

THE FUTURE OF TRANSPORTATION

**BUILDING
AMERICA**

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NATIONAL RESOURCES PLANNING BOARD

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TRANSPORTATION STUDY

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This pamphlet, summarizing the Board's report on "Transportation and National Policy," continues the series of digests of major reports issued with each of the Board's studies of planning policies for the development of our national resources.

At the same time, this statement is a part of the series of pamphlets on Post-War Planning which now includes:

After Defense—What?
After the War—Full Employment.
Post-War Planning.
Building America—Better Cities.

The summary, prepared by the Director of the study is reproduced from the larger report with excerpt from the Board's letter of transmittal to the President.

THE FUTURE OF TRANSPORTATION

The development and building of America has always been closely related to the provision of transportation facilities. We have relied upon transportation as the key to settlement of the West and to building the Nation more than on any other one factor. There is no reason to suppose that we cannot continue to rely upon new major developments in the transportation field after the war to provide a mainspring for other kinds of developmental work throughout the Nation.

“Transportation is not an end in itself but rather the means toward many ends; and because of this its significance is magnified over and over again as its influence diffuses through the whole economy. It is for this reason that such importance must be attached to overcoming through the best possible transportation plant the obstacles which time and space impose upon the productivity of all our resources.” Thus does the National Resources Planning Board point up the significance of its report “Transportation and National Policy” in transmitting the document to the President.

“The transportation system has its setting in a dynamic economy, and hence the problem we face is and will be a constantly changing one. No ‘final’ solution will ever be achieved. The problem, rather, is to set up machinery and to formulate guiding principles whereby continuing adjustment can be made to new situations as they develop; to changes in the technology of transport; to changes in the character of demand for transportation service; to changes in economic organization; and finally, to changes in national policy.”

The transportation study was begun in the summer of 1940 under the general guidance of Mr. Owen D. Young as Chairman of the Advisory Committee for the Study. A small nucleus staff was assembled by the National Resources Planning Board under Assistant Director Ralph J. Watkins, consisting of transportation specialists who sought to view the transportation problem as a whole and to understand the influence of transport on the economic and social development of the country. This staff was ably supplemented by staff members of the Federal agencies concerned with transportation.

The report which has emerged after a year of study has attempted to examine the problems growing out of recent technological developments in transportation and to review the public and private policies which such developments have induced.

In his letter of transmittal to the Board Mr. Owen D. Young, Chairman of the Advisory Committee for the Study, stated: "The report is concerned with transport development policy, and it is certain that plans for facilitating the transition of the American economy from war to peace at the end of the present struggle will have to deal energetically and forthrightly with the problems of overhauling and rebuilding the basic transportation facilities of the Nation. It is highly desirable, therefore, that the analyses and policy statements contained in this report be made available as guides to thinking and as aids to planning for the America we all want to work toward in the years of peace that lie beyond the present travail of war."

The Board in its letter of transmittal to the President added: "Plans for post-war development cannot be considered apart from the necessity of completely overhauling the basic transportation facilities of the Nation. This physical reconstruction, combined with service and policy revisions, must aim not only at modernization but at the ultimate realization of a transport industry which will permit each mode of transport its economic functioning as an integral part of the whole system. Finally, the transportation policy of tomorrow must offer constant encouragement for innovation and ample opportunity to meet the needs of changing conditions to assure that transport development may at all times contribute maximum impetus to national achievement.

"We have before us in the field of transportation a frontier of opportunity—the opportunity of remaking our transport plant into one commensurate with our technological possibilities and in keeping with the unfolding promise of American life. The only barriers that stand in the way are those of our habits of thinking, of our fiscal policy, and of our organizational limitations. It lies in the genius of the American people to overcome those barriers."

SUMMARY AND RECOMMENDATIONS

Transportation: Its Status and Future

Transportation as a facilitating function of commerce is of profound importance in setting the pattern for the distribution of economic activity, in linking together resources and markets into an integrated economy, in binding together disparate areas, and in giving meaning to mobility of human resources. No better examples of these profound influences can be found than in the United States. Transportation has made possible the continental economy and cultural unity of the Nation, cementing diverse regions, resources, and peoples into an economic and cultural entity.

Because of the fundamental relationship between transportation and every phase of national well-being, the basic aim of transport policy must necessarily be maximum efficiency at minimum cost, to the end that mobility of goods and people may be assured. The transport system must comprehend all media, coordinated to assure for each its economic place. More important, it must encompass all such facilities and services as are essential to the orderly and balanced development of the Nation's resources.

The transportation problem may be described as that of bringing about such an organization of the transport industries and such a system of public regulation or control as will lead to the attainment of the objectives described above: namely, an adequate transportation system operating at a high degree of efficiency and at low cost; with each mode of transport operating in its field of greatest economy and usefulness and functioning with a minimum of waste and duplication; with a rate level which is as low as possible, yet adequate to support progressive development of transportation facilities and services and of labor standards; and with a rate structure that does not unfairly discriminate against particular persons, commodities,

places, or regions, and, conversely, which grants no undue favors.

When the Transportation Act of 1920 was passed, the domestic transportation problem was principally a railroad problem, as it had been since the passage of the Act to Regulate Commerce in 1887. This early act was concerned with the protection of shippers against exorbitant or unduly discriminatory freight charges. The Act of 1920 represented a change of public policy but the problem was still a railroad problem. Emphasis merely shifted to the policy of maintaining the financial stability of the railroads, which found themselves in desperate condition principally because of the disruption in cost-revenue relationships which had developed during the war inflation and post-war deflation years.

In the two decades since 1920, there has occurred a revolution in transportation. No longer may it be said that the domestic transport problem is merely a railroad problem, or that public policy can concern itself solely with the railroads. Today the railroads, though still the backbone of the freight transportation system, are but one of the several major forms of transportation, and the problems which beset them are no longer attributable to a passing disruption of cost-revenue relationships but to the development of new and vigorous competitors. Advancing technology has promoted in the highway, waterway, pipe-line, and airway fields formidable rivals for the railway industry.

Role of Public Action

Public action has been a dominant force in the promotion of transport facilities. The content of facilities has changed with advances in technology, but always there has been the guiding policy of opening the door to whatever new mode of transport offered promise of better service or cheaper transport. At the same time, regulatory action has been directed toward developing such use of these facilities as was deemed in the public interest. Public action has produced with astonishing rapidity the most extensive system of improved highways in the world. Water transportation has experienced twentieth century revival through a system of Government-sponsored interconnected

waterways. Public action has fostered a growing merchant marine by the improvement of harbors, aids to navigation, the construction of ships, and the financial support of ship operation. Air transport has been stimulated by a Nation-wide system of airports and airways, through mail payments, pilot training, safety regulation, and research. Moreover, the war has given tremendous impetus to the development of aircraft on a mass-production basis.

