system is technically well-adapted. The relative economy of rail transportation in this sector is substantial; and it is indispensable that these facilities be maintained for national defense purposes. Nevertheless, current national policy fails to recognize these considerations. The federal government undertakes extensive tax-supported promotional programs which create unfair competitive disadvantages for the railroads; it then attempts to accommodate the resulting shift of traffic by further expanding these public investments. At the same time it evades the responsibility of compelling corporate and operating revisions

in the railroad system.

There are many examples of the futility of attempting to formulate a physical program for national transportation development when the role of railroad transportation is excluded from consideration. Revisions in methods of financing public facilities, relaxation of railroad regulation, and the consolidation of railroad facilities would in combination materially improve the long-run financial outlook, hence physical condition, of the railroad system. But the hiatus between railroads and other transport facilities would continue to impose an unnatural obstacle to over-all transportation developments in the interest of both the users of transportation facilities and the general taxpayer. The government must therefore keep under continuous scrutiny the advantages and disadvantages of the present admixture of privately and publicly provided facilities, the implications of ultimate government ownership of the railroads, and the practicability, as an alternate solution, of government ownership of basic railroad facilities for lease to private operators.

B. CONFLICT BETWEEN PROMOTIONAL ACTION AND REGULATORY PROGRAM ^{2/}

The keystone of the federal government's regulatory program is the maintenance of fair competition among transport enterprises. All regulatory statutes carry prohibitions against discriminatory rates or service. And all explicitly reject monopolistic organization of transport services by declaring that the "inherent advantages" of each mode of transportation shall be preserved.

^{2/} The supporting analysis for the conclusions set forth in this section will be found in Vol. 2, Part II.

It has not been assumed that fair competition will be achieved in this field through automatic processes. On the contrary, the government has assumed affirmative control over rates, route patterns, and corporate structure of the industry. But the fact remains that the underlying theory of the regulatory scheme is to preserve workable competition. The end purpose is to afford each transport medium an opportunity to find its area of usefulness on the basis of relative efficiency and quality of service. Free consumer choice, guided by rate and service competition, would then allocate the available traffic equitably and economically among the several forms of transportation and their constituent operating units.

But the government has failed to provide the economic environment and administrative machinery essential to the successful operation of such a system. In fact it seems clear that under the current diversity of policy and organizational arrangements the dominant objectives of transport regulation cannot be attained. For the promotional and subsidy phases of government action interfere with the economic allocation of traffic, and the diffusion of regulatory responsibility leads to competitive inequalities, over-expansion of transportation facilities, and uncoordinated services.

Rate competition does not produce an economic allocation of traffic among transportation agencies. It is axiomatic that an effective pricing mechanism constitutes the mainspring of a competitive system. And by the same token, to the extent that the operation of the mechanism is distorted either by private manipulation or government interference, competition becomes unreliable as the arbiter of economic survival.

Government policy now contemplates that the respective roles to be played by each agency in the transportation economy will be determined in the main by price and service competition. Regulatory agencies, however, have been

given the power to see that such competition does not become "destructive." Thus the Interstate Commerce Commission determines by minimum rate regulation the extent to which rail, motor, and water carriers may adjust prices in order to hold their traffic or tap the market of a competitor, and control over the rates of air carriers is vested in the Civil Aeronautics Board.

It is obvious that traffic will not be allocated among competing agencies in accordance with relative economy unless the rates under question reflect true economic costs and unless both agencies apply uniform standards of evaluating service factors. But we have observed that neither of these conditions obtains. The existence of preferential government subsidies renders futile much of the regulatory effort to use minimum rate regulation in order to achieve an equality of "competitive opportunity" among the various transport agencies (Vol. II, Chapter VIII). The main difficulty is that the "costs" with which the commissions deal are not comparable, since the rates of some agencies must in the long run cover total economic costs while the rates of other carriers reflect varying portions of such costs. For example, railroads and pipelines, being privately owned and financed, must maintain a rate structure that will produce sufficient revenue on the average to pay all operating costs, including maintenance and depreciation of equipment and fixed plant and taxes on property. In addition, sufficient net operating revenue must be realized to pay interest charges on debt and to maintain credit, or to provide new capital out of net earnings.

By contrast, other carriers, because of their use of publicly owned facilities, are able to offer service at rates which cover only a portion of corresponding cost. Water carrier rates do not reflect any of the cost incurred by government for the construction and maintenance of river and harbor

facilities and aids to navigation. Airlines enjoy relatively free use of publicly provided airports and airways, and, in addition, are eligible for direct financial aids in the form of air mail payments. And, although motor carriers pay substantial amounts in the form of user charges for the support of publicly provided highways, they enjoy substantial general fund support. The net effect of this situation is that the total cost of all subsidized transport services is divided in varying degrees between shippers and passengers on the one hand, and general taxpayers on the other.

When several agencies are competing for a given volume of traffic under such circumstances, the one striving to recoup total costs will inevitably suffer an erosion of its rate structure. For obviously the shippers' concern is with comparative rates rather than with total economic costs. If the quality of service is comparable, the shipper will therefore give his business to subsidized and therefore low-rate carriers even though the total real cost, including that paid by the general taxpayer, exceeds the rates charged by the self-supporting carrier.

A self-supporting enterprise such as the railroads can cope with this situation only by reducing rates or improving service. In the effort to prevent traffic diversion, rates on the commodities that are most vulnerable to competition will tend toward the level of out-of-pocket costs. Revenue required to obtain the level of earnings needed to induce new capital into the industry can then be secured only by increasing rates on the less vulnerable traffic. This, in turn, will further expose such traffic to competition and the processes of erosion will continue.

Manifestly, no privately financed enterprise can survive if a large portion of its rate structure covers only out-of-pocket costs. If that agency possesses at any given time a substantial managerial or technical

superiority, erosion of the rate structure may be retarded. And the process may also be slowed down by recurring periods of economic activity which generate enough traffic for all agencies, thus lessening the intensity of rate competition. But these uncertain prospects hold little attraction for the private investor to commit his capital to the modernization of the railroad industry.

The chief hazard is the element of uncertainty. Under current national policy, neither railroad management nor prospective private investors can gauge with any accuracy the future scope and intent of the government program of financial assistance for other transportation agencies. Until 1944, for example, it appeared that the federal role in highway development had become fairly well stabilized, both as to the amount of financial assistance to be advanced and the class of roads on which such funds were to be expended. Since that time, however, federal appropriations for highway improvement have been greatly expanded and eligibility for the application of such funds has been extended from a limited federal aid system to include city streets and secondary roads. Appropriations for river and harbor improvements continue to mount. And the proponents of aviation development are urging large-scale and long-range federal expenditures for improved airports and airways. None of these expenditure programs carries any terminal date, nor any specific policy of self-liquidation.

Under such circumstances, the essential requirements for long-range new capital investment in the railroad industry are absent. There is no assurance that the plant or equipment so provided will have an opportunity to compete for the nation's transportation business on a basis of equality with the agencies singled out by government for preferential assistance. On the contrary, it seems certain that the uneconomic allocation of traffic

will continue to drain away the financial strength of the unsubsidized enterprises such as the railroads. For, as we indicate by case analysis in Chapter VIII, policy declarations in favor of impartial regulation and fair competition implemented by minimum rate regulation cannot as a practical matter correct the distorting effects of public subsidy.

Regulation is unable to prevent unfairness and discrimination. This situation not only introduces maladjustments into a competitive system but it threatens to destroy the moral foundations of public regulation. From the outset the statutory requirements that public carriers shall charge only "reasonable and just" rates and shall serve all communities and shippers without unjust discrimination or preference have constituted the core of transport regulation. Through the universal application of these standards, government in effect has declared that private individuals and concerns undertaking to provide the public with essential transportation services must observe rigid rules of fair, just, and reasonable behavior.

In the regulatory sphere of government action, then, Congress has been guided by an exacting code of political ethics. The objective is to make transportation systems function as an impartial service agency for the national economy. The clear implication is that neither rates nor standards of service shall be used by government or by private enterprise as a means of advancing the interest of one region or sector of the economy to the prejudice or disadvantage of any other. Yet, government promotional action involving transport subsidies has introduced an insidious type of discrimination into the transportation system.

In effect, government-created discrimination has been substituted for that formerly exercised by private monopoly. Such discrimination arises for two primary reasons. First, the government distributes its financial

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aids unevenly among regions and types of carriers. Second, the coexistence of both publicly subsidized and self-supporting carriers in a highly competitive transport system forces the latter into discriminatory rate making in order to survive. The most glaring example of the uneconomic distribution of government assistance is found in the promotion and subsidization of water transportation. For many years the federal government has provided improved waterways without direct cost to the users. Because of the physical limitations of water transportation, the assumed benefits of these promotional expenditures can be realized directly only by the shippers and communities that have access to improved waterways. In order to avoid the patent regional preference involved in this program, Congress has, in effect, required the privately owned railroads to serve as the vehicle for the distribution of waterway subsidies to interior points not directly served by water transportation. Specifically, the Interstate Commerce Commission has recently found that the "clear Congressional policy with respect to water transportation of the Mississippi River and its tributaries" requires the railroads to establish joint barge and rail routes and the movement of goods via these routes at rates differentially lower than the all-rail rate for similar movements. The net result is the diversion of traffic from the railroads to the subsidized water operation. And in the process, the communities and shippers that are in position to use this partially subsidized joint service gain, at the expense of the general taxpayer, a competitive advantage over other shippers who must continue to use all-rail service to the same markets.

The second major element of discrimination introduced by federal waterway promotion stems from the effect of subsidized competition on the general financial position of the railroads. In the effort to compensate

for the revenue lost to their subsidized competitors, the railroads in order to survive must attempt to raise rates on the traffic least affected by such competition. Thus another discriminatory element is introduced into the rate structure. For the shippers who are not in position to utilize subsidized water competition are placed at a double disadvantage. As taxpayers they must contribute to the cost of improving waterways which they cannot use, and at the same time they must pay higher railroad rates in order to compensate for the railroad's loss of revenue to subsidized water transportation.

In the attempt to carry out the inherently antagonistic policies enunciated by Congress, the Interstate Commerce Commission is placed in an anomalous position. With the one hand it must apply impartially to all forms of transportation under its jurisdiction a statute designed to guarantee that no individual or region shall enjoy an artificial advantage over any other by virtue of preferential transportation rates and service. At the same time, the Commission has been obligated to serve as an instrument for carrying out another policy of Congress which deliberately uses subsidized transportation as a means of rendering discriminatory assistance to individuals, regions, and forms of transportation. Manifestly, no regulatory agency can be expected to administer with uniform impartiality and integrity congressional policies which are inherently contradictory and irreconcilable.

We must conclude, therefore, that if Congress expects the Commission to enforce impartially the ethically rigid provisions of the Interstate Commerce Act, and intends to retain the concept of fair and workable competition as the keystone of transport regulation, promotional and subsidy policies must be revised. The first step, as already noted, is to assess

against the direct user rather than against the general taxpayer the major cost of providing and maintaining transport facilities. This revision alone, however, will not suffice to remove all the major deficiencies of national policy. For the division of regulatory responsibility creates other and equally important problems.

The government policy of dealing with aviation in an administrative vacuum creates additional obstacles to the realization of declared regulatory objectives. The federal government has assumed broad jurisdiction over the physical pattern and corporate structure of the transportation plant. Through a series of enactments, Congress has vested in regulatory commissions wide discretion in determining who should enter the transportation business, the routes to be served, the conditions under which service may be expanded or abandoned, as well as the validity of proposed mergers and unifications of transportation enterprises. The vaguely defined but clearly implied three-fold purpose is:

(1) To prevent overexpansion of the total transportation plant, thereby avoiding instability and competitive waste;

(2) To allot to each form of transportation the type of work for which it is best fitted, thereby preserving the "inherent advantage" of the new as well as the older media.

(3) Where justified by considerations of operating economy, to permit integration and coordination of the several forms of transportation.

We have found, however, that faulty organization and policy work against the achievement of these objectives. Division of regulatory authority and responsibility between several independent regulatory commissions aggravated by a policy of selective subsidization creates the major problem.

Government effort to promote the sound development of commercial aviation by specialized regulatory treatment and financial subsidies has, in reality, led to overexpansion and financial instability of that industry. Specialized regulatory programs and administrative organization have been provided for air transportation. The underlying contention was that sound economic development of aviation could be achieved most speedily by a sympathetic attitude on the part of government administrators; by undivided attention to the technical problems of aviation; and by direct financial assistance to compensate for immaturity. Thus it was assumed that the Civil Aeronautics Authority would be able to develop an economically sound route pattern, thereby avoiding the wasteful duplication of facilities and financial instability that had characterized the evolution of other transportation agencies, particularly the railroads. And it was further assumed that direct operating subsidies in the form of air mail payments would provide financial stability and assist the industry in finding its proper place in the transportation world.

We find, however, that a full decade of fostering and special care on the part of the federal government has not produced the results anticipated. In reality, air transportation has in a remarkably short period exhibited the familiar attributes of unplanned competitive development; physical overexpansion; miscalculation of the available market for its service; wide variation in the earning power of individual companies; and general financial instability (Vol. II, Chapter VII). The primary explanation for this miscarriage of benevolent government intent is found in a gross miscalculation by industry and government of the air transportation market.

And it is equally clear that the presence of a subsidy backstop has contributed to the formulation of these erroneous business and regulatory judgments. For these subsidies have tended to weaken the disciplines ordinarily imposed on managerial efficiency by threat of bankruptcy. The result has been an inclination on the part of industry and government agencies alike to expand the air route pattern far beyond the dictates of prudent business management. Overexpansion produces financial instability in the aided industry followed by demands for further financial assistance to "bail out" the distressed carriers. In the meantime, the goal of achieving fair and workable competition recedes further into the future.

Division of regulatory authority also makes it more difficult to achieve the goal of transportation economy through appropriate integration.

The federal government is now committed to a general policy of permitting one carrier to acquire control of another, to use the facilities of another type of transportation in its own business, when it can be affirmatively shown that such integration will contribute to operating economy. However, as in the case of rate and certificate control, administrative jurisdiction over this phase of the regulatory program is divided between the Interstate Commerce Commission and the Civil Aeronautics Board. And, although operating under comparable statutory provisions, these regulatory agencies have made fundamentally different interpretations of their authority and responsibility with respect to the integration of unlike carriers. The Interstate Commerce Commission, for example, has felt obligated to approve unifications that offer reasonable prospects of improved transportation services. Thus railroads have been given considerable freedom to substitute highway for rail operations within the areas

already served by a particular railroad.

The Civil Aeronautics Board, on the other hand, has for all practical purposes used its administrative discretion to exclude surface carriers from any participation in air transportation. This policy is reflected in the unsuccessful efforts of both rail and ocean shipping enterprises to utilize aviation as a modern supplement to established services.

Such an outcome should occasion no surprise. For, when one agency is given ex parte responsibility for the promotion of an individual form of transportation there is a natural tendency to resist physical or service coordination with competing agencies (Vol. II, Chapter X). It stems from the specious assumption that air transportation must be dealt with in a regulatory vacuum because of the technical intricacies of the method of transportation itself. The technical differences among transport agencies must, of course, be taken into account in the provision of facilities and the engineering of their use. Such similarities of the several transport agencies with respect to their functions of transporting persons and goods must be recognized if the regulatory objective of interagency competition and nondiscriminatory treatment is to be achieved.

Arguments in favor of segregating air transportation from the regulation of other forms were more persuasive when the new transport medium had no significant place in the transportation system. But continued separation in this stage of the growth of air transport serves no useful purpose. On the contrary, it places innumerable difficulties in the way of assuring the shipping and traveling public of the most effective use of the transportation system as a whole.

We have therefore concluded that the national government cannot

confidently rely on workable competition as the keystone of its transportation program without drastic revision of both policy and procedure.

Three specific revisions are required:

(1) Explicit and consistent economic standards must govern the future legislative programming of public expenditures for basic transportation facilities. And each expenditure proposal must be evaluated by reference to total transportation needs.

(2) The major costs of providing and maintaining public facilities must be assessed directly against the transportation agencies which demand and use them rather than against the general taxpayer.

(3) The regulation of all major competitive transport agencies must be administered under uniform standards of public need, rate competition, and obligation to serve the public without preference or discrimination. Experience has demonstrated that to achieve this objective regulatory authority must be centered in a single agency.

There is no other way to assure in the long run the economic allocation of traffic in view of the fact that it has been found desirable and necessary for government to provide some type of basic facilities. And by the same token workable competition cannot be maintained between privately financed transportation enterprises and those media which are enabled to use publicly financed physical plants, unless the test of relative cost and efficiency is permitted to govern the allocation of traffic. To this end, not only must the rates of competing agencies be required to reflect total economic costs of performing transportation services, but each form of transportation must be given an equality of opportunity to serve the transportation market.

C. INTRUSION OF REGULATION INTO FUNCTIONS OF MANAGEMENT

Other defects in national transportation policy stem from the failure of the government to modernize its regulatory program. Regulatory controls which were asserted in order to make private monopoly amenable to the public interest have been carried over into an era characterized by universal and intensive transport competition. Some of these controls reach deeply into the functions of business management, creating divided responsibility and undesirable government interference. This problem arises primarily in connection with the type of rate regulation that controls the general level of railroad revenues.

In the exercise of its power to regulate rates, the Interstate Commerce Commission since 1920 has assumed some of the most important functions of private management. It has gone far beyond the restrictive aspects of rate making designed to prevent discrimination and destructive rate cutting. Thus, in deciding rate cases involving the general level of railroad rates, it has consistently reserved the right to formulate and act on its own judgment regarding the probable effect of particular rate adjustments on: (1) the general economy of the country, (2) the competitive position of the railroads, and (3) public relations of the railroads.

In the exercise of this type of regulatory authority the Commission is attempting to protect the railroads against the possible consequences of unsound managerial judgment. Thus in periods of depression, it has refused to allow rate increases on the theory that the railroads might price themselves out of the market and aggravate deflationary forces. In periods of business boom, the Commission has delayed increases on the theory that rapidly advancing transportation costs would contribute inflationary pressures. And, at other times, the regulatory body has felt that particular

rate increases would tend to divert traffic from the railroads to their competitors, thereby worsening the railroad financial position. Although the declared purpose of this authoritative control is to protect railroad revenues, the practical results have been unsatisfactory for the carriers.

The delays inherent in the regulatory procedure have been damaging to the railroad financial position. In its effort to maintain its well-deserved reputation for impartiality, the Commission has been punctilious in permitting anyone with a legitimate interest in a particular case to have a full and fair hearing before the Commission. This procedural policy has inevitably led the Commission into a legalistic, and at time ponderous, method of conducting its business. Although procedural improvement has been effected, the Commission has not yet succeeded in disposing of general rate cases with expedition. The inescapable fact is that a judicialized procedure, consisting of testimony by innumerable parties with a financial stake in the outcome, cross-examination, controversy among lawyers over the meaning of terms, exclusion of evidence on legalistic bases, and oral argument, is not only unwieldy but is a singularly ineffective way of arriving at sound business judgments (Vol. II, Chapter IX).

Because of these regulatory rigidities, resulting in a lag between increasing costs and revenue, the carriers as a whole have not benefited substantially from the general postwar prosperity. In fact, the current financial and operating position of the railroads stands in striking contrast to the prosperous condition of other industries. The carriers are now operating at approximately their practical freight capacity. Yet their operating ratios and net earnings are reminiscent of the period when general business stagnation and low traffic levels afforded ample explanation for unsatisfactory financial results.

This reversal of the historic relationship between railroad prosperity

and the general level of business activity creates a grave problem of public policy. For, if the carriers are not permitted to realize high earnings in the midst of general economic prosperity, their prospects for continued solvency are poor. The record indicates clearly that without high earnings at the peak of the business cycle to compensate for inevitable losses during depressions it will be impossible to maintain and improve the railroad plant at the rate necessary to meet intensive competition and to assure the standby capacity necessary for national security.

It seems clear, then, that in the interest of preserving a financially stable, efficient, and progressive railroad system, some way must be found to remove all unnecessary obstacles to the prompt adjustment between the operating costs incurred by the carriers and the level of rates paid by the public for the service.

A larger measure of discretion over general pricing policy should be restored to railroad management. Manifestly, if railroad management is to retain any of the essential functions of business control, it must be permitted to exercise its own judgment as to how far rates can be raised without driving traffic away, and what particular type of pricing policy and rate structure is best adapted to a strengthening of the railroad competitive position. This proposal does not contemplate any change in the Commission's present authority over minimum rate regulation, nor any dilution of the prohibitions against discrimination. The sole purpose is to remove from the Commission's extensive duties any obligation to protect the carriers against the consequences of alleged bad business judgment, or to share with the carriers the onus of raising transportation costs. Under a competitive organization of the transportation system, it is no longer necessary for public authority to assume the burden of such control. For, experience indicates

that regulatory agencies are inherently ill-adapted to the exercise of managerial functions and cannot be held directly responsible for decisions that prove financially injurious to the regulated industry.

The restoration of a better balance between government and private enterprise in the matter of general rate levels could be effected by two simple amendments to the rule of rate making contained in the Interstate Commerce Act. First, the Commission should be relieved of any authority or responsibility for considering the "effect of the rates on the movement of traffic" in disposing of general rate cases. Second, the amended rule should make it mandatory for the Commission to grant advances on the simple showing by the carriers that substantial increases in operating costs have been incurred. Subsequent hearings could then deal with the intricate question of rate relationships and any questions that might arise with respect to excessive earnings by individual carriers.

These amendments would leave the Commission with ample authority to protect the public against the exercise of any vestiges of monopoly power on the part of the railroads, and with adequate power to control the standards of competition by minimum rates regulation. The proposed amendments would thus produce only one major change. There would no longer be any occasion for the Commission to take prolonged testimony on general economic trends, inflationary forces, and the ability of particular industries to bear additional transportation costs. Final responsibility for gauging the effective demand for various classes of railroad service would thus be placed with private management where it belongs.

Restoration to private management of greater initiative in the matter of general rate policies would be facilitated by the elimination of major imperfections in the railroad corporate operating structure. For these

imperflections result in extreme variation in the earning power of individual railroads and constitute one of the few remaining arguments for continuing the Commission's present authority over the general level of rates. The fact is that the Commission is under constant pressure to hold the general level of railroad rates at a point which produces starvation earnings for many carriers because any higher level would produce unconscionable earnings for some railroads.

D. RAILROAD CONSOLIDATION AND THE ROLE OF THE NATIONAL GOVERNMENT

It is generally agreed that the operating pattern and corporate structure of the railroads must be recast along lines which will permit exploitation of modern technology in order to produce the lowest cost and most efficient transportation service. And it is also universally agreed that such rearrangement can be achieved only through systematic railroad consolidation. Such expediciencies as coordination and integration, if soundly directed, may produce some operating economies. But they do not go to the root of the weak and strong railroad problem. For, such arrangements leave intact an operating and corporate pattern that was developed before the railroads were faced with service competition throughout the entire range of their operations.

For more than a quarter of a century the federal government has attempted to deal with the problem of railroad consolidation by voluntary methods. The initiative for proposing the regrouping of railroads into more economic operating units has been left to railroad management and the final decision with respect to the validity of such proposals has been vested in the Interstate Commerce Commission. Until 1940 the Commission was required to consider individual unification proposals within the framework of the general plan of railroad consolidation. The Transportation Act of 1940, however, relieved the

Commission of any obligation to formulate and keep current a general plan of consolidation. Initiative for proposing consolidation was left with railroad management.

We have observed in Volume II, Chapter XI that contrary to what was contemplated by the Transportation Act of 1920 the voluntary system has not resulted in a systematic regrouping of the nation's railroads into a limited number of systems with reasonably balanced earning power. The major obstacle has been the reluctance on the part of the strong, favorably situated carriers, voluntarily to assume the financial liabilities of the weak roads. Such resistance undoubtedly could be overcome to some extent by outright abandonment of marginal facilities. But the powerful opposition of the affected communities, labor groups, and investors has placed obstacles in the way of this solution.

The record of the past quarter century indicates clearly that some form of compulsion will be necessary if systematic railroad consolidation is to be realized without interminable delay. This does not necessarily mean that the government must launch immediately a program of outright compulsory consolidation. A middle course, under which the power of government would be used only to bring dissenting minorities into line, offers sufficient prospect of success to justify a trial. Under such an arrangement initiative for proposing railroad unifications would be left with management; but approval of individual proposals would not be left contingent on unanimous acceptance by all the carriers involved. On the contrary, it could be provided by statute that any consolidation proposals carrying the assent of a prescribed percentage of the aggregate amount of securities outstanding for the carriers involved would be approved if the Commission found that the rearrangement would be in the public interest and would otherwise conform to the provisions of the statute. The

dissenting interests would then be required to exchange their securities for those of the new corporation on the terms provided by the consolidation plan and approved by the Commission.

The specific purpose of this proposal is to leave the leadership and the major work of consolidation with railroad management. In the knowledge that government authority stands ready to deal with minority interests that could otherwise block any voluntary proposals, the constructive elements in the railroad industry would have an incentive to initiate plans for modernization of the railroad structure.

It has been argued in the past that the national government has no power to effect such a proposal. However, at this juncture there appears to be little doubt that a properly drafted and administered statute would be upheld by the courts. ^{3/} Moreover, there are precedents for this type of combined compulsory and voluntary procedure. For example, a recent enactment provides for the "voluntary" reorganization of the railroad financial structures. ^{4/} However, a substantial element of compulsion is involved. For, if the Interstate Commerce Commission finds that a proposed modification of the financial structure of a carrier has been approved by the specified percentage of the holders of outstanding securities, it is directed to approve the proposed alteration on the terms and conditions deemed "just and reasonable."

Whether federal incorporation of the railroads would be the most effective device for effectuating carrier unification is a question that should be considered carefully in the drafting of a revised consolidation statute.

^{3/} For example, as early as 1933, Leslie Craven concluded from an intensive study of the subject that Congress has the constitutional power to compel consolidation of interstate commerce carriers by railroad. See report of Federal Coordinator of Transportation, Regulation of Railroads, S. Doc. 119, 73 Cong. 2 sess., Appendix III, p. 98.

^{4/} Public Law 478, 80 Cong. 2 sess.

Regardless of the administrative method selected, it is clear that the formulation of a general plan of consolidation is indispensable. The proper location of administrative responsibility for this function is discussed in the next chapter.

SUMMARY

It seems clear from the foregoing analysis of major defects in policy that government action in this field must be governed by a more coherent set of principles if we are to move in the direction of transport efficiency and technological progress.

(1) National transportation policy must be unified, made internally consistent, and directed toward a tangible and economically sound goal.

(2) Regulatory standards which control the inauguration, operating pattern and abandonment of transport enterprises must be made uniform and equally applicable to all forms of transportation. And the administration of these controls must be correlated with government programming and provision of physical facilities.

(3) If the potential contributions of the private enterprise system are to be realized, available traffic must be allocated among the competing forms of transportation in accordance with economic standards of price and service competition. This means at the minimum that all rates must reflect the true economic cost of performing transportation service. Where a portion of the transportation plant is supplied initially by government, workable competition can be maintained only if the cost of providing and maintaining such facilities are charged against the direct users rather than against the general taxpayer.

(4) Initiative and responsibility for basic managerial decisions must be restored to private enterprise, particularly with respect to general pricing

policy of the railroads.

(5) Authority and leadership of government must be used more effectively in dealing with the problem of railroad consolidation.

(6) Congress must formulate a clear and concise policy with respect to the transportation program required for national security.

CHAPTER II

REORGANIZATION OF FEDERAL TRANSPORTATION AGENCIESCenter for
Transportation

Enumeration of the defects in federal transportation policy makes it clear that basic policy revisions will be necessary if the goals of maximum achievement and economy are to be attained. Changes in policy, however, cannot be effected without the necessary organizational tools. Once the desired policy is determined, accompanying changes in government organization not only help to make the goal possible but tend also to promote the realization of policy objectives by creating an environment favorable to them.

A. PAST REORGANIZATIONS AND PROPOSALS

The existing organization of federal transportation functions indicates clearly that federal administration has not been guided by principle; and the historic instability of the federal transportation agencies suggests that the organizational solutions happened upon to date have been inadequate to cope with basic transportation problems. Agencies have been shifted and reshifted without any apparent consideration of the nature of their functions, and generally without regard for the facts of interagency relationships. And numerous special commissions and study groups have been appointed to study the transportation problem and to recommend revisions in transportation policy and administration.