The magnitude of the American transportation system, including its railways and pipe lines as well as its publicly fostered facilities, provides impressive testimony of the emphasis which the Nation has placed upon the need for transportation service. The national bill for that service is probably more than \$20,000,000,000 a year, and nearly a fifth of all investments are in transportation. The Federal Government alone invests a billion dollars a year in transportation facilities.

Possibilities for the Future

The progress of the past is impressive, but the gains that lie within our grasp in the years ahead can overshadow that progress. Under the impact of a war economy we are moving toward full utilization of our man power and productive plant, and we are learning again our utter dependence on transport, the real value of the physical facilities that make up our transport plant, and the necessity of coordinated and efficient use of those facilities. What once plagued us as a surplus of transportation facilities we must now recognize at full employment of our resources as a grave shortage that imperils the attainment of war production goals. Under the conditions of war little can be done to enlarge that plant, and we shall have to rely in the main on strenuous measures aimed at getting maximum performance out of the existing plant. But the return of peace will again afford us the opportunity to build the sort of transportation plant that our unfolding technology makes possible and that effective utilization of our resources and man power demands.

In the midst of a desperate struggle that is destined to reshape the world, a struggle above all that is geared to the technologies of production and transport, no

man is able to foresee the precise changes that will come in our transportation system. But it is clear even now that changes of vast import are almost certain, that with the coming of peace we shall enter upon the threshold of great developments in transport. Consider briefly some of the possibilities:

Air Transport: Not only lacing the country with passenger, express, and freight carrying airlines and private planes but circling the globe with distance shattering schedules—backed by capacity to build more than 100,000 planes a year. All the airlines in the country owned only 350 transport planes before the war and have carried from 10 to 15 percent as many passenger-miles as all the Pullman cars. Little imagination is required to picture a rapidly developing industry that will both create new transportation and make inroads upon the traffic of its competitors, especially the railroads.

Motor Transport: Resurgent after the lean years of rubber and gasoline rationing, with completely new productive capacity and new designs in automotive equipment freed from the shackles of the past; new inter-regional highways and urban express routes planned for construction in the transition period to take up the slack in employment.

Inland Water Transport: Expanded in scope and volume and reequipped with new and more efficient towboats and barges.

Intercoastal and Coastwise Water Transport: Restored to normal routes and augmented in tonnage by accessions from the emergency merchant fleet.

Pipe-line Transport: Expanded by the exigencies of war and backed aggressively by parent companies starved because of their dependence on more vulnerable water transport.

Railroad Transport: Flushed with the traffic gains of war through diversion and full employment and striving energetically to hold these gains against resurgent rivals.

These impending developments and competitive struggles require that we turn our thoughts now to the molding of transport development policy in order that the necessary adjustments may be made with a minimum of

friction and waste. If we would seek increased mobility of goods and services and full application of transport technology, lines of public development policy must be laid out. Through advance planning under Governmental leadership the transport industries will have a rare opportunity in the post-war period to rebuild and modernize the transport plant and thereby to make a notable contribution toward solution of the stupendous problems of general economic policy in bridging the transition from war to peace.

A major objective for the future must be a lower level of rates and fares in the transport industry to place the rate structure in a more favorable position with respect to other prices, in order that restrictions on movement may be minimized. There is considerable reason to suppose that transport has been discouraged by a rate structure which fails to respond quickly to changes in economic conditions, and a rate level which may be out of line with the market possibilities of many commodities. There is danger that a permanent reduction in traffic volume may result. A reversal of present tendencies by greater economy in transport operations may vastly widen the future of transportation. Improved service, too, is an important aim for the future. Its accomplishment will result, in part, from the further application of technical developments already under way, and partly from achievement of a large measure of economic coordination.

Terminal Reconstruction.—The most neglected aspect of transport development has been the provision of terminal facilities. The antiquity of port facilities; the duplication and inefficiency in railroad freight yards and stations; the difficulties of urban truck loading and passenger car parking; and the lack of modern, conveniently located, and properly protected airports are all familiar manifestations of the universal neglect of terminal operations. Failure to secure the possible economies of terminal unification, coordination, and modernization constitutes one of the most important reasons for high-cost rail operation. It has been estimated, for example, that approximately two-thirds of the typical completed car movement, involving about 15 days on the average, is spent within terminal areas. The fact that the terminal accounts for one-third of

railroad freight operating costs emphasizes further the possibilities of terminal improvement as a means of restoring railroad profitability and reducing costs to travelers and shippers.

The growth of over-the-road trucking has created a need for joint terminal facilities which has been largely ignored. Under present conditions small and inefficient truck depots scattered indiscriminately about the cities, necessitating duplicate collection and delivery services, are sources of congestion and inconvenience to street traffic; and the absence of clearing-house service and coordination with rail and port facilities results in disproportionate terminal costs and delays. Measures of coordination would result not only in substantial improvements in trucking service, but in benefits to the entire community. Failure to recognize that off-street parking facilities must be provided to relieve traffic congestion and to insure the continued utility of motor vehicle transportation, together with inability or unwillingness of cities to adopt bold measures for alleviating the problem, have long been a source of motoring inconvenience and a barrier to efficient vehicle use.

Poor location, small sites, congestion, and other inadequacies typify a large number of airports into which much public money has been sunk. Location is often inconveniently distant from downtown business districts, and adequate provision is rarely made for highway access or transit connections. In addition, many airports are dangerously located with respect to surrounding buildings and other obstacles, making them unsatisfactory for instrument landings or even for visual approaches in bad weather. Airport congestion, too, has become a serious factor, and the need has arisen for segregation of private from commercial flying and for the provision of additional airports to accommodate increasing terminal activity.

Present-day terminal facilities are ill adjusted to general community development. They usually have a debilitating influence on real property values and the amenities of living in cities. Their operations often conflict with other functions and activities in the community. In order to eliminate or reduce to a minimum such conflicts and mutual interference, terminal facili-

ties must be adjusted more harmoniously to the desirable present and prospective development of the community in which they are located.

Great improvements in service, better utilization of land and air rights, and the removal of many existing blighted areas would result from rebuilding terminal facilities. The objective would be, of course, to fit into the most desirable pattern of urban development a series of coordinated terminals serving all types of transport and open on equal terms to all carriers serving the area. These would replace the multiplicity of scattered facilities which have grown in and around most of our large cities in a more or less haphazard fashion and would handle rail, motor, water, and air transport within the framework of a single plan. Thus, there would be eliminated much of the wasteful transfer and hauling which occurs under existing arrangements, and the marked loss of time which results from the use of scattered facilities under diverse ownership. Central terminals would be connected with all parts of the urban area by belt rail lines and trucking facilities.

Railroad Transport.—Physical requirements involved in the modernization of railroad transportation are tremendous. In addition to the rebuilding of terminals and replacement of a large portion of the rolling stock with modern cars and more efficient locomotives, grade revision, heavier rail, reduction of curvature, electrification of dense traffic routes, and modern signal installations are necessary to permit faster and more economical operation. Light traffic branch lines have, in many areas, lost most of their economic utility and must in the long run give way to highway services. Competitive efficiency demands not only the ultimate abandonment of unnecessary lines but also the elimination of wasteful duplications of services maintained for competitive purposes.

Although public attention has been focused principally upon the outstanding technological developments in the newer fields of transport, important advances have been made on the railroads which promise continuing improvements in service and increased economy in operation. With the aid of new equipment, better yard facilities, and improved track structures, the roads have

greatly accelerated their freight and passenger schedules and now offer a standard of service hitherto unequalled.

The locomotive inventory has become progressively more aged because of the small purchases of recent years, but sufficient modern locomotives have been placed in service to demonstrate excellent possibilities for economy. They are showing directly calculable savings ranging from 10 to 20 percent and more per annum on the investment. Savings result from the greater utilization possible from the modern steam locomotive, greatly reduced maintenance costs arising from developments in design, reduced fuel consumption, and increased hauling capacity at high speeds. In late years many roads have placed in service Diesel-electric switching locomotives which enable substantial economies in fuel, servicing, and maintenance expenses; achieve a higher degree of availability than equivalent steam power; and have a flexibility in operation that permits more rapid accomplishment of many types of switching work. In both freight and passenger service, too, the Diesel has made notable gains.

Despite the increase in average car capacity in the last two decades and the increase in loading of some commodities, car performance has been discouraging. The proportion of deadweight to revenue freight carried increased substantially, until the impact of war traffic produced far-reaching changes in car utilization. Recent developments in car construction, including the use of various light-weight materials and new methods of assembly, point to the possibility of materially reducing the tare weight of cars.

The demand for speed in modern transport service has necessitated adjustments in schedules and operating methods. Wherever possible, freight trains are now run past intermediate yards for long distances, and classification is concentrated at strategic points. The lengthening of locomotive runs has rendered many engine terminals superfluous, and both heavy and running repairs are being concentrated at principal points. Because most railroad shops were designed and equipped at least two decades ago, many of them cannot efficiently care for the larger and heavier locomotive of today. Useful economies can be secured by introducing new equipment at the larger repair points where intensive use of specialized machinery can be secured.

Commendable progress has been made in maintenance-of-way work in recent years. The rapid introduction of treated ties and heavy rails, the use of new techniques for building up battered rail ends, the rapid adoption of mechanized equipment, and the organization of specialized system rail-laying gangs are indicative of recent developments. A recent advance in permanent way has been the development of the welded rail which promises reduced maintenance costs. More significant has been the rapid development of new methods of subgrade drainage which permit more economical maintenance of line and surface.

These are but examples of the many far-reaching developments in an industry sometimes regarded as decadent. Unfortunately, the railroads have not seen fit to apply them on a broad scale during their recent period of adversity, and now that they enjoy rapidly increasing business they are unable to secure either materials or labor. Full application must await the return of peace.

Highway Transport.—The last two decades have witnessed a phenomenal growth of motor transport operations by passenger car, truck, and bus; and developments in both highway and vehicle design may be expected to continue the progress which has enabled 32,000,0000 motor vehicles to capture so significant a place in society. Important further developments in private passenger-car transportation may be expected through the safety, comfort, and economy attainable by improvements in car design. The conventional automobile of today is still but a stage in the evolution from horse and buggy; and the need is not merely for a thoroughly modern automobile, but one which can be owned and operated at a cost far lower than at present. Placing automobile engines in the rear, a practice which has been successful in bus design, promises to provide more inside space, greater safety and considerable economies in material, and the development of polarized light for headlights will permit greater night driving comfort and safety. The current conversion of the automobile industry to war production will eventually give way to a new beginning in automotive design. With extensive output of small private planes, moreover, there will be considerable in-

centive to design a car which can compete successfully, and which will be economical and properly adapted to the problems of short-run urban transport for which the automobile is peculiarly fitted.

In freight transportation, the use of Diesel engines, with attendant economies in operation, will mean substantial enhancement of truck performance. Extension of the use of light-weight materials for truck and trailer bodies may reduce tare weight and increase pay load. Interchangeable equipment will furnish further opportunity for coordination with rail and water transport.

Inasmuch as the motortruck shares the highway with passenger cars, the future of the truck is intimately related to motor transport as a whole. For this reason there must be a further development in engine power to permit better performance on highway grades in order to reduce the inconvenience to fast traffic which results from the excessive time and space requirements of the larger under-powered vehicle. Grade reductions and additional lanes for slow upgrade traffic may provide a solution on heavily traveled routes. Public policy with respect to the regulation of sizes and weights of motor vehicles may trend toward further relaxation of undue restrictions and greater uniformity insofar as highway design and traffic conditions will permit. On a few of the most heavily traveled routes there may be further separation of passenger and freight traffic by the provision of parkways for the exclusive use of the passenger car or by the development of special truck routes.

Bus transportation promises to become an increasing factor in both short- and long-haul transportation. In the city the need for improved mass transportation will undoubtedly result in the further development of fast commuter bus service, and local bus lines will continue to replace the streetcar. The recent advent of air conditioning marks the approach of new standards of comfort for bus passengers. Terminal and station facilities are likewise being continually improved.