To illustrate, the administration of air transportation policy was originally lodged in the Post Office Department, later in the Bureau of Air Commerce and the Interstate Commerce Commission, then in the independent Civil Aeronautics Authority, and at present in the Civil Aeronautics Administration of the Department of Commerce and the independent Civil Aeronautics

Board. During these changes in administration, the aviation safety function has shifted from the three-fold supervision of the Post Office, Bureau of Air Commerce, and Interstate Commerce Commission to the joint responsibility of the Civil Aeronautics Authority and an independent Air Safety Board; and now aviation safety matters are shared by the Civil Aeronautics Administration and the Civil Aeronautics Board.

This administrative evolution took place with considerable contention and disagreement on the part of interested agencies. In 1935, the President suggested that the ICC be given regulatory power over air transportation, and legislation was introduced to amend the Interstate Commerce Act to provide for this additional function. This bill did not come to a vote in that session of Congress, and the final outcome of congressional action was to unify aviation responsibilities in the Civil Aeronautics Authority. Dissatisfaction with this setup led, two years later, to the present CAA and CAB organizations.

Activities in the field of water transportation have undergone similar organizational changes. The U. S. Shipping Board operated independently until 1933, when it was abolished and its functions transferred to the Shipping Bureau and Merchant Fleet Corporation in the Department of Commerce. In 1936 the independent U. S. Maritime Commission took over these functions, with proviso for transfer of regulatory powers to the ICC ^{1/}; but in 1938 an amendment to the 1936 Act ^{2/} withdrew authorization for the transfer. Yet two years later the Transportation Act of 1940 transferred by statute

^{1/} Sec. 204 (b) of the Merchant Marine Act of 1936.

^{2/} 52 Stat. 964.

from the Maritime Commission to the ICC all regulatory controls over water transportation except ocean shipping and noncontiguous territory operations. Next, to meet war requirements, the War Shipping Administration was created by Executive Order in 1942, and, to aid in restoring peacetime conditions in the merchant marine, the Merchant Ship Sales Act was passed in 1946. The Inland Waterways Corporation was originally set up under the War Department but was later transferred to the Department of Commerce.

Agencies providing aids to navigation have also been shifted periodically. The Bureau of Lighthouses was transferred from the Department of Commerce to the Coast Guard in 1939. Marine Inspection and Navigation was first in the Treasury Department, then the Department of Commerce and Labor, and then the Coast Guard, at first temporarily (1942) and later permanently (1946). The Coast Guard itself is in the Treasury Department in peacetime and in the Navy during war.

The principal highway activities of the federal government were for many years carried on by the Bureau of Public Roads in the Department of Agriculture. Recently these functions were transferred to the Public Roads Administration in the Federal Works Agency. With the advent of war, a transportation division was at first established in the Advisory Commission for National Defense, and later the Office of Defense Transportation was established.

In spite of these shifts in the location of federal transportation agencies, neither a satisfactory placement of individual transport functions nor an organization capable of an over-all view of the problems of transportation as a whole has been achieved. This failure has led to the creation during the past 15 years of the following special commissions, committees, and

study groups for the purpose of finding solutions to transport problems: ^{3/}

1. Federal Coordinator of Transportation
2. The Committee of Three
3. The Committee of Six
4. Select Committee on Investigation of Executive Agencies of the Government
5. Board of Investigation and Research
6. National Resources Planning Board Study
7. President's Air Policy Commission
8. Congressional Aviation Policy Board
9. President's Advisory Committee on the Merchant Marine

This periodical and somewhat random search for a solution of the transportation problem produced much useful information and general agreement on one point: the need for a closer grouping of transportation functions. But otherwise, the various groups reached strikingly different conclusions with respect to the basic nature of the problem, as well as the appropriate means of correction. It is therefore not surprising that neither the legislative nor executive branch of government has discovered in these studies any logical basis for the rearrangement and improvement of government activities in the transportation field.

The most obvious explanation for the failure of these various study groups to produce constructive and consistent results is found in the narrowly restricted terms of reference under which they operated. Thus, the investigations conducted by five of the nine special groups centered on the then critical problem of a single form of transportation. In the thirties the

^{3/} For origin, purpose, and findings of each investigating group see Appendix C. In addition to the investigations carried on by these ad hoc agencies, committees of Congress have inquired into various phases of the transportation problem. For example, the House Committee on Interstate and Foreign Commerce instituted a general investigation of transportation policy in March 1946 (Special Subcommittee on Transportation of the Committee on Interstate and Foreign Commerce authorized by House Resolution 318). So far this committee has made no final recommendation with respect to the organizational phases of national transportation activities.

dominant concern was with the financial distress of the railroads, and more recently the financial and operating difficulties of the airlines and merchant marine have attracted official attention. Manifestly, investigating commissions instructed to seek solutions for the immediate and pressing problems of one segment of the transportation industry are precluded from a broad and long-range view of the transportation problem. For example, the recent President's Air Policy Commission expressed the belief that "sometime within the near future" the executive transportation functions of the government should be centered in a Department of Transportation. However, presumably because of its limited terms of reference, the recommendation for immediate action was to place the government's executive functions relating to civil aviation in a "Department of Civil Aviation" located within the Department of Commerce. No explanation was offered as to how this organizational arrangement would contribute to realization "sometime in the near future" of unified executive treatment of the transportation problem.

There is a second and highly significant reason why these study groups failed to produce any generally acceptable basis for administrative reorganization. Most of the recommendations ignored the controlling fact that transport regulation, whether punitive or benevolent, is not an effective administrative vehicle for long-range transportation programming. In the first place, the supply and character of transport facilities and the recent technological trends affecting cost and service have not been determined primarily by regulatory processes but by the public expenditures of billions of dollars for transport promotion. In the second place, the jurisdiction of federal regulatory agencies has of necessity been limited to only one segment of the transportation field, namely, the regulation of for-hire carriers in interstate commerce. The tremendous volumes of private transportation equipment and of

interstate and local for-hire transport services lie beyond the direct jurisdiction of federal regulation.

As matters now stand, the federal government in attempting to determine the volume and character of transportation services divides this responsibility between promotional and regulatory agencies in such a way that there is no possibility of effective programming. Thus, in the field of air transportation, an orderly development involves both physical facilities, such as air navigation aids and airports, and the determination of routes over which public carriers shall operate. At present the CAA plans the physical facilities but determination of the public carrier services to be provided is left to the jurisdiction of the CAB. Because of the inherent nature of regulatory functions, the actual route pattern determination in this field has been, as in the case of agencies under the ICC, a case-by-case approach rather than the result of a study of transportation needs.

In effect, planning of the route pattern under the regulatory agency becomes a negative function involving acceptance or rejection of individual applicants for route certificates. The absence of a planned route pattern for commercial aviation has been evident in the financial distress of the carriers; and the preoccupation of the CAB with day-to-day decisions on individual cases has removed any disposition toward devising broad plans to guide these decisions toward ultimate objectives. The President's Air Policy Commission reflected the inevitable dissatisfaction of depending on regulatory processes to achieve a satisfactory conception of long-range programming when it concluded that failure of the CAB in this area suggested the CAA as the more logical agency to determine an acceptable route pattern.

The problem has been seen to apply no less obviously in the operations of the ICC. Here again, the Commission has been so engrossed in individual

cases and in details of regulation that it has been unable and unwilling to take the leadership in formulating and carrying out a railroad consolidation plan. In fact it considered long-range programming a deterrent to sound railroad unification.

The Federal Coordinator concluded more than a decade ago that it was not possible for a regulatory agency to provide the type of initiative required to guide a desirable development of the transportation system:

Students of Government relations to transportation have often pointed out a defect in our system of regulation, and that is the absence of any sufficient provision for planning and prevention. Regulation is essentially a means of curing evils after they arise. It would be better, of course, if they could be prevented in advance. There is need for foresight--for consideration and comprehension of tendencies and trends and where they are leading, in order that those that are desirable may be encouraged and those that are undesirable discouraged.

Anyone who has served on the Commission knows that it is not well adapted to such work. Its functions are performed under quasi-judicial procedure. Its attention is occupied with specific cases which must be decided. It has little time for thought and research on broad lines. It is difficult for commissioners to confer with parties on controversial issues, without constant need of protecting their own position in the event that they are called upon to play the part of judges in actual litigation. Planning and prevention are not matters which can well be handled at off times or as side issues. They require single-minded, concentrated attention. ^{4/}

Despite these inherent characteristics of the regulatory commission, the Coordinator sought to achieve the necessary transportation research and planning by delegating the functions to a single commissioner. The more obvious solution of removing this responsibility from the regulatory sphere altogether, and lodging it in the executive branch where it belongs, was not suggested.

Both the so-called Committee of Three and Committee of Six recommended the establishment of some governmental agency, other than the ICC, to deal

^{4/} 74 Cong. 2 sess., H. Doc. 394, Fourth Report of the Federal Coordinator of Transportation on Transportation Legislation, (1936), p. 42.

with the problems of transport planning and promotion. The major reasons for the establishment of such an agency are summarized by the Legislative Committee of the ICC itself:

Summing up, the transportation situation has become so complex and is changing so rapidly that it demands, we believe, the continual attention of an agency of the Federal Government which is not preoccupied with the quasi-judicial routine of regulation. The reasons for this were fully stated in the report of the Committee of Three, and again in the last annual report of the Commission, and were at least partially recognized in the report of the Committee of Six. The need was also made clear in the report of the National Transportation Committee in 1933, and in the reports of the Federal Coordinator of Transportation. It is a need which is supplied in many countries by an executive department headed by a cabinet officer. The "rail-road problem," which is in reality the "transportation problem," admits of no speedy cure, but will respond only to a prolonged and steady course of treatment. 5/

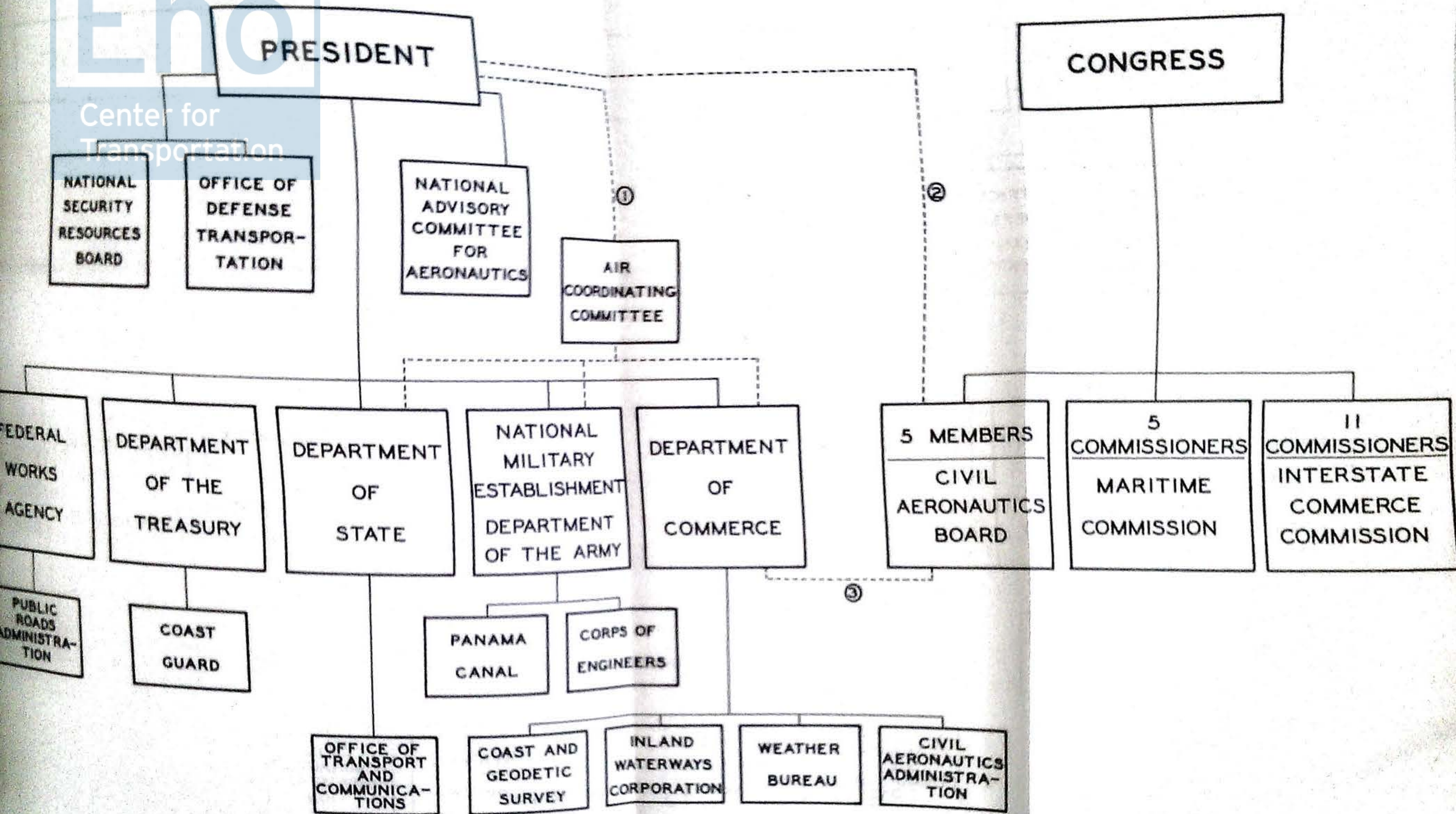
It is difficult to understand why this simple and straightforward solution of establishing an executive agency was never reached despite the findings which clearly pointed to this need. One reason, perhaps, has been the failure to distinguish clearly between economic regulation on the one hand and promotional and administrative activity on the other, and to confine the jurisdiction of both the promotional and regulatory agencies to their respective jurisdictions. As the Commission pointed out: "One of the weaknesses of the Transportation Board, proposed by the Committee of Six, is that it does not heed the distinction between the functions of planning and promotion and those of quasi-judicial regulation nor the objections to combining them." 6/

The analysis of this study has again indicated the necessity for recognizing the basic distinction between the administrative and programming

5/ 76 Cong. 1 sess., Omnibus Transportation Bill, Hearings before the House Committee on Interstate and Foreign Commerce on H.R. 2531 and 4862, Pt. 4, (1939) p. 1580.

6/ The same, p. 1581.

PRESENT ORGANIZATION—CIVILIAN TRANSPORTATION AGENCIES

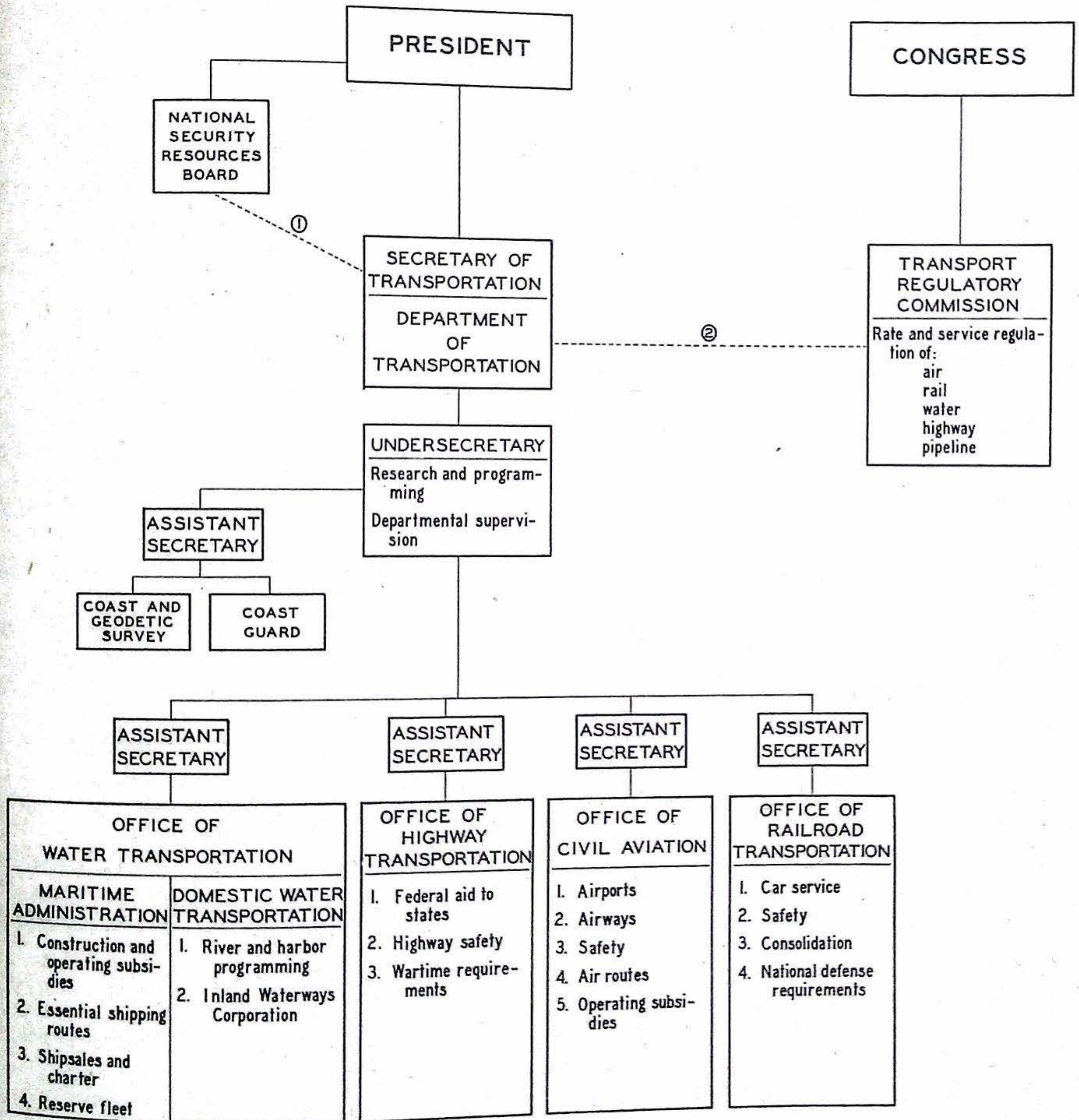


COORDINATION BY EXECUTIVE ORDER.
INTERNATIONAL AIR ROUTES.
FOR HOUSEKEEPING PURPOSES.

Eno

Center for
Transportation

PROPOSED ORGANIZATION— CIVILIAN TRANSPORTATION AGENCIES



① COORDINATION—NATIONAL SECURITY.

② DEPARTMENT REPRESENTATION BEFORE COMMISSION.

aspects of national transportation policy on the one hand and the regulation of the rates and standards of service of individual business firms on the other. We have therefore concluded (1) that all activities of the national government designed to assure the best physical plant and the most effective operation of the transportation system should be brought together in a single executive agency, and (2) that a clarified regulatory program centering in the maintenance of fair standards of rate and service competition and applicable to all major forms of transportation should be vested in a reconstituted regulatory tribunal.

B. A DEPARTMENT OF TRANSPORTATION

The consolidation of government expenditure programming and operating functions into a single executive agency has a four-fold purpose: (1) to facilitate the application of uniform standards of justification for the development of physical facilities serving the several forms of transportation; (2) to provide appropriate machinery for the strictly administrative, operating, and policing functions of government in this field; (3) to provide a continuing and authoritative source of information for the legislative and executive branches of government concerning the financial and operating position of the several transport agencies and the adequacy of the total transportation plant to meet the needs of commerce and national security; and (4) to supply a going organization capable of assuming immediate responsibility for administering a wartime transportation program.

In order to fix firmly in a single agency of government responsibility for effectuating these objectives of transportation policy, we recommend the creation of a Department of Transportation headed by a secretary with cabinet status. Selection of this organizational arrangement in preference

to the alternative of lodging the unified transportation functions in an existing department stems from the fact that a mere assembling of a group of related functions into a single agency for so-called "housekeeping" purposes will not assure realization of a given objective of public policy. On the contrary, efficient administration requires that the functions grouped for central supervision must be organically related, and have a reasonably well-defined bearing on the central purpose of the several programs involved.

Accordingly, we propose to place in the new Department only those responsibilities and functions that have an affirmative bearing on the maintenance of an adequate national transportation system.

The creation of a federal Department of Transportation will supply an extremely important condition for the carrying out of national transportation policy: an administrative setting where, in the words of the Federal Coordinator of Transportation, "single-minded and concentrated attention" can be given to over-all transportation programming and the relation of transportation problems to the total economy. To this end we propose lodging in the Department most of the duties and responsibilities now vested in executive transportation agencies, certain promotional and administrative functions currently exercised by regulatory agencies, and several new transportation responsibilities which should be assumed by the federal government.

1. Powers, Duties, and Internal Organization of the Transportation Department

We recommend that the following powers and duties be vested in the Secretary of Transportation, with authority and responsibility delegated to four assistant secretaries in charge of offices of water transportation, civil aviation, highway transportation, and railroad transportation. Additional duties relating to general supervision and interdepartmental relations would be delegated to an undersecretary.

a. Office of Water Transportation.

The Assistant Secretary in charge of this office would have immediate responsibility for the administering of all federal promotional, operating, and programming activities in the field of domestic and foreign water transportation. The office would be constituted and its major duties defined by the following transfer of functions from existing agencies. 7/

(1) Promotional, administrative, and subsidy responsibilities transferred from Maritime Commission.

This study has shown that the administrative and planning aspects of the Commission's work are predominant, and that the national defense significance of the shipping and shipbuilding industries requires close direction at cabinet level. It is concluded, therefore, from both the objectives and the character of the work performed, that the conduct of these operations should be placed under executive authority, which would be responsible for planning the routes to be operated by American flag vessels, determining the subsidy policies, and administering the program. Aside from these promotional and administrative duties, however, certain residual functions of a semi-judicial nature would have to be transferred to a regulatory agency, including the selection of carriers and control over rate conference agreements and discriminatory practices.

Under this arrangement, the Assistant Secretary for Water Transportation would therefore have under his immediate jurisdiction the promotional features of the present Maritime Commission, including programming and contracting, and the execution of the plans and contracts. In addition, he would be responsible

7/ Amendment of the various statutory authorizations under which existing bureaus and agencies now operate will be necessary in order that the Secretary of Transportation may have substantive authority over the constituent elements of his department.

for passing upon the need, justification, and financing methods for river and harbor improvements.

The fact that administration of the merchant marine policy was transferred from an executive department to an independent commission by the Merchant Marine Act of 1936 raises the question of why it is now proposed that major responsibilities be returned to an executive agency. The primary explanation is that the functions which we propose to vest in an executive agency are primarily promotional and managerial in nature and should not have been placed in a regulatory tribunal in the first instance. Presumably, the legislative decision to create an independent Maritime Commission was based on two assumptions: (1) that rate and service regulations for water transportation enterprises should be organizationally combined with promotional programs involving administration of construction and operating subsidies; and (2) that the independent commission form of organization was essential since stability, continuity of policy, and impartiality was indispensable to satisfactory regulation.

The first of these two assumptions was abandoned in 1940 with the legislative transfer of jurisdiction over coastal and intercoastal shipping from the Maritime Commission to the Interstate Commerce Commission. This left an "independent commission" in control of a promotional program that is inseparable from executive responsibilities affecting the national security and the conduct of foreign affairs. Manifestly, merchant marine policy designed primarily to maintain a fleet adequate for national emergencies must be adapted to and coordinated with the changing requirements of diplomacy and military plans. Similarly, there is a growing need for mutual adjustments between the policies governing international water and air transportation. Since these responsibilities are lodged in the executive branch of the

government, the removal of merchant marine supervision to a status of relative independence creates a damaging division of executive responsibility.

(2) Transfer of Inland Waterways Corporation from the Department of Commerce for liquidation.

The period of experimentation with the federal barge lines has been prolonged far beyond what was initially intended by the Congress. This subsidized experiment provides no basis for demonstrating the economic feasibility of barge operations, and even with the support of public capital it has been impossible to operate profitably or to maintain the Corporation's equipment in serviceable condition. These considerations, together with nullifying effects of subsidized water transportation on rate regulation, point to the need for abandonment of this project.

(3) Programming of waterway improvements transferred from Corps of Engineers, Department of the Army.

Programs for inland river improvement are formulated by the Corps of Engineers with no reference to general transportation problems. To carry out the national transportation policy, it will be necessary that policy formulation with respect to the planning of waterway improvements be made by the Department of Transportation. Because of the multiple operations of the Corps of Engineers in the field of water resource development, however, it is not suggested that the Corps itself be transferred to the Department of Transportation. In recent years there has been an upward trend in the emphasis placed on flood control, power development and other non-navigation features of the water resources program. Wherever the Corps of Engineers may be finally located in the government structure, however, it is obvious that all navigation projects and multiple-purpose projects having navigation features should be reviewed by the Transportation Department to determine the economic

desirability of such navigation proposals from the standpoint of transportation requirements.

The highly questionable economic justification of a large part of the federal government's river and harbor development program has been pointed out repeatedly in studies of public expenditures for transportation. The fact that several hundred million dollars are committed each year to inland waterway developments, many of which could not conceivably be justified from a transportation viewpoint, is one of the most serious indictments of federal transportation policy.

It appears that federal action must be directed to eliminating such waste of public funds, and to reducing to a minimum the disruptive effects of subsidized water competition. The federal government should insist that all future waterway projects recommended in the interests of transportation be evaluated in detail by the Transportation Department. Further elimination of wasteful expenditure must be accomplished through the imposition of tolls or requirements for state matching of federal funds. The exact nature of these measures must be studied and recommended by the Transportation Department.

b. Office of Civil Aviation.

This office would have immediate responsibility for all federal programs involving the promotion of civil aviation, both domestic and international: the programming, financing, and operation of physical facilities, route pattern development, and the promotion of aviation safety. The major functions, powers, and duties of the office would derive from transfers from existing agencies.

(1) Airway, airport planning, and aviation safety duties transferred from CAA.

The planning and provision of airways, the formulation of an airport

plan and the administration of the federal aid program for airport development, as well as certain research and educational activities, are obviously of a promotional character. Likewise, it has been concluded that aviation safety activities, including rule making, administration, and enforcement should be carried out by the executive agency.

(2) Safety activities and route pattern development transferred from CAB.

Safety responsibilities in the field of aviation are now divided between the CAA and the CAB. The conclusion has been reached that the promulgation of safety rules and standards and their administration and enforcement should be removed from the jurisdiction of a commission dealing with economic regulation and centered in an executive agency. ^{8/} Because of the highly technical nature of this function, an administrative and engineering agency is better adapted to carrying out this work than an economic regulatory body. The CAA is staffed with engineering and technical personnel, maintains an extensive field service, and is in day-to-day contact with the industry and its problems, and with the operations of the various aids to air navigation.

With respect to accident investigation, the CAA, which has been delegated by the CAB to perform all investigation work except that involving major airline accidents, should be given the full responsibility in this field. The importance of airline accidents has led to the conclusion that a three-member board should be attached to the Secretary's office to hold public hearings and determine the cause of all major air carrier accidents, and such other accidents as may be specified by the Secretary. The members of this hearing tribunal would be named by the Secretary to serve when the need arose.

^{8/} Volume II, Chapter II.

The air route pattern as developed by the CAB is characterized by a lack of considered planning and has resulted instead from case-by-case decisions with respect to individual certificate applications. The inherent inability of a regulatory body to take an active interest in research and planning has led to the conclusion that route planning, which is one of the most important promotional tools, should be lodged in the promotional rather than the regulatory agency.

Because of the financial difficulties which have resulted from ill-advised expansion of route patterns and airline competition, it will be necessary to correct the air route pattern as promptly as possible, and to furnish a plan to guide the future development of the air transportation system. The route plan should be finally approved by a coordinating staff attached to the Office of the Secretary. It would be in the nature of an advisory plan for the guidance of the regulatory agency. The Department of Transportation would appear before the regulatory body, however, to urge the granting of operating rights to conform within reasonable limits to the over-all plan of the Department.

(3) Air Mail Subsidies

The conclusion has been reached that the granting of operating subsidies for air transportation should be divorced from mail pay. It appears, however, that financial assistance for international aviation will be necessary for an extended period to maintain American flag lines in competition with subsidized foreign carriers. In any event, operating subsidies to the extent required should be divorced from the remuneration for transportation of mail. Appropriations for such subsidy payments would be made for that specific purpose to the Department of Transportation. They would be "out in the open" rather than buried in postal deficits.

One of the initial and important responsibilities of the Department of Transportation would be to formulate a tangible base for determining the need for aviation subsidies and the appropriate means of payments, and to present such a program for legislative consideration.

In connection with its general responsibilities, the Office of Civil Aviation should facilitate the transfer of certain activities from federal to state control. For example, it would appear wise for the federal government to retire from the development of small airports for private flying. Not only is the interest in these facilities primarily of local scope, but the need for developing a national system of airports serving interstate and international transportation is a problem of much more pressing federal interest.