Highway facilities cannot continue to lag behind developments in the vehicle to the extent that they have in the past. Many of the most important developments in future motor transport economy and service

will be of no avail without extensive modernization of the highways themselves. Although the total cost of motor transport is reflected to a preponderant extent in the cost of vehicle operation, these costs in turn reflect the type of highway facility provided. In addition, large economies in highway maintenance and in the life of the pavement result from the provision of roads which conform to the requirements of traffic density and weight. Significant economies are possible through the provision of highway capacity sufficient to minimize congestion, and through the proper application of traffic engineering principles to eliminate unnecessary stops and starts and interferences to the free flow of traffic. In the future there must be a realization of the importance of adequate grade separation structures at busy intersections, the separation of opposing traffic lanes, and the protection of traffic from encroachments of real estate development adjacent to the highway.

Water Transport.—Advances in the efficiency of operations by water carriers, both in the coasting services and on the inland waterways are evident. New types of vessels are appearing on some of the coastwise and intercoastal services. Modern construction with the latest propelling machinery, whether steam or Diesel, enables substantial economies in operation. The new designs of the United States Maritime Commission, intended principally for the foreign trade, demonstrate the possibilities for combining high speed and cubic capacity with economy of operation.

On the inland waterways, barges and towboats of recent construction show drastic changes from earlier craft. Improved hulls of electrically welded steel construction to reduce weight and permit greater cargo capacity, are streamlined to reduce resistance and enable increased speed with the same power. Twin screws have been adopted for modern towboats, providing greater maneuverability and greater speed with the same power. Finally, the Diesel engine effects fuel economies, increasing cruising range, and permits the use of smaller crews.

Air Transport.—Technical advance in air transport has been phenomenally rapid. For common carrier service, larger and speedier planes have been continually

introduced. Operating costs per plane-mile have increased, but costs per unit of traffic are declining. Development of larger planes, coupled with great expansion of productive facilities, promises economical cargo planes in the near future. Small planes for private use are also being designed in the lower price classes, and the ease with which they can be handled, the increasing safety factor, and the greater operating economy combine to promise a rapid growth in private plane travel.

After the war, the enormously expanded productive capacity must seek outlets in both commercial and private air transport, and reductions in first cost will greatly reduce fixed charges. The sphere for economical plane operation will expand rapidly, and the major problem will be the provision of adequate landing fields to accommodate the increasing traffic.

Distribution of Traffic.—The railway is peculiarly adapted to the carriage of goods in large quantities over considerable distances. Wherever a sufficient volume of traffic can be developed to permit efficient trainloading and a reasonable density of traffic, the railway should be able to move inland business more economically than any other type of transport, bulk movements on the Great Lakes and in the coasting trades excepted. Actual performance, however, falls short of the possibilities, largely because of a failure fully to adapt railway operations to the types of work for which they are best suited.

The future of the railroad lies in its continuance as the principal agency for heavy freight movement. The railways are capable, under a system of trainload operation and rates, of meeting much inland waterway competition, other than on the Great Lakes. Except for the waterways no agency of transport can seriously challenge them save on the shortest hauls. Most rail traffic is suited to carload operations, and where terminals are not too complex, this business may best move by rail even over short distances.

The retention of merchandise business on the rails depends primarily on the successful development of various methods of coordination. The short-haul business must be expected to gravitate to the motortruck, but severe competition may develop within a few years from air-freight service on the longer hauls. The rail-

roads should be able to continue to offer a profitable coordinated merchandise service over routes possessing a large volume of business. Present methods of operation must, however, be revised to eliminate the wastes resulting from the multiplication of competitive services.

The motortruck is most useful in terminal services, on the shorter hauls, and over longer routes where its speed can equal or exceed that of rail operation. In the merchandise business, however, speed and flexibility of service, combined with favorable rates and minimum packing requirements make truck service especially attractive. Most less-than-carload business, except on the longest hauls, may eventually move by truck or by some form of coordinated service. In areas of light traffic density, along branch lines, and in local service along major channels of trade, the motortruck has another important place to fill.

Bus transportation has important advantages in short-distance traffic and in cross-country traffic between the major channels of movement. It also provides frequent and economical service in the light traffic areas which cannot be satisfactorily served by rail. Except on local hauls, however, good rail service can offer substantial competition.

With the channels of movement already available and maintained, the operating costs for barge operations on inland waterways, calculated on a ton-mile basis, are very low. It must be observed, however, that a large proportion of the inland water routes is circuitous relative to rail routes, and that the ton-mile figures calculated on water distances do not necessarily reflect the relative economy of water and land transport. Under favorable conditions certain types of bulk cargo can undoubtedly move more cheaply by water than by rail, and under present rate structures and methods of handling by rail, a great deal of traffic can do so. The difficulties making for high cost in coastwise shipping are, perhaps, transitory. The high cost of port operation can probably be relieved, and the advent of new tonnage may improve the situation. Bulk carriage in the coasting trade, especially of petroleum, is conducted at costs far below any available land haulage.

Pipe lines have preempted the internal movement of

petroleum and natural gas, and are beginning to be used extensively for the shipment of gasoline. They have taken a large volume of business from the rail carriers, and occupy a strategic position that will probably enable them to hold their traffic. Further development is likely, including experimentation with movement of powdered bulk commodities by pipe line.

Unquestionably, air passenger traffic, especially business traffic, will continue to grow at a rapid pace, making considerable inroads on rail business. Extension of feeder service to many points which now lack air service, by the use of planes capable of getting in and out of restricted fields, will broaden the area from which airlines will draw traffic. The time is not far distant when first-class mail traffic will move exclusively by air whenever time is saved. Moreover, substantial expansion of the air express business may be expected. Costs can probably be reduced to a level substantially equivalent to present rail express rates, if volume and regularity of movement are attained. The advent of this business in volume will presage regular service by large merchandise planes. The mail and parcels business may well be extended to many small communities by means of devices for picking up and discharging traffic by planes in flight. In the more distant future the scope of air-freight operations should expand as costs are reduced and volume grows.

Recent years have witnessed a phenomenal increase in private carriage. By far the largest portion of passenger business, mostly new traffic, moves in private automobiles. Private flying has also grown rapidly but has not, as yet, attained major proportions. The effects of the private motortrucks have been keenly felt by the railroads and even by the common carrier truckers. On the inland and coastal waterways the bulk of the service is performed by private carriers, including most of the oil, much of the coal and steel, and many other bulk commodities. The unit of movement is, however, so much larger than upon the highways that comparatively few shippers can turn to private carriage.

Elements of Transport Policy

Development of an Efficient System

Wherever the allocation of resources to productive enterprises stems in the long run from consumer choices,

the price system, service, and numerous other considerations play an important role. This is as true of the transport industries as of other sectors of the economy. Consequently, reliance must be placed upon the choices of the users, evidenced by their patronage of transportation services, to call forth a proper proportion of the Nation's resources into the industry, and to effect a proper allocation of these resources among the various transport media. Allocation of traffic is not accomplished by Government fiat or by arbitrary prescription, but by the free choice of consumers.