In the field of aviation safety, the federal government is now moving in the direction of transferring certain enforcement and certification responsibilities to designated private organizations or individuals, or to state governments. Among the operating functions which should ultimately be shifted to nonfederal jurisdiction are the enforcement of safety regulations and accident investigation as they pertain to noncarrier aircraft. Ultimately it may be desirable also that the registration of noncarrier aircraft and the licensing of private pilots and other personnel should be a state responsibility, provided that uniform national standards are adopted. The potential magnitude of aviation field activities indicates that considerable advantage and net savings will accrue through a shift of responsibility to the states, where organizations and personnel are in many cases available to perform these additional functions.

c. The Office of Highway Transportation

The Assistant Secretary for Highway Transportation would be charged with responsibility for administrative and promotional work in connection with federal grants to the states for highway work; for research and planning functions and certain lesser federal roadbuilding operations; and for safety activities relating to interstate motor carriers.

(1) Federal aid highway activities transferred from Federal Works Agency, Public Roads Administration.

Highway responsibilities now carried out by the Public Roads Administration are of a promotional character and would be included in the Office of Highway Transportation. However, the recent extension of federal aid activity from a limited system of main highways to a 600,000-mile system of all classes of highways and streets raises important policy issues. The federal government has so dissipated its activities in this field that responsibility for assuring the provision of a system of highways of national significance may ultimately be defeated. In view of state and local roadbuilding capabilities, there appears to be no legitimate reason for federal usurpation of the major responsibilities. Moreover, because of the large-scale highway requirements to be met on a limited system of our principal highways having greatest importance from the standpoint of interstate commerce, it appears desirable to concentrate federal activity where the federal role is clearly justifiable.

(2) Motor carrier safety functions transferred from the ICC.

The ICC is now authorized to prescribe rules and regulations governing operating safety applicable to common, contract and private carriers engaged in interstate commerce. (See Vol. II, Appendix D) Aside from rule making, the Commission, through the field staff of its Bureau of Motor Carriers, works cooperatively with state enforcement agencies in the attempt to achieve

uniformity between federal and state safety standards and enforcement practices.

Commission activities in this field are highly technical in nature and can be administered effectively only through continuing cooperation with state agencies. The most extensive and tested machinery for this type of governmental coordination now exists in the Public Roads Administration. For, in carrying out the federal aid program, the PRA must deal continuously with the states and must necessarily make exhaustive studies of traffic conditions, physical and operating characteristics of all motor vehicles, and the relationship of these factors to proper highway design.

Safety regulations and enforcement techniques must be based on such studies, for they reveal the chief elements that condition highway safety. It would therefore appear that federal responsibility for highway safety should be integrated with administration of the federal aid program. This would provide not only a more adequate technical basis but more appropriate machinery for the prescription and enforcement of desirable standards. For by this means eligibility for federal highway funds could be limited to the states that assume responsibility for enforcement of the prescribed federal standards. The validity of such a stipulation is indicated by the fact that the bulk of all interstate commerce by motor vehicle transportation is carried by the federal aid highway system.

Moreover, the states have been required, from the outset of the federal aid program, to establish acceptable highway organizations and administrative procedures in order to qualify for federal aid. If highway safety is considered less important to the national interest than efficient administration, it would appear wise for the federal government to leave safety matters to the states.

(3) War requirements inventory

A further highway transportation function would be the maintenance of an inventory for emergency purposes of all motor vehicle equipment, its location, condition, and use, and the requirements of motor transport for tires, fuel, and repair parts.

d. Office of Railroad Transportation

Thus far we have considered the structure of the new Transportation Department primarily from the standpoint of transfers of existing agencies and transfers of certain functions from existing agencies. These transfers in themselves would not provide the structure of an over-all transportation agency necessary for carrying out national transportation policy. An additional requirement is the creation in the Department of an Office of Railroad Transportation which would be responsible for keeping Congress and the President informed regarding the adequacy of basic railroad facilities and equipment for the demands of normal commerce and national security. In this connection the Office would assess the impact on the rail carriers of general economic conditions and federal promotional activities in other fields of transportation; and it would recommend effective measures to assure that these impacts did not jeopardize the operating condition of the railroad system. This Office would also be charged with setting up the necessary machinery to assure efficient railroad transportation in time of war.

We also recommend that certain activities relating to railroad car service and safety be transferred from the Interstate Commerce Commission to the Department of Transportation.

(1) Formulation of a railroad consolidation plan.

As indicated in Vol. II, Chapter XI, efforts of the federal government to achieve effective railroad consolidation have failed. The Interstate

Commerce Commission has shown no disposition to attack forthrightly the consolidation problem which all investigations, including those of the ICC itself, have shown to be necessary. Since it is apparent that a regulatory commission is ill-equipped to carry out a planning responsibility of this nature, we recommend that responsibilities in this field be placed in the executive department. Specifically we propose that the Department be authorized and directed by statute to prepare within a specified period of time a general plan for railroad consolidation.

There are two compelling reasons why responsibility for the formulation of a general consolidation plan should not be vested again in the Interstate Commerce Commission. In the first place, that agency is antagonistic to such an approach. But of greater importance, the environment, procedural tempo, and philosophic conviction of the Commission offer an inhospitable administrative setting for effective performance of the function. One of the major purposes of systematic railroad consolidation is to adjust the corporate and operating structure of the carriers to the new competitive organization of the transportation system. It is therefore essential that the plan be formulated with the full knowledge of and provision for the impact of government promotional programs. Manifestly, there can be no permanent value to any plan for railroad consolidation that does not take full cognizance of the competitive implications of current and projected public expenditures that are designed to improve the range and quality of highway, air, and water services.

It is equally important that these promotional programs of the national government be tested by reference, among other standards, to their combined effect on railroad transportation. Attainment of both objectives would be facilitated by vesting in one executive agency of government full authority

and responsibility for these organically related lines of government action. Such an agency would have not only the power of initiating long-range improvement programs with respect to each major form of transportation, but it would have the corollary responsibility of guaranteeing that the net result would be an improvement in transportation service at lowest possible cost.

The technical complexities of the consolidation task are accentuated by the fact that, if the problem is to be solved at all, it must be attacked as a whole and disposed of within a relatively short fixed period. We therefore suggest that, pending completion of the consolidation plan (preferably not more than two years), a moratorium be placed on all forms of railroad unification. This would require temporary suspension of ICC powers to approve railroad consolidations, mergers, and acquisition of control ^{9/}. At the end of this period authority would be restored to the ICC to supervise the corporate and operating rearrangement of the railroads within the framework of the general consolidation plan. It will be recalled that we earlier proposed vesting the Commission with limited powers of compulsion in connection with individual consolidation proposals (Chapter I).

(2) Car service and safety functions transferred from ICC.

The railroad car service and safety activities now being carried on by the ICC divert the attention of the Commission from its primary responsibilities and add to its administrative burdens. We have discovered no persuasive reasons why functions of this type should be carried out under the "independent commission" form of organization. They are primarily technical

^{9/} Control over joint rates and through routes, abandonments, and the use of other transport media by railroads would not be affected.

in nature and involve routine inspection and enforcement activities. 10/
 And except for the discriminatory aspects of car supply these functions do not constitute integral parts of the regulatory program. On this point the following significant observations have been made by an official who has had extensive experience both as a commissioner and in an executive agency:

... for some years now I have served in the dual capacity of Interstate Commerce Commissioner and Director of the O.D.T. In the Commission I am a member of Division 3 and am the Commissioner in charge of the Bureau of Service. I have, with the consent of the Commission (a creature of the Congress, the Legislative branch of the Government), operated the Bureau of Service and with the consent of the Executive I have operated O.D.T., a part of the Executive branch of the Government, and have unified their activities. I fail to see any real distinction whatever in the character of their respective activities. 11/

In final analysis, the basic purpose of government control in this field is to assure an equitable allocation of railroad cars among regions and shippers under emergency conditions. But experience has demonstrated that the regulatory mechanism is inadequate to deal with the problem of railroad car supply and allocation in periods of critical and prolonged shortage. Thus during the past war this responsibility was delegated to the Office of Defense Transportation, a temporary executive agency. Transferring this function to a Department of Transportation would give continuing jurisdiction to the type of administrative organization required for effective discharge of this responsibility when the service is of critical importance.

Jurisdiction over railroad safety matters has been vested in the Commission through a long series of special enactments which have never been incorporated into the Interstate Commerce Act. 12/

10/ See Vol. II, Appendix D for description of ICC activities in this field.
11/ Statement of Col. J. M. Johnson, Director of Office of Defense Transportation on S. 1812 before Subcommittee of Senate Committee on Interstate and Foreign Commerce, Mar. 9, 1948, (mimeo.) p. 11.
12/ The Safety Appliance Act; Locomotive Inspection Act; Hours of Service Act; Signal Inspection Act; Ash Pan Act, etc. See Appendix D.

It is significant that over a long period of years the Commission has of necessity relied primarily on the carriers to initiate technical improvements in safety appliances and to police their uniform application. Any other approach would have required an extensive staff of technicians and a large field force for policing purposes. Supervision of such an organization would further divert the Commission from its complex and specialized duties of regulating rates and standards of competition.

It is primarily for this reason that we recommend transfer of railroad safety responsibilities from the ICC to the Department of Transportation. For, as we have noted elsewhere, there is a pressing need for expediting Commission action, particularly in the field of rate regulation (Vol. II, Chapter IX).

2. Office of the Secretary of Transportation

Success in achieving national transportation objectives will be determined in large part by the conduct of this transportation research and planning activity in the Office of the Secretary. It is the absence of such activity at the present time, and the absence of over-all direction stemming from it, which account in no small measure for the ill-advised and conflicting transportation activities now being sponsored by the federal government.

a. General research and programming.

The Secretary of Transportation would be responsible for advising the Congress as to the following: (a) the physical needs of the transportation system, including all forms of transport; (b) the priority of these needs; and (c) the costs and desirable methods of defraying such costs. To provide such advice would necessitate continuing studies of traffic trends; desirable

route patterns for rail, air, and water carriers; the financial condition of the carriers; possible further areas where federal action is needed, or areas in which federal activity might be reduced or eliminated.

The Department of Transportation here proposed would comprise some 35,000 persons at current levels of employment. Under present policies it would be responsible for the expenditure of at least a billion and a quarter dollars annually. The size of the Department and the magnitude of its responsibilities point to the importance of a top level research and programming staff. These and other transportation research, planning, and programming activities carried on by a staff reporting to the Under-secretary would furnish a basis for formulating and activating national transportation policy. Among the functions of this staff would be the following:

- (a) Examination of all promotional programs in the light of the peacetime objective of achieving the most effective transportation system at the lowest cost, with due consideration for the development and promotion of desirable technological changes.
- (b) The determination of civilian transportation requirements and capacities for presentation to the National Security Resources Board for coordination with the military, in order to assure specific estimates of national security requirements where these call for facilities in excess of normal peacetime needs.
- (c) The development of operating plans and techniques to permit immediate effective operation of the transportation system in time of war.
- (d) The determination of the feasibility of various programs for financing of transportation facilities through user charges, including the development of plans for federal airways charges and a system of waterway

tolls.

(e) The conduct of studies on such problems as the feasibility of government ownership of railroad rights of way as a compromise measure in the event that the coexistence of privately owned rail facilities and publicly provided air, highway, and water facilities proves infeasible.

(f) The investigation of possible consolidation of field operations and physical research activities. The federal government maintains separate engineering staffs for this work in connection with its highway and airport operations, yet many similar problems are encountered with respect to materials, design, construction methods, soil investigations, and the like.^{13/} Laboratory research dealing with these physical problems, as well as engineering assistance or inspection in the field, might also be consolidated to advantage. Right of way problems, including land acquisition, zoning, and related problems also might be more effectively handled by one staff.

b. Service Agencies

Consideration should also be given to transferring to the Department two existing agencies that supply general service and policing functions for transportation.

(1) Coast Guard.

The principal functions of the Coast Guard relate to the provision of aids to navigation and the promotion of safety. It is believed that the present location of the Coast Guard in the Treasury Department has no reasonable basis in the nature of the work the Coast Guard performs. If compelling

^{13/} The Public Roads Administration field staff now numbers 980, and the CAA airport field staff totals 575.

reasons are not presented for retaining this organization in the Treasury Department, its transfer to a Department of Transportation appears to be the logical alternative.

(2) Coast and Geodetic Survey.

The major part of the work of this organization relates to the provision of aids to navigation for water and air transportation although certain other functions of a general application are also included in its program.

If these organizations are transferred to the Department, it would appear desirable to preserve them as individual operating units, reporting to an assistant secretary in charge of service functions.

3. Summary of Departmental Organization

In accordance with the foregoing organizational changes, the Department of Transportation would include all of the transportation activities of the federal government with the exception of rate regulation, the issuance of operating certificates, and carrier unifications. These functions, it will later be noted, require relative freedom from political influence; stability of policy; and the benefit of judicial procedures made possible under the independent commission form of organization. Specifically, the Department would include:

(a) The existing functions of the Public Roads Administration, Civil Aeronautics Administration, Coast and Geodetic Survey, Coast Guard, the Maritime Commission (except minor regulatory functions), the Corps of Engineers (policy determination only, in connection with navigation projects), and the Inland Waterways Corporation.

(b) In addition, certain functions now being carried out by regulatory agencies: Civil Aeronautics Board responsibilities for aviation safety, route pattern determination, awarding of operating subsidies; Interstate

Commerce Commission responsibilities for motor carrier safety, railroad safety, car service operations.

(c) Certain new functions, including Railroad Consolidation Plan, Inventory of War Requirements.

C. A TRANSPORT REGULATORY COMMISSION

It has been noted that there is a need for rearrangement of regulatory organization and procedure as well as revision of basic policy. With respect to organizational problems, we have emphasized two major defects:

(1) The intermingling of promotional, business management, and highly technical administrative functions with the vitally important regulatory responsibilities of the so-called independent commissions has created serious problems, both for the commissions and the executive branch of government.

The independent commission was conceived, is constituted, and has operated as a deliberative body. The prime objective is to achieve impartiality in the settlement of controversies, stability and continuity of policy, and decisions based on a factual record. An agency organized and institutionally adjusted for this type of performance is ill-adapted to the discharge of promotional responsibilities or the exercise of administrative management functions that require aggressive, flexible, and expeditious action. Experience has demonstrated that the location of such functions in a commission form of organization results either in the indifferent performance of the management and promotional activities or in diverting the attention of the commission from its major regulatory duties.