The achievement of the most economical transport system is complicated by the necessity of dealing with numerous factors in continuing and simultaneous change. The various modes of transport must be coordinated, maximum efficiency secured in the organization and operation of each individual enterprise involved, and new media and methods be introduced at as rapid a rate as is consistent with the object of over-all economy. Meanwhile, traffic must be encouraged by rate and service structures to flow by the most economical means or combination of means existing at any stage of development.

An Economical Division of Traffic.—Each transport agency attempts to share traffic more logically belonging to another. The railroad, struggling desperately to regain its former position, attempts to retain the short-haul and less-than-carload business despite heavy terminal expenses which must often result in handling at a loss. The motortruck invades the long-haul fields by attracting the more lucrative traffic from the rails, despite the greater economy of the latter. The inland waterway diverts traffic over circuitous routes in order to share in the haul. This multiplication of overlapping services in fields of doubtful economy must, in the aggregate, account for a considerable inflation of transport cost above that which would result from a more economic division of traffic.

It is extremely difficult to ascertain cost in the transport industry applicable to any class or description of traffic because of the large group of costs which cannot definitely be assigned, and because broad descriptions of traffic may conceal real differences in comparative costs. Despite obvious difficulties study

should be made to determine reasonable classifications and to estimate the costs of handling by the various types of carrier as a guide to rate policy.

Proper determination of cost involves, of course, careful choice of methods. For example, for purposes of determining comparative economy there is the question of whether any allowance should be made for costs already incurred, for these are past commitments and cannot be affected by future policy. It may be argued that only when expansion or replacement of durable facilities is required should the cost of such facilities enter into the reckoning. Differences in labor costs for comparable types of work and differences in tax policies and government promotion may also seriously affect comparative costs by the various agencies, placing some at an apparent advantage which does not, however, actually exist. Proper allowance should be made, therefore, for unequal compensation of labor, for the unequal impact of working rules, for taxes assessed for general purposes of government, and for expenditures incurred by governments in the provision of transport facilities and services.

Since the final distribution of traffic should be effected by the free choice of shippers, the rates of carriers for hire by the various means of transport should reflect, as nearly as possible, the differences in relative cost for broad areas of traffic. Each description of traffic would then go via the low-cost means or combination of means unless the shipper or traveler considered the difference in service worth the difference in cost and price. It is likely, however, that rigid adherence to cost as a basis for rate making can never be applied without the most serious repercussions upon established commercial relationships. Out-of-pocket costs should, however, control the minimum rate level, and relative costs can be useful in establishing the economic sphere of the various types of carrier.

Efficiency.—A truly economic division will proceed not alone from rates reflecting existing costs. It is also essential that costs for the various services be brought to a minimum consistent with the desired quality of service and reasonable protection of labor and capital. Much can be done to promote efficiency of operation in the various transport media. The advent

of intensive competition and the severe depression of the thirties presented the railroads with new problems for which previous experience did not entirely fit them. Confronted with the immediate necessity of operating with equipment in hand they did well from an individual corporation standpoint. In preparing for the future, however, they were not entirely successful. The roads as a whole have not gone far enough in investigating new devices and improving purchasing, marketing, and operating methods. There is clear need for development of a stronger cooperative spirit in the railroad industry which will seek the solution of outstanding problems on an industry basis, rather than from the restricted point of view of individual carriers. Well-supported comprehensive research for the industry as a whole is long overdue.

Efficiency of highway operations is affected by considerations generally beyond the control of commercial operators or private users. Inadequate traffic engineering in congested urban areas often results in poor use of available facilities and produces serious losses to operators and patrons of motor vehicles.

In rural areas the most obvious source of diseconomies is the multiplicity of small governmental units participating in the highway program. In many cases the county, township, or special road district has neither the size nor wealth to support an adequate technical staff or necessary roadbuilding equipment. As a result, proper planning, budgeting, and accounting practices are often neglected; and the local road program, taken as a whole, is generally confined to maintenance operations of little consequence applied to a patchwork development. In view of these considerations there is need for greater consolidation and strengthening of the local roadbuilding function.

Other types of transport are confronted with similar problems, but on a lesser scale. The rapid development of air transport which may be anticipated in the post-war period promises to pose serious questions, such as traffic control and organization. Continued planning should be under way to avoid the haphazard growth that has characterized other agencies.

Consolidation and Coordination.—There is much rail cooperation with respect to through routes, joint rates,

trackage rights, joint use of terminals, joint switching operations, and other mutually helpful arrangements. The need for further integration, however, is urgent. The merchandise freight, express, and forwarder operations require integration in the interests of improved service and greater economy. A central clearing house to settle interline accounts and many similar devices are desirable. Finally, improvement and co-ordination of terminals and the elimination of wasteful competitive practices in the large terminal areas are urgently needed.

Further consolidation gives promise of substantial economies in the maintenance and operation of the railroad system. Rail consolidation should aim at the development of regional systems of such size as may be economically and efficiently organized and operated. Direct service competition should be eliminated as far as possible, and the number of separate operating companies substantially reduced. A single national system under private management is objectionable since it would place vast economic power under the control of a few and raise serious regulatory problems. Should integration proceed to that degree, government ownership and operation would seem to be the only feasible alternative.

Unfortunately, the chances of securing significant rail consolidation by voluntary means are poor. Active opposition by established carrier managements, employee groups, investors, localities likely to be affected, and other interests places difficult hurdles in the path even of minor consolidations.

Experience indicates that extensive consolidations will not be undertaken on a voluntary basis. The limitations placed upon consolidation under the Transportation Act of 1920, by the endeavor to promote competition and protect existing channels of trade, made the consolidation provisions of the Act essentially valueless, insofar as the attainment of regional unification was concerned. The fundamental change in conditions in the transport market make such limitations unnecessary today. Care should be taken, however, to avoid the formation of systems of excessive size which might encounter serious diseconomies from difficulties of organization and management.

The broader, but important, problem of coordinating the various transport media with one another has been scarcely touched. Although each type of carrier may have certain fields of operations for which it is best suited, it is possible that much traffic would move more economically by a combination of means if proper coordinating machinery were established.

Regarding the methods of securing more extensive coordination among the various types of transport, two views are dominant. One would accomplish coordination through the medium of monopolistic transport companies, presumably organized on a regional basis and under railroad auspices. These companies would have a monopoly of all common-carrier service and would utilize whatever means of transport seemed best in a given situation. It is suggested that effective regulation and the active threat of private carriage would be sufficient to hold such concerns in check, compel efficient operation, and necessitate a progressive attitude. Proponents of the second view fear the monopoly position of the transport company, the likelihood of railroad dominance, and the possibility of a lack of progressiveness. They suggest that such organization would permit, if not foster, the stifling of the newer modes of transport. Consequently, they propose that coordination arrangements be accomplished through the media of joint rates and through routes, presumably under some compulsion.

The public interest requires the establishment of a Transportation Agency independent of the Interstate Commerce Commission, to plan and promote rail consolidations and intra- and inter-agency relationships under the guidance of appropriate legislative directives. The quasi-judicial functions of regulation of rates and charges should, of course, remain with the Commission.

Finance.—No consideration of economy and efficiency in transport can ignore the requirements of wise and constructive finance. A large body of opinion considers the faulty structure of railroad capitalization to be a major cause of the industry's difficulties. It is certain that the traditional policies of railroad finance do not fit the needs of the present. The severity of competition, the rapidity of technological change, and

the wide fluctuations of business activity all call for a more flexible structure with fixed charges less burdensome than those now borne by most railroads. In order to cope with changing conditions and in order to make full use of advancing technology the railroads must, moreover, be able to secure adequate capital at all times. To this end, reserves for obsolescence must be set up in connection with future increments to the capital account.

The many uncertainties and new problems which have been introduced in the transportation field necessitate increased reliance on various forms of securities bearing charges contingent in whole or in part on earnings. Sinking funds must be provided on a more liberal scale to promote the gradual reduction of fixed interest.

Development Policy

Many years ago the objective of public promotion was simply to provide more facilities, for at that time the principal problem was the undersupply of transportation service. Today, however, the problem has shifted from one of unlimited expansion to one of coordination, greater efficiency, and the correction of inadequacies. In spite of these altered circumstances, Federal promotional policy continues to be concerned mainly with the promotion of more and more transportation capacity. Moreover, operating through separate public agencies, each acting as the special advocate of one form of transportation, the Federal Government spends an average of more than a billion dollars a year for transportation facilities without comprehensive plans.

Other deficiencies in transport promotion emphasize further the importance of examining public policy. Waste of public funds; vague and conflicting objectives; the absence of criteria to guide expenditure; and questionable methods of financing, cost allocation, and administration have all furnished evidence of serious shortcomings.

Under existing promotional policies, neither investment decisions nor the manner in which the transportation bill is paid can be said to afford an intelligent setting for an economic use of facilities or a wise application of resources. With regard to financing the fixed transportation plant, the general taxpayer pays for

water and air facilities, and to a considerable extent for highways, although railroads at present receive no direct support from general taxation. When users do not pay the cost incurred by governments, as well as those which arise from the operation of vehicles utilizing government facilities, the resulting rates are lower than would otherwise be possible, producing an unequal competitive situation.

Under ordinary circumstances users should pay the full cost of public facilities, thus establishing a sounder basis for competitive relations because the cost of public facilities would be reflected in rates. In addition, user charges, furnishing government revenues on a relatively stable and predictable basis, would promote financial planning and budgeting of expenditures with due regard for traffic "earnings," thereby emphasizing economic criteria.

The introduction of user charges, furthermore, would assist investment decisions by imposing a restraint upon extravagance, since the beneficiaries of transport developments would know that responsibility for costs incurred was theirs. But user finance would provide no automatic indication of how much of our resources could economically be devoted to transportation developments. The fact that charges would be established by Government and that transportation is a necessary service would render tolls and user charges comparable to monopoly prices; and any monopoly of an essential service can exact a return far greater or less than could economically be capitalized in the enterprise. It is obvious that, under such a system of finance, it would still be necessary for public agencies to make careful calculations of costs and benefits for individual projects.

The adoption of user charges and the further development of cost and benefit calculations to guide investment might still fail to permit a realization of the relative economies of transport agencies. A potential source of inequality would be the difference in methods of determining the costs of private and of public facilities. Public financing on a pay-as-you-go basis takes no account of implicit costs corresponding to the rate of return from private investment, although user charges for public facilities may be designed to

cover large capital outlays and not merely current costs. Under existing investment conditions these differences in supplying capital may balance well enough for all practical purposes to insure equity, but because of changing circumstances the ultimate solution may lie in the public ownership or leasing of all basic transport facilities, with the railroad fixed plant placed in the same category as public highways, waterways, and airways and paid for according to use. This step would establish a basis of equality in the provision of all transport facilities. Likewise, it would overcome the difficult problems arising from the railroad's burden of fixed indebtedness, for the user charge would be based on volume of traffic, thus substituting a variable for a fixed obligation. In addition it would permit more effective provision of transportation plant because it would facilitate joint use of rights-of-way and structures, coordinated terminal arrangements, and over-all plans directed to transportation requirements as a whole.

Still another advantage of public ownership or leasing of all the fixed transportation plant would be realized in connection with emergency public works programs which now apply only to highways, waterways, and airways. In the future the extension of such programs to the railroads would have the advantage not only of creating a more competitive condition, but of tapping a large new reservoir of useful and needed construction projects. The tremendous task of planning adequate public works for the period of transition from war to peace cannot be successful in the field of transportation unless it comprehends all transport media. This is the central problem of public development policy. Its solution will require social inventiveness of a high order, a willingness to face the issue, and ingenuity in contriving devices, whether they take the shape of public ownership of the railroad fixed plant, public leasing of that plant, joint public-private investment corporations, or other measures.

It may not always be desirable to finance transportation facilities on a user basis. In the first place, the principal purpose is to obtain the facilities necessary for accomplishing our national objectives, and the manner in which such facilities are financed is therefore a secondary consideration which depends upon how the

ultimate goal can best be achieved. Secondly, non-transport objectives might make it impossible or unfair to charge the full cost to users. In general, however, it is believed that with such exceptions as defense needs and the development of new techniques, and new modes of transport, user charges offer the best means of financing the transportation plant.

Public promotional policy may be criticised not only because it sponsors unequal competitive conditions and uneconomic utilization of resources, but also because it fails to encourage the desirable coordination among various types of transportation plant, among the programs of the several levels of Government, and between transportation and nontransportation objectives. The logic and necessity of establishing a coordinated plan for transport promotion reinforce the case for a unified Transportation Agency.