Moreover, in important instances the delegation of promotional and management responsibilities to commissions has removed from the chief executive some of the powers and administrative tools that are required to carry out the constitutional responsibilities of the executive branch of

government. For example, one of the major objectives of merchant marine policy is to maintain in being a fleet adequate for the requirements of national security. The instrumentalities provided for this purpose consist chiefly in the administration of construction and operating subsidies and in the supervision of the reserve fleet--all predominantly technical, administrative, and management activities. Yet, the major powers and duties involved in carrying out this program are vested in an independent commission, deliberately removed as far as possible from the control of the executive branch where responsibility rests for the management of the military establishment and the conduct of foreign affairs. The creation of a Department of Transportation and the transfer from the various commissions to that department of the functions outlined above would restore essential controls to the executive department and at the same time leave the regulatory process free of functional and operating encumbrances.

(2) Without further change in the present regulatory organization, however, there would remain an undesirable administrative diffusion of the regulatory program. For, the Maritime Commission would be left with a residual control over ocean shipping to noncontiguous territories, reparations, and supervision of rate conference agreements. The Civil Aeronautics Board would be left with control over the rates and operating rights of the airlines. And the Interstate Commerce Commission would retain control over rail, highway, domestic water, and pipeline agencies. We have discovered no organizational or technical obstacles to the consolidation into a single Transport Regulatory Commission of the basic economic controls over the rates and competitive standards of transport enterprises. On the contrary, we have found that such administrative consolidation is necessary in order to achieve the declared regulatory objectives of impartial treatment of all forms of

transportation, nondiscriminatory rates, workable competition, and the integration of the several forms of transportation into an efficient, economical, and progressive national system.

For these reasons, we recommend the creation of a national Transport Regulatory Commission to administer a revised program of public regulation applicable to all forms of transportation. The keystone of this regulatory system would be the regulation of competitive rates, operating rights, and structural organization of individual firms. The end purpose of such regulation would be to prescribe the standards of rate and service competition that would assure the economic allocation of traffic among the several forms of transportation and to guarantee impartiality in the granting and denial of operating privileges to individual firms. The Commission would, of course, retain the accounting, reporting, cost finding, and other ancillary functions essential to the effective discharge of its major regulatory duties.

The rearrangements proposed here would be accomplished in the main through the following amendments to current regulatory statutes:

(1) Consolidate with Part III of the Interstate Commerce Act the controls now exercised by the Maritime Commission over shipping to noncontiguous territories, reparations, supervision of rate conferences, and the selection of individual firms to be made eligible for subsidized operation over the foreign shipping routes declared essential by the Department of Transportation.

(2) Add a new Part V to the Interstate Commerce Act, incorporating the present provisions of the Civil Aeronautics Act dealing with rates, operating rights, consolidation, security issues, reports and investigations, but deleting from the latter the present Declaration of Policy and the provision for using air mail payments as a subsidy device.

(3) Amend the rule of rate making along the lines suggested in Chapter I.

(4) Provide statutory recognition of the right and duty of the Secretary of Transportation to appear before the Commission to present the views of the executive branch of the government with respect to the rates, service, and operating adjustments required to maintain the transportation system in a condition adequate to serve the needs of commerce and the national security.

The present declaration of regulatory policy added to the Interstate Commerce Act by the Transportation Act of 1940 would require no substantial alteration. And, it would appear wise to vest in the Transport Regulatory Commission broad discretion with respect to its internal organization and operating procedure. 14/

In the past, considerable controversy has arisen with respect to the place of the so-called "independent commission" in the general structure of government. Suggestions have been made for the consolidation of all transportation functions into a single executive department; however, with the strictly regulatory activities retained in a so-called independent board or commission. Such an agency would be included within the Department only for "housekeeping" purposes, bearing the same general relationship to the Department that now exists between the Civil Aeronautics Board and the Department of Commerce. We have been unable to find any persuasive reasons for or advantage in this particular type of arrangement. The economies expected

14/ We have not dealt with the question of the appropriate size of the agency in terms of the number of commissioners required for effective operation since this subject is dealt with in a study of "The Independent Regulatory Commissions."

from unified administrative supervision have not materialized, and the need for retaining the independence of action of the regulatory body has never been seriously questioned. We have therefore concluded that the Transport Regulatory Commission should be constituted on a bipartisan basis with the commissioners appointed by the President for overlapping terms and removable only for nonperformance of statutory duties.

If, as recommended here, the functions that are of a strictly executive and managerial nature are restored to the executive branch of government and provision is made for executive representation before the regulatory commission, there would appear to be no justification for further direct control of the executive branch over the regulatory phases of national transportation policy. For, it is apparent that the regulation of rates and the selection of carriers entitled to operate for-hire transportation services are aspects of federal transportation activity which require a high degree of impartiality and the provision of all possible safeguards against the pressures of private interests or the influence of interference of political considerations. Determination of these matters, involving the distribution of privileges and the financial position of private business, requires extended hearings and reasonable continuity of policy in the decisions rendered. The independent commission form of organization provides the best opportunity for maintaining these administrative standards.

We have observed in this study that public regulation of transport enterprises has been rooted from the outset in the ethical and moral concepts of fairness, justness, and reasonableness. The legislature has not succeeded in reducing these general values to quantitative formulae, or even to very tangible standards of measurement. Although the statutory prohibitions against discrimination in matters of rates and service have been refined

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somewhat over the years, the determination of what particular rate, or rate relationship, or competitive practice constitutes actual discrimination remains largely a matter of administrative interpretation.

Nor do the regulatory statutes provide tangible standards to guide the Commission in deciding when the public needs a new or different kind of service, or which individual among a number of applicants should be granted the privilege of supplying that service. Thus the regulatory agencies are ordinarily authorized to grant or deny operating rights in accordance with their interpretation of "the public necessity and convenience."

Under these circumstances, it has been generally agreed that equity as among individual applicants and a desirable degree of continuity and stability in the control of rates and rate relationships can best be achieved through the deliberations of a continuing, full time, and expertly staffed agency removed from the immediate control of Congress or the President.

It is particularly important that reasonable stability and continuity of competitive rate relationships be preserved. Radical and frequent alteration in the nation's transportation rate structure would throw the industrial and commercial processes of the country into chaos. In an economy organized around national markets, highly competitive in character, the location of industry and channels of trade would be subject to paralyzing uncertainties and dislocations by preferential rate making or by the threat of a volatile rate structure.

The established method of transport regulation administered by an independent commission is specifically designed to avoid the rapid and unpredictable alterations of policy and procedure. Commission form of control does not preclude orderly adjustment where investigation and study indicate the need for change, but the process is time-consuming, complex, and at times

ponderous. Experience indicates, however, that the wastes inherent in this regulatory process can more readily be supported by the economic system than could the uncertainty and disruption that would be possible and likely under either direct legislative regulation or under executive management.

CHAPTER III

THE SPECIAL PROBLEMS OF NATIONAL SECURITY

The desirability of a federal Department of Transportation is obvious if the peacetime goal of developing high quality service at minimum cost is to be achieved. In terms of national security, however, the services of such an agency are so urgently needed that its prompt establishment is considered a necessity. Attention is directed in some detail, therefore, to the nature of the transportation problem in wartime and the steps which must be taken to prepare for, or to cope with, such conditions in the future.

A. FEDERAL ACTION AND WORLD WAR II

The importance of transportation in wartime was clearly demonstrated during the recent world conflict. The high level of war production and the magnitude of military shipments and troop movements established new records for both passenger and freight transportation. Specifically, the volume of freight moved by public carriers totaled over one trillion ton-miles annually in each of the years 1943, 1944, and 1945, which was double the volume of service provided in 1939. This tremendous increase in freight movement was accomplished primarily by the railroads, which carried approximately 70 per cent of the wartime load.

The increase in total passenger traffic was relatively small due to wartime restrictions on private automobile operation; yet the impact on public transportation facilities, which were called upon to compensate for the reduction in automobile travel, was tremendous. In 1939 the railroads had accounted for 24 billion passenger-miles of travel. In 1933 they carried 98 billions, or four times the prewar load. The number of passengers carried by urban transit vehicles increased from less than 13 billions in 1939 to

23 billions in 1944.

INTERCITY FREIGHT CARRIED BY VARIOUS
TRANSPORT AGENCIES 1939 and 1944 a/
(In billions of ton-miles)

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	1939	1944	Per Cent Increase
Railroads	336	747	122.3
For-hire motor carriers	43	49	4.0
Inland waterways	96	150	56.3
Pipelines	65	132	103.1

a/ Annual Reports of the Interstate Commerce Commission

While these figures of expanded wartime operations are particularly impressive, they do not alter the fact that each transportation medium played a vital role in the total transportation operation. The private automobile, despite sharp reductions in its use, continued to be a major factor in war worker transportation. The airlines, while accounting for only a small percentage of total traffic, were able to supply almost overnight the equipment and personnel which initiated our far-flung military air transport services. Private trucks, intercity buses, pipelines, and water transport facilities all contributed to meeting the unprecedented transportation requirements.

Finally, in overseas service our vastly expanded merchant marine was able to meet the almost insatiable demands for supplies throughout the world. American shipping transported 7 million troops overseas, and kept them supplied; and it delivered a tremendous volume of material aid to our allies. At the end of the war our fleet was more than five times the prewar tonnage. The ability of the transportation system and its supporting industries to meet the requirements of the last war cannot be attributed to foresight

and planning on the part of the federal government. It is true that federal transportation objectives, as stated in the various statutes establishing transportation policy, have always given prominence to the needs of the national defense. The Transportation Act of 1940 declares the ultimate objective of federal action to be one of "developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense." The Civil Aeronautics Act of 1938 likewise states as its purpose "the encouragement and development of an air-transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense." And in the Merchant Marine Act of 1936 it is stated to be "necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine."

Implementation of these and similar expressions of concern over national security is seldom to be found in the actual conduct of federal transportation activity. War Department specifications have had a bearing on the design and development of the federal aid highway system, and a strategic network of highways of primary interest to the military has been designated. In the case of the merchant marine, the Maritime Commission is directed in the planning and development of the fleet to "cooperate closely" with the Navy Department as to national defense needs and the adaptation of vessels to military purposes.

The interest in national security expressed by federal transport legislation, however, has never developed to the point of establishing peacetime administrative machinery which would insure the effective operation of

transportation facilities in an emergency. Thus it was ten days after Pearl Harbor that an Executive Order was issued establishing an Office of Defense Transportation to "coordinate the transportation policies and activities of the several Federal agencies and private transportation groups in effecting such adjustments in the domestic transportation of the Nation ...as the successful prosecution of the war may require." 1/

When war broke out and the demands of the transportation system proved far greater than previous peacetime requirements, we found ourselves only partially prepared. The merchant fleet was far below requirements; there was an acute shortage of the rubber on which highway transportation is dependent; no adequate facilities were available for the movement of petroleum; and there was no organization within the government which could assume responsibility for the maintenance of essential transportation services. We were able to organize a transportation agency, build up our merchant marine and air transport facilities, establish a network of pipelines, and create a synthetic rubber industry principally because we had time and freedom from the disruptions of enemy attack. In addition we had an important advantage in that the limited facilities available were in adequate condition. The railroads had experienced some step-up in capital investments after the mid-thirties, and had drafted plans to promote the expeditious movement of rail traffic in the event of war. Highway construction during the thirties had resulted in extensive new facilities, and the high level of automotive production achieved during the immediate prewar years had provided the nation with a large-scale renewal of automotive equipment. Looking back at the

1/ Executive Order 8989, Dec. 18, 1941. This order is described in greater detail in Appendix B, Volume II.

transportation situation as of 1941, then, it is apparent that we were, by reason of a series of good fortunes, better prepared to wage a prolonged war at that time than we would have been, for example, in the mid-thirties. The questions which the foregoing considerations raise with respect to the wartime adequacy of transportation in the future are: (a) whether, under existing federal promotional policies, we can expect to have in readiness adequate transportation facilities for war requirements if or when another war should develop; and (b) whether, in the event of war, we are organized at the federal level to assure immediate and continuing effective operation of available transport facilities.

B. CIVIL AVIATION AND WAR REQUIREMENTS

It was pointed out in Part I that on economic grounds the best long-run interests of the air transportation industry would be served by establishing the principle of self-support and moving as quickly as possible toward this goal by eliminating direct operating subsidies and by requiring users to contribute their share of the cost of airways and airports. This approach would have the advantages of providing a useful guide to the programming of public expenditures and of assuring adequate funds for air transport facilities on a continuing basis. In addition, self-support through user charges would furnish criteria for determining the rightful place of air transport in the transportation system because traffic moving by air (as well as by other methods) would be attracted on the basis of relative economy as well as service.

It is apparent, however, that the attainment of these objectives may be in conflict with national defense requirements where these requirements call for expenditures in excess of the amounts needed for civilian

transportation. To the extent that economic objectives interpose obstacles to the achievement of defense objectives, the case is clear for modification of economic standards. The question to be answered, then, is the extent to which national security requires the development of civil aviation over and above the rate which would be achieved through normal economic processes.

Recent War Experience

The national defense significance of civilian air transport in World War II is clear from the record. Within six months after Pearl Harbor, the domestic airlines had sold or leased to the government 193 of the 359 planes in airline operations, and the Army and Navy were making use of some 1,200 airline pilots. These aircraft and personnel operated on contract for the Air Transport Command and the Naval Air Transport Service. In addition, the airlines under direct contract with the military forces provided extensive passenger and freight movement in domestic service. The airline fleet continued to constitute a substantial percentage of military aircraft engaged in strictly transport operations, for although the AAF had more than 10,000 transports in operation by 1944 a large proportion of this fleet was engaged in troop carrier and other tactical operations rather than transport. During 1943 a total of 934 million passenger-miles of service was provided by airline aircraft, while the total service which the ATC performed with its own equipment and personnel amounted to 883 million passenger-miles. In 1944 the airlines in military operations provided 1.4 billion passenger-miles of service compared to 2.4 billions by ATC. ^{2/}

A number of other military responsibilities were assumed by the airlines.

^{2/} Aviation Facts and Figures, Aircraft Industries Association, (1945)p. 62. Passenger-mile figures are for ATC only and are not available for NATS. Some indication of the relative amounts of service performed by ATC and NATS is provided by the fact that during 1944, NATS loaded approximately 40 per cent as many passengers as ATC.

One of these was the instruction of Army and Navy pilots who had completed basic training but who needed additional experience in operating multiple-engined aircraft and navigating ocean routes. Airline schools also trained mechanics, radio operators, navigators, meteorologists, and other specialists. In addition, during the period 1942 through 1944 a total of nearly 50,000 aircraft were adapted to combat requirements through modifications effected at airline ground facilities.

The Current Situation

There are two principal questions which must be answered with respect to the relation between military and civil air transport today. First, to what extent might the military depend on the civil airlines in case of another war? Second, what would be the implications of such dependence in terms of the civilian transportation system?

In 1948 the Military Air Transport Service started operations with a fleet of approximately 275 transport aircraft. The ultimate purpose of MATS is to provide, in time of war, a personnel and cargo lift to the rear areas of the war theaters. (The Marine Transport Command and the Troop Carrier Command supply service into areas of combat.) The small fleet of transports in active military service today compares with approximately 979 commercial planes in certificated airline service, and 1,170 multiple-engine aircraft in non-scheduled operations. ^{3/} Although the active military fleet is relatively small, a reserve of transport aircraft is available for emergency requirements. The enlarged fleet might be manned by reserve pilots, and sufficient

^{3/} During the fiscal year 1948, the military services carried about the same amount of freight as all United States certificated carriers combined (18 million ton-miles per month) and about one eighth as much passenger traffic. (Survival in the Air Age, p. 36)

World War II pilots would also be available as instructors, at least over the next ten or fifteen years, to relieve the airlines of this responsibility. ^{4/}

As pointed out by the President's Air Policy Commission, however, the Military Air Transport Service could not handle all the traffic which would have to be moved in event of war. "They plan to take over, as they did in World War II, as much of the civilian lines, domestic and international, as circumstances permit." ^{5/} And it should be added that even a combination of presently available military equipment and requisitioned commercial aircraft would undoubtedly be inadequate at the present time to handle total air lift demand in an emergency. The conclusion of the Policy Commission was, therefore, that "direct Government financial aid to commercial air lines is fully justified on grounds of national security and economic welfare." ^{6/}

In the field of domestic transportation, this approach raises significant questions. If the military is to take over a major part of airline equipment in time of war, consideration must be given to the effect of such a transfer upon the movement of essential civilian traffic, and the alternative means of transportation which would be available to meet the transportation needs of the civilian economy. In 1941 airline equipment, personnel, and ground facilities were readily transferred to military operations without disrupting civilian transportation, partly because the airlines were carrying a very small proportion of total domestic traffic volume and therefore any

^{4/} According to the report of the President's Air Policy Commission: "The 15-year availability of World War II pilots for instructor, patrol, and transport duties ensures personnel for these three important emergency functions which were largely performed by private pilots in the early years of World War II." (Survival in the Air Age, p. 124)

^{5/} The same, p. 37.

^{6/} The same, p. 102.

shift of traffic from the air was accommodated by the railroads. The 1.4 billion passenger-miles of travel by airline in 1941 was less than one half of one per cent of total passenger-miles of travel performed by all transport agencies. Cargo moving by airplane amounted to less than 1/100 of one per cent of total domestic freight movement. To the extent that it was necessary to handle airline passengers by other modes of transportation, therefore, there was little dislocation. Furthermore, despite the fact that the civil airline fleet was cut in half, it was nevertheless able to increase its total throughout the war by stepping up schedules, eliminating competitive runs, and maintaining high load factors. 7/

In planning for the future, both the desirability and the possibility of contributing to military requirements to any important degree by requisitioning aircraft from the present domestic airline fleet is questionable. The proposal to subsidize an expanded air fleet to increase the availability of standby equipment raises additional questions. In either case the assumption is made that aircraft could be removed from civilian service without impairment of the transportation system or of the civilian economy which is geared to it. This assumption is strikingly similar to the attitude of some officials during the early part of the last war who contended that the automobile could be dispensed with in wartime; that workers "could walk or take the bus." It was soon evident, however, that our economy had become geared to private automobile transportation to an extent that would permit no substitutes; that even to accommodate the strictly essential uses of the automobile would have required an impossible multiplication of alternate

7/ The passenger load factor increased from 64 per cent in 1941 to 91 per cent in 1944.

transportation methods.

The expansion of air transportation now taking place, whether accelerated by defense subsidies or not, will mean a continuing shift of passenger and cargo transport from existing surface carriers and the creation of further dependence on this new form of transportation. Therefore, the problem arises as to how this traffic would be accommodated in wartime, when the military requisition airline equipment. Such a shift from civilian to military use could mean a paralyzing effect on the civilian transportation system, not only because of our increasing dependence on the new service, but because the possibility of shifting traffic back to surface transport will become more remote as time passes. This will be true in part because the airplane in many cases will be providing a service which cannot be furnished by any other means (as in the case of the automobile) and in part because even where substitutes are feasible it would be impossible to shift air traffic to them unless measures are taken to maintain standby equipment for such an emergency.

The problems arising when an established agency is withdrawn from the transportation system in time of war are demonstrated by the experience with petroleum transport in World War II. The coastwise tanker fleet, which was supplying the East Coast with 95 per cent of its petroleum requirements, was subject to immediate call by the Navy. The outbreak of war meant the diversion of a large part of the fleet to military service, and enemy action off the East Coast immobilized most of the remainder. To meet this crisis there were, fortunately, some 145,000 tank cars still held by the railroads, many of them being used for storage or rusting on sidings. Although there was doubt that this equipment could stand the strain of the intensive operations required of it, the fact that it proved equal to the task was a major factor in maintaining petroleum supplies, as attested by the traffic record.

From 1941 to 1943 the percentage of East Coast petroleum deliveries by tanker declined from 93 per cent of total deliveries to 13 per cent, while rail tank car deliveries increased from 2 per cent to 61 per cent. ^{8/} But this shift from tanker to tank car was made possible only because insufficient time had passed since the original loss of this traffic by the railroads to destroy the railroad capacity to perform this service.

It is true that a certain part of the domestic airline fleet might be made available through consolidation of schedules, the elimination of non-essential travel, and the achievement of improved load factors. But this opportunity assumes in part that substantial service duplication and excess capacity is maintained in peacetime, which, in turn, is in direct opposition to the current goal of strengthening the airlines through the achievement of higher load factors, consolidation of routes, and improvements in operating efficiency. The question is clearly whether we should confuse the requirements of a sound domestic air transportation system for national defense, and the further national defense objective of assuring an adequate military air transport service. It is apparent that the attempt to achieve both objectives with the same tools encounters serious difficulties.

The President's Air Policy Commission recognized this problem in connection with its recommendation. It pointed out that one way to meet military requirements would be to let the services buy the transports they need, the same as they buy combat planes. With respect to an alternative proposal of subsidizing the carriage of cargo by air, it was pointed out that this would call for consideration of the effects of such a course on competing forms of transportation, and would raise the question of "a subsidy or tax

^{8/} Civilian War Transport, A Record of the Control of Domestic Traffic Operations by the Office of Defense Transportation, p. 185.

reduction to those forms of transportation to maintain them in war readiness." 9/

An important possibility which has been introduced since the beginning of World War II, however, and which may offer better opportunity for defense ^{air} planning, lies in the development of our international/transportation system. Aircraft in international service are in a position analogous to the merchant marine. Because of the disruptive effects of war on overseas commerce, it would be feasible to shift a large proportion of these aircraft to military service without paralyzing civilian services. Development of the overseas air fleet as a military adjunct offers an attractive possibility by reason of the fact that international airlines will presumably require continuing subsidization in any event to sustain them in competition with foreign carriers. The competitive effects of such subsidy, moreover, are confined to ocean shipping, which is likewise subject to government aid, so that federal subsidy policy could be adjusted in a manner which would bring about the desired results for both water and air facilities. In addition, the subsidy program would be removed from direct effect on the domestic transportation system, where subsidization is likely to create more problems than it can solve.

Even this approach to the problem, however, creates difficult problems with respect to international relations. For, whereas the government support of an expanded American flag international air fleet would have no adverse effect upon our own domestic transportation system, it would obviously

9/ According to the report, the problem of building up a pool of military transport planes in commercial use seems to warrant a more coordinated study of the number of transports needed, the potential air cargo traffic, and the possible subsidy cost to the government. It was recommended by the Commission that the Air Coordinating Committee make such a study. (Survival in the Air Age, p. 115)

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affect the international air operations of other nations. For the United States to carry out a subsidy program of the extent necessary to add materially to the air reserve would jeopardize foreign aspirations in international air commerce and might introduce factors designed ultimately to weaken rather than strengthen our defense.

It must be concluded that the availability of a feasible international airline fleet, together with a limited amount of equipment withdrawn from domestic service as a result of rationing or stepped-up operations, would not go far toward meeting the needs of the military. It becomes clear, however the problem is approached, that military airlift requirements must in the main be provided by expanding the military air transport reserve. In view of the importance of military air transport, it would appear to be no less essential for the armed services to procure the transport equipment they need than to supply themselves with bombers or fighters.

Aircraft Manufacturing Industry

Of basic importance to the military is the maintenance of a manufacturing industry capable of expansion in time of war, as well as a continuing research and development program which will assure technological supremacy in the production of new types of aircraft. These objectives are in theory furthered by both military and civilian orders for transport aircraft; but the high cost of developing new transports for the commercial market alone is beyond the capacity of most manufacturers. Without military orders to defray prototype costs, it is questionable whether there would be any extensive new transport development by the aircraft industry. For, although the National Advisory Committee for Aeronautics has produced most of the basic aerodynamic and structural data from which commercial and military aircraft have been developed, the cost of actually creating a new transport aircraft

is prohibitive for most manufacturers without government aid. For example, the DC-6, despite its similarity to the Army's C-54, cost the Douglas Aircraft Company over 13 million dollars in development costs. With 80 aircraft sold, the company had spent 42 million dollars more than it had received from DC-6 sales, and it was estimated that the break-even point would not be reached until the 300th plane was delivered. Vast sums continue to be spent on further improvements in the aircraft, so that actually development costs never cease. If these costs are not spread over a large number of potential sales, the possibility of selling any aircraft would be doubtful.

At present, the expanded military aviation procurement and development programs should provide the necessary technological advance in aircraft design and the volume of orders required to maintain minimum capacity in the aircraft industry. The availability of new cargo and transport planes for civilian use should be assured as a by-product of these government efforts. Since the civilian air fleet would be drawn upon to some extent for military purposes, therefore, it would be possible to assure that this equipment was kept technologically up to date. Nevertheless, it must be recognized that the equipment sponsored by the military is notoriously high cost, and that the savings which would accrue to commercial operators by taking advantage of military prototype development would tend to be dissipated by high operating costs and possibly by lack of sufficient adaptability. Such a policy of depending on the military for aircraft development, therefore, might well defeat the objective of assuring a financially sound civil air transportation system.

In the last session of Congress, the so-called "Prototype Bill" 10/
10/ 80 Cong. 2 sess., S. 2644.

authorizing the government to sponsor the design, development, and construction of prototype cargo and transport aircraft for commercial purposes failed to pass. Questions arising in connection with this legislation involved the matter of civilian versus military control of the development program, and also the fear that the step might lead to nationalization of the industry. It appears now that, although the objective of relieving private industry from the financial burden of prototype development will be achieved as a result of intensified military procurement, this remedy will be satisfactory only to the extent that military and commercial requirements are sufficiently comparable to provide a satisfactory degree of equipment interchangeability.

C. RAILROADS AND NATIONAL DEFENSE

In the previous section it has been noted that the railroads carried the major part of intercity freight and passenger traffic during the last war. In view of the extensive public funds being invested in competing forms of transportation, the question arises as to the effects of subsidized competition on the ability of the railroads to maintain themselves in efficient operating condition. Since the railroads continue to be the backbone of the transportation system, any program designed to promote air, highway, and water transportation must be viewed in the light of these effects, for only by assuring that all essential transport services are maintained can the ultimate objective of national security be served.

In view of the fact that the physical condition of the railroads depends on earnings and on the ability to attract new capital from private investors, the question of whether adequate financial support will be available to maintain and improve the railroad system presents a basic problem. At

the present time, despite record high levels of traffic, many railroads are operating at a loss, and few are in a position to finance the necessary program for assuring the adequacy of ways and structures. This condition is extremely serious when it is considered that in the past the prosperity enjoyed in periods of abnormal business activity has provided the fat on which the railroad system has survived during the lean periods which have followed. The possibility of even moderate reductions in traffic from present levels suggests that the future financial condition of the carriers may revert to a state of insolvency when funds will be insufficient to prevent extensive deterioration of the railroad plant. 11/

There are two types of action which might improve the financial outlook of the railroads and permit them to carry on under private ownership. One of these is the effecting of economies through revisions in the corporate and operating structure of existing railroad companies, and other measures designed to improve railroad efficiency. A second approach lies in a revision of the financial methods applying to other transport agencies, to assure the development of self-support, or where this proves infeasible, to take such measures as will reduce the impacts of subsidy as they impinge on the railroad plant. Where the advantages realized by the users of public transportation facilities are such that the railroads are unable to compete effectively, it may be found necessary to provide compensatory government aid to meet the financial requirements considered essential to the maintenance of adequate railroad facilities for defense.

During the period following the end of World War I, until the

11/ For an analysis of the railroad financial position, see Volume II, Chapters IX and XI.

depression years of the 1930's, there was a period of intensive reconstruction and improvement of the railroad plant. Capital expenditures in the years 1921-1930 totaled 7.7 billion dollars. At the end of 1930, a sustained program of replacements and additions to equipment found the railroads with a very high level of car and locomotive ownership. During the following decade, however, the railroads suffered an acute loss of traffic and earnings as a result of the depression, and this situation was aggravated by expanding programs of government-financed facilities to aid competing forms of transportation. At one point in the depression, more than 770,000 freight cars were idle for want of any demand for their use. "The disastrous economic condition then obtaining plainly was not such as to warrant, or even suggest, a program for complete replacement of car and locomotive units retired because of age, condition, or obsolescence." ^{12/} Instead, the railroads not only were unable to carry on an adequate replacement program, but deterioration of equipment in idle storage was so rapid that thousands of cars were beyond the point of economical repair when the first upsurge of traffic occurred with the outbreak of war in Europe.