Regulatory Policy

Until enactment of the Transportation Act of 1920, attention was focused principally on the elimination of unjust discrimination and excessive charges. The weaknesses of the railroad industry during the World War brought changes in policy that gave the Interstate Commerce Commission a more positive responsibility for the financial health and service adequacy of the carriers. The machinery provided by this act had scarcely begun to function before the advent of motor and water competition. The effects of this competition coupled with those of the severe depression of the early thirties aroused strong support for the extension of economic regulation to other types of transport. Regulation roughly comparable to that of the railroads was provided for motor carriers in 1935 and for common carrier inland waterway operators in 1940. Meanwhile a series of regulations particularly adapted to the needs of the industry was applied to airlines.

The force of competition and the application of changing regulatory standards have brought about gradual and often uneven adjustments of the rate structure. From the earliest days of regulation it has been common for communities and even for large regions of the country to allege that existing rate structures were discriminatory and deprived them of the development to which they felt entitled. The broadest of these

controversies has concerned differences in rate levels prevailing in the three major classification territories which are said to place barriers in the way of economic development over the southern and western sections of the Nation.

The problems involved in this controversy are extremely difficult to evaluate. Almost every region in the country considers itself the victim of the rate structure, a partial explanation being that "discrimination" inheres in any economically practicable rate structure. Adjustments which one area call equalization of opportunity are decried as favoritism by another. Solution of the problem obviously is one of elimination of unfair or unjust discriminations. Particular rates cannot be criticized without reference to transportation conditions and rates for similar performance elsewhere. The facts and issues require careful and objective weighing. The Transportation Act of 1940 recognizes the complexity of this problem and directs the Interstate Commerce Commission to investigate its elements and to take appropriate action to eliminate unfair discrimination against any region of the Nation. With a clear mandate from the Congress, the Commission is in position to deal with the problem in the comprehensive manner and objective spirit which a fair solution requires.

Recent extension of regulation to the newer modes of transportation has given rise to discussion of the wisdom of these steps. In evaluating regulatory policy, one group of students has directed its attention to the development of criteria for carrying out present policy. This group feels that unrestrained competition can only result in chaotic rate conditions, depressed earning power, and uneconomic duplication of facilities and services. The stabilization of the rate level is regarded as essential to the maintenance of a sound industry, and regulatory controls based upon more adequate cost knowledge are relied upon to protect the public from excessive charges. It is thought that regulation can produce essentially the same results as competition, but without the deleterious effects. Although the difficulties of administering present regulatory controls are recognized, the task is not presumed

to be insuperable and its wise completion is expected to convey public benefit.

The predominant importance of developing a rate structure which recognizes the cost and service advantages of the various transport agencies necessitates the promulgation of appropriate economic bases for the exercise of minimum rate powers. It has been suggested that rates below the out-of-pocket costs of low-cost carriers should not be permitted; that a bottom should be placed under competitive rates fixed by the cost of service of the cheapest mode of transport; and that the question of permitting high-cost carriers to meet the rates of low-cost agencies must be answered in accordance with circumstances. In no event should the high-cost carrier be permitted to go below its own out-of-pocket costs. Consideration should, however, be given to the existence of unused capacity on the part of high-cost carriers and to the desirability of securing the stimulus which results from effective competition. It is assumed, of course, that the Interstate Commerce Commission will demonstrate a high degree of capacity in adapting the general controls established by law to the various conditions encountered. The success of the regulatory policy embodied in the act of 1940 depends, according to this view, upon the wisdom of its application.

Although the Nation has adopted a policy of comprehensive regulation of all types of carriers, there is a growing body of thought which insists upon the need to reexamine economic conditions in the industry in order to appraise the existing regulatory structure and determine the direction for future policy. It has been suggested that the conditions which prompted the original railroad regulation no longer exist. Instead of danger of a railroad monopoly, competition between and within the various media has become widespread. The difficulty of regulating the numerous enterprises now engaged in transport, the rise of unregulated private carriage, and the possible necessity of further extending regulation to consolidate the controls already existing, raise the question whether it would not be more beneficial to allow larger play to competitive forces.

The lack of evidence of economies of scale in the

motor-carrier industry, and to a lesser extent in inland water transport, plus the obvious incentives to efficiency which result from the competition of numerous carriers, have created doubts in some circles regarding the desirability of strict control of entry into these industries. The growth of rate bureau procedure, the restriction on individual action in rate making, the establishment of minimum rate structure on the rail basis, and the growing tendency for motor and rail carriers to agree on rate relationships, all suggest the ultimate curtailment of competition in transport and a higher cost to the users.

Although it may have appeared reasonable to regulate the competitors of the railroads in the traditional pattern or to remove some of the restraints on the railroad industry, public policy might recognize differences in the economic characteristics of the various transport media and provide regulations for each directed to its own particular characteristics. Thus, motor carrier regulation might be confined to reasonable safety, labor, and liability requirements, although most of the existing railroad controls were continued. Greater latitude might, however, be afforded the rail carriers in meeting the prices of rivals, due precaution being taken to prevent use of their greater economic power to destroy competitors. The fundamental change in the transport industry, the continuing pressure for further extension of regulation to private carriers, and the evidence of a rising rate level under comprehensive regulation make a strong case for relaxation of existing controls.

The Labor Problem

It is typical of belief in the possibility of progress that most subjects of major economic importance are characteristically described in terms of the problems they present. Labor is included among the many transportation problems. In the light of present-day standards, most students of transportation labor would grant that, in spite of set-backs, the long-time trend has been one of improvement. Thus, the recognition that collective bargaining is fundamental to good employer-employee relationship is more widespread in the United States today than at any previous time.

There has been no important interruption in service in the railroad industry because of employer-employee conflicts for many years. The air transport industry is achieving a similar stability, in part by following similar practices. In water transportation there is much evidence that the violence of the thirties is being supplanted by a more orderly regime of negotiation and contract. Motor transport has also made important gains in establishing the institutions and practices that make for labor peace. The transportation industry as a whole has made its adjustments to the war program without major labor disturbances.

In the field of labor standards progress has been rapid and substantial. The 8-hour day has become the general rule in the transportation industry, while in some sections even shorter work schedules have been agreed upon. A great part of the area of wage rates is covered by labor contracts at levels which for some groups are among the best that American industry has provided. Areas of low wages have been reduced both by agreement and by regulation under Federal law. Competitive strains have been diminished through a narrowing of the differences in wage standards among the several branches of transportation. Safety standards have been steadily improved.