Contrast between the heavy investment period of the twenties and the deterioration of the thirties is indicated by figures of capital expenditures and equipment purchases. In the period 1926-30, gross capital expenditures of Class I railroads averaged 812 million dollars annually, of which 505 millions were for roadway and structures. This gross capital figure fell to 207 millions per year in the period 1931-1935, of which 148 millions went

^{12/} 80 Cong. 2 sess., Statement of James H. Aydelott, Association of American Railroads before the House Interstate and Foreign Commerce Committee in connection with the National Transportation Inquiry, June 7, 1948, p. 3, (mimeo.)

for road and structures. In terms of physical equipment, during the period 1921-1925 a total of 124,000 freight cars were installed annually, and 123,000 retired, while during the period 1931-1935 an average of less than 10,000 cars were installed per year and nearly 100,000 per year retired. 13/

It was largely the extensive capital investments made during the 1920's, therefore, combined with the technological advances in motive power and equipment made during the depression, which enabled the railroads to meet the tremendous traffic loads of World War II. The railroads handled 74 per cent more freight and 100 per cent more passenger traffic than during the first World War with one quarter fewer cars, one third fewer locomotives, and one quarter fewer men. 14/ Despite this excellent record, "had V-E Day and V-J Day been much longer delayed, it would take a bold man to say that our transportation system would have continued to suffice. In terms of transportation--whether wittingly or not--a grave gamble was taken on the duration of hostilities." 15/

The question raised by this recitation of events is whether the federal government in the future is to leave to the financial fortunes of the carriers such a basic national defense consideration as the degree of adequacy of the railroad transportation system. Even after the prolonged period of deferred construction during World War II, we find that investments in road and structures for Class I carriers amounted to only 286 millions in

13/ 80 Cong. 2 sess., Statement of J. H. Parmelee, Association of American Railroads, before the House Committee on Interstate and Foreign Commerce, June 7, 1948, Tables V and X, (mimeo.)

14/ The same, p. 7.

15/ Statement of James H. Aydelott, previously cited, p. 7.

1947 and an estimated 326 millions in 1948. ^{16/} Today only the purchase of new rolling stock is possible on anything resembling an adequate scale for most railroads, despite the high level of economic activity and the need for railroad rehabilitation.

Taking into account the differences in the value of the dollar, it is apparent that investment in road and structure is now little better than during the depth of the depression period. This situation is extremely hazardous from the standpoint of immediate security requirements. And from a long-range viewpoint, there is little to suggest improvement in the situation because it is unlikely that future conditions will offer greater earning potential than is offered today. Moreover, as public investment in other forms of transport continues, further shift of traffic to rail competitors will take place, reducing still further the ability of the railroads during less prosperous periods to compensate for deferred maintenance and reconstruction. Still the fact must be faced that much of the traffic lost to the railroads in peacetime may again be forced back during war, due either to the requisition of equipment by the government or to the inability to maintain other agencies in the face of material shortages. This shift will occur simultaneously with wartime expansion of traffic in the categories still moving principally by rail.

It must be concluded that the wartime record of the railroads can be attributed in part to good fortune rather than good planning, and that the current situation is much less apt to work itself out in any future emergency. In view of the underlying assumptions as to the sudden and devastating nature

^{16/} Monthly Comment on Transportation Statistics, Sept. 15, 1948, Interstate Commerce Commission, p. 2 (mimeo.)

of another war, the condition of the railroad system can hardly be left to fortuitous circumstances with the same degree of confidence assumed in the past. Certainly the need is apparent for the federal government to keep itself informed of the condition of the railroad system and to measure the impacts of its development programs in other transportation fields. And the importance of the railroads to national defense requires federal assurance that the necessary steps are taken to provide a continuing program of capital outlay to maintain railroad plant and equipment at required levels.

It will be necessary, therefore, that the federal government include among the functions of a transportation agency the responsibility for maintaining a current inventory of railroad requirements and for recommending necessary action to achieve and maintain necessary physical standards. In addition, it will be necessary, in conjunction with car service operations, to develop plans for the necessary control of traffic in emergency conditions and the necessary coordination of rail and other transport facilities.

D. HIGHWAY TRANSPORTATION IN WARTIME

Not only does the federal government lack any permanent organization responsible for railroad preparedness and capable of effecting the necessary emergency operations in wartime, in addition, there is no federal agency responsible for emergency maintenance and operation of highway transportation. During the last war we attempted an inventory of motor vehicle equipment months after the problems threatening this form of transportation had become acute. Almost nothing was known about the fuel and rubber requirements to maintain essential automobile transportation. Today we are fostering the same condition of unpreparedness by failing to maintain the necessary information concerning motor transport which in any further emergency may be

far more urgently needed because of evacuation problems and the demands for alternative highway transport services in areas where other transport facilities may be disrupted.

Motor vehicle registrations are now approaching the 40-million mark, and demand for new equipment and replacements continues to support a high level of automotive manufacturing activity. No equipment problem exists in this field similar to those encountered in the case of air, water, and rail transport. The importance of maintaining the operation of automotive equipment in wartime, however, through adequate provision of rubber, petroleum products, and repair parts means that federal responsibility must be taken to assure adequate rubber stockpiling and synthetic capacity, manufacturing and repair facilities, and petroleum supply for essential uses.

In World War II, the lack of an adequate rubber supply, confusion over rubber availability, and opposing official views as to the need for conservation created a situation which was extremely hazardous to the war effort. In no field of endeavor was the lack of advance planning more obvious than in the matter of tire and gasoline rationing and other controls on highway transportation. In the future, federal responsibility must be taken to avoid a comparable situation. Estimates of demand for critical materials will have to be maintained by the transportation agency, for all forms of transportation, and these reported to the National Security Resources Board for consolidation and adjustment to the demands of other users, civilian and military. 17/

17/ The NSRB is required to advise the President concerning the "relationship between potential supplies of, and potential requirements for manpower, resources, and productive facilities in time of war"; in addition to responsibility for determining "policies for establishing adequate reserves of strategic and critical material, and conservation of these reserves." (80 Cong. 1 sess., Public Law 253, Sec. 103 (c)(4) and (5).

With respect to the highways themselves, it is generally agreed that system of roads and streets adequate to meet the needs of peacetime traffic is also adequate for war. ^{18/} This is true because the need for limiting unnecessary vehicle operations to conserve equipment and materials provides a substantial increase in highway capacity for emergency purposes. The national defense interest, therefore, is not something apart from the peacetime goals of providing adequate facilities on all parts of the highway system. And it may be granted that the entire highway network is important for defense purposes because a principal advantage of highway transportation is the availability of numerous alternate routes which makes it extremely difficult to disrupt motor vehicle operations by enemy attack or sabotage.

It does not follow, however, because of the defense importance of the highway system, that the federal government must participate in the entire program. There are reasonably distinct and appropriate roles for federal, state, and local roadbuilding efforts. Federal interest should be directed to the most important potential war transportation bottlenecks in our highway system, on the principal intercity arteries, and their transcity connections. It is on these roads that the greatest design problems and the highest costs are encountered, and where the need for federal assistance is greatest. It is the priority of these needs and the interstate character of the traffic served which stress the desirability of concentrating federal action; and the 40,000 miles of interstate highways which connect our principal population centers provide a logical point of concentration. If in another war the highway transportation system is called upon for evacuation

^{18/} An exception in wartime is the need for access roads to serve new or expanded industrial sites and military establishments.

purposes, or to absorb traffic in critical areas where rail service is disrupted, a modern main road network designed for uninterrupted traffic movement will be a primary need.

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E. THE ROLE OF WATER TRANSPORTATION

In Part I it was pointed out that the national security importance of the merchant fleet and of the shipbuilding industry is such as to call for federal maintenance of ship construction and operation on a scale adequate to assure essential levels of activity in these fields during times of peace. History has demonstrated, however, that the normal requirements of peacetime commerce have in the past failed to provide the necessary demand to achieve this goal. The experience of two world wars demonstrates that "any peacetime shipping and shipbuilding activity in the United States for the purpose of furnishing a water-borne transportation system...will fall far short of the country's national security requirements." 19/

...even if private operators in the United States had carried all the foreign water-borne commerce of the United States before the war together with the domestic water-borne commerce, they still would have employed considerably less than half the merchant ships used by the United States in World War II. 20/

Actually, the proportion of our ocean-going foreign trade carried by American flag vessels before the war amounted to only 24 per cent of dry cargo shipments and 31 per cent of passenger traffic. 21/ It is apparent,

19/ The Use and Disposition of Ships and Shipyards at the End of World War II, a report prepared for the United States Navy and the United States Maritime Commission by the Graduate School of Business Administration, Harvard University, June 1945, p. 23.

20/ The same, p. 30.

21/ Ocean Shipping: Facts and Figures, U. S. Maritime Commission, Handbook of the Research Division, p. 79, (mimeo.); data for 1939.

therefore, that it would be impossible to maintain the U. S. fleet tonnage necessary to meet war needs on the basis of the peacetime demand for ocean transportation. Moreover, even to achieve this level of foreign shipping operations, requires construction and operating subsidies to meet the competition of foreign carriers.

Despite these efforts to maintain our international fleet, the bulk of the water-borne commerce carried in U. S. vessels before the war was in the coastal and intercoastal trade, which is not directly benefited by the subsidy provisions of the Merchant Marine Act of 1936. These important coastwise and intercoastal shipping services have thus far been unable to recover their prewar position after the almost complete cessation of activities during the war. If, as in the past, the United States is to depend to a large degree on these domestic shipping services to maintain a nucleus fleet and shipbuilding industry, the only possible method may be through direct subsidization of domestic shipping operations to permit effective competition with land transportation. However, such a program would attract substantial volumes of traffic from truck and rail carriers, hence reduce the capacity provided by these agencies. Then, in an emergency, merchant vessels would be shifted to military operations and land transport equipment would be inadequate to accommodate this shift. This situation raises the issue of whether subsidies to domestic shipping would compel compensating subsidies for competing forms of transportation.

These questions bring into focus once again the fact that a land transportation system adequate to meet the needs of normal commerce can, with the appropriate exercise of public authority, be quickly geared to war requirements. On the other hand, the volume and type of shipping facilities adequate to accommodate the normal requirements of ocean transportation fall far

In the future, when national defense requirements exceed normal levels of supply, the important task of making up the difference cannot be considered a by-product of accomplishing other goals. The military must present their best estimates of war shipping requirements, to be reviewed by a top planning agency (the National Security Resources Board), which can compare these demands with estimates of the Department of Transportation as to the size and composition of the fleet which would otherwise be provided. The NSRB would then weigh the necessary subsidy or reserve fleet program in the light of over-all economic requirements.

In arriving at a merchant shipping program, consideration will also have to be given to Department of Transportation estimates of the impacts of merchant marine promotion on the transportation system. For failure to consider each of the individual parts of the transportation system is to risk a possible breakdown of the whole. In the case of the merchant shipping problem, it would be possible to restore considerable tonnage to the domestic trades through a program of construction and operating subsidies if merchant shipping were the only consideration. The problem, however, is not so easily solved. Even if it were possible by this means to create the size of standby fleet required for war purposes, by so doing we might impoverish important segments of the railroad system by the diversion of important long-haul traffic. Until the national government is prepared to recognize and take into account all aspects of war transportation needs, national defense measures are bound to create as many problems as they seek to solve.

When the final determination has been made as to the necessary merchant shipping program for security purposes, the goal may be approached in part through subsidies to international shipping. To the extent that this fails to accomplish the objective, two possible courses of action are open:

subsidies may be paid to domestic shipping, with compensating subsidies made available, where necessary, to competing forms of domestic transportation; or the military could be required to maintain a standby fleet in the same way that it maintains battleships and cruisers. The latter solution is obviously the most certain and least disruptive approach to assuring the desired results.

F. CONCLUSIONS ON DEFENSE

The transportation problem from the standpoint of national defense appears in essence to be as follows:

1. It must be assumed that all methods of transportation are essential.

Accordingly, federal policy must provide for maintaining the entire transportation system in satisfactory condition.

2. Generally speaking, a land transportation system adequate for the peacetime economy would ordinarily meet the basic physical requirements for war. In the case of water and air transportation, however, war requirements far exceed peacetime facilities because these types of equipment are in effect instruments of war. From the standpoint of physical facilities, therefore, the problem of providing a transportation system adequate for national security means under present day conditions that (a) methods must be devised by which air and water transport capacity can be provided during peacetime at levels exceeding peacetime demand; and (b) necessary steps must be taken to minimize or compensate for the impacts of air and water subsidies on the condition of other essential parts of the transportation system.

3. Thus far, we have depended on vague references to the national defense significance of transportation in federal transportation statutes to assure facilities adequate for wartime needs. There has been no attempt to

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the responsibility on the military for presenting firm estimates of military requirements, and no attempt to view the war transportation problem as a whole. The United States has been fortunate that in wartime a basically adequate system of transportation has nevertheless been available, that time has been afforded to organize the system for effective operation and to remedy the failure to plan during peacetime. There is no guarantee of such good fortune in the future, however. The fortuitous circumstances which permitted us during the last war to create an ODT, a synthetic rubber industry, a shipbuilding industry, a pipeline network, a rationing system, and other emergency facilities cannot be relied upon in other emergency.

4. The transportation activities of the federal government are so organized today as to make effective programming in this field impossible. General operations are scattered over half a dozen major agencies and many important bureaus; and no one person or agency has the responsibility to assure that the transportation system as a whole is in adequate condition. However, the federal government is supporting the development of highway, air, and water transportation facilities without consideration for maintaining an adequate railroad system, creating a situation in which it may prove impossible to provide for necessary railroad improvement and modernization.

5. From the standpoint of organization, a basic step is the establishment of a federal transportation department whose responsibility will be to maintain a current evaluation of the transportation situation; to direct the steps necessary to assure the proper maintenance and development of all needed transport facilities; and to draw up the necessary plans for wartime transport operations. This agency must be given positive responsibility for the continued adequacy of the railroad transportation system.

6. The National Security Resources Board must provide the necessary liaison between military agencies and the civilian transportation agency; and wherever national security requirements are found to be in excess of what would otherwise be supplied, such requirements must be specified by the military and their accomplishment financed wherever feasible out of the national defense budget. Reserve transport aircraft, merchant ships, or railroad cars would obviously be charged to the military budget, as well as the military share of airway costs and special projects undertaken specifically for national defense purposes. The NSRB must also take steps to assure that the Department of Transportation submits periodic estimates of the materials, equipment, and manufacturing facilities needed to assure transport services adequate to meet emergency requirements.

7. Failure to vest in a single federal agency unequivocal responsibility for organizing our transportation system to meet war requirements might well result in deficiencies that would constitute a fatal weakness in the economy.