Some of the greatest gains for transportation labor have come in the field of legislation. The Railway Labor Act and the National Labor Relations Act have strengthened labor's collective bargaining position. The Railroad Retirement and Unemployment Insurance Acts have provided old age pensions and unemployment benefits for railroad workers. The Social Security Act has established old age and survivors insurance for industrial workers generally, including most employees in other branches of transportation. State unemployment insurance legislation includes employees in all other branches of transportation except seamen. Safety legislation, both State and Federal, has not only benefited employees, but has protected the high-standard employers from a form of unfair competition.

These gains of labor by no means represent a complete catalogue. They indicate, however, the progress which labor in the transportation industry has made.

They suggest that the improvement of the processes of collective bargaining, the maintenance of high and competitively even standards of hours, wages, and working conditions, and the provision of adequate protection against economic insecurity are desirable and necessary features of a national transportation policy.

In the field of social legislation, railroad labor is more adequately provided for than most employees in other forms of transport. Consideration should be given to including seamen in the coverage of unemployment insurance, and in coordinating more equitably than is now the case Federal and State legislation as to retirement and survivor insurance and unemployment compensation. In spite of the widely admitted advantages of workmen's compensation, interstate transportation workers are still largely covered by employers' liability procedure in providing compensation for employee accidents. There are conditions peculiar to transportation which affect this problem, but such studies as have been made indicate that forms of workmen's compensation can be devised which have advantages over existing liability procedure for both employers and employees in the transportation industry.

The increasing strength of labor groups in transportation has itself given rise to problems which should be recognized in any consideration of national transportation policy. Among these are problems which spring from labor's reaction to technological and organizational improvements in the transportation industry, which, in the short run, at least, result in loss of jobs. Conflict between men and management on this point is as old as machine industry itself, and is particularly sharp in times of wide-spread unemployment.

In rail and water transportation the problem has been particularly acute. In the railroad industry labor, along with management groups, investors, and localities, has resisted coordination and consolidation measures designed to improve the service and operating performance of railroads in a manner which has made it difficult to focus attention on the merits of given coordination and consolidation plans. Legislation, likewise, has been advocated and sometimes enacted which, at

best, is under the strong suspicion of being furthered in the interest of protecting jobs more than improving safety and efficiency.

No other group of transportation employees is so favorably treated with respect to protection against the effects of coordination and consolidation unemployment as railroad workers. The existence of measures of protection has not, however, abated the opposition of railroad labor organizations to coordination plans which might result in fewer jobs, irrespective of possible long run effects of an opposite character. This opposition frequently has been matched on the employer side—an opposition which for both management and labor springs from a vested interest in existing economic relationships. Where either labor or management is able to demonstrate that coordination and consolidation plans cannot be expected to result in worthwhile economic and social saving, their opposition can both be understood and supported. On the other hand, in those instances in which it can be shown that worthwhile economic and social savings will result, neither the narrower interests of labor nor of management can be allowed to stand in the way of public interest and public policy.

Full-crew legislation and train-limit legislation are of a somewhat different character. Where their primary purpose is to require more employees than are necessary for safe and efficient operations, they do not accord with sound public policy. If labor is adequately protected against unemployment, these legislative barriers are against the long-range interest of labor itself. Such measures should be judged solely on their merits as safety legislation. Management must not be prevented from organizing operations as effectively as possible, if neither the safety of employees nor of the public is endangered.

Similar principles apply to other branches of transportation. In longshore operations, there has been evidence of "slow down" on the part of labor and opposition to the introduction of labor-saving machinery and methods which is contrary to the public interest. To some extent this productivity problem has been recognized in longshore labor agreements, and labor has given indication of a desire to improve the situation.

There is reason to suppose that the weapon of "slow down" will disappear as a serious problem as collective bargaining is accepted as an essential part of a labor relations policy and as employers develop strong and intelligent industry-wide organizations for industrial relations.

The extension and authority of labor agreements in the transportation industry has given rise to many problems of interpretation of working rules, particularly in the railroad industry. Disputes over the interpretation of rules which can be handled by direct negotiation offer no difficulty. Not infrequently, however, agreement cannot be reached, and some kind of arbitration machinery is necessary. In the railroad industry the final arbiter is the National Railroad Adjustment Board, organized in several divisions and composed of equal members of representation of labor and management. If agreement on a disputed issue cannot be reached by a division of the Adjustment Board, a neutral referee is called in.

Decisions by referees frequently have been attacked, particularly when these decisions have required equivalent payments to employees in a given class of service on the ground that work to which their seniority or the working rules entitled them was performed by employees in another class of service. The subject is too technical to permit lengthy discussion. At the same time it seems clear that some of the decisions objected to cannot be defended on grounds of equity.

The Attorney General's Committee on Administrative Procedure made several recommendations in January 1941, as to Adjustment Board procedure which merit serious consideration. The Committee recommended that the Railway Labor Act be amended so that no claim filed later than 1 year following the event out of which it arose should be recognized as valid; that carrier representatives should be given opportunity to examine the submission of claimants and make formal replies to them; that the privilege of filing briefs and addressing oral arguments to the referee be permitted in all divisions of the Adjustment Board; and that the hearing of cases be expedited through use of the authority which each division of the Adjustment Board has of empowering two or more members of a

division to hold hearings and recommend findings to the entire division. The Committee also suggested that a nonpartisan agency, if it could be brought into being by agreement between men and management, would prove more effective than the present bipartisan Board.

These recommendations do not, however, touch the question of the substantive character of the Board's decisions. Here is a problem for which men and management in the final instance are primarily responsible. If the rules are being interpreted in a manner displeasing to either side, the way is open to change them by negotiation under the procedures of the Railway Labor Act. The point at issue, after all, is largely the question of craft jurisdictions. Is it necessary, in order to protect established seniority rights, that no man should perform work outside his class of service under any circumstances? To observers, looking at the industry from a position of some detachment, this does not seem to be necessary. It should be possible for men and management to work out a solution in the rules which would maintain seniority rights and at the same time give management the flexibility which is required in the interests of efficient operations. The two are by no means incompatible. It should be a part of transportation policy to assist and encourage the railroad industry to work out its own solution of this problem in terms of the larger interests of labor, management, and the public.

It should also be said that it is not in the interests of the users of transportation service that rules should be interpreted in a spirit of narrow legalism. If either labor or management attempts to exact the last pound of flesh which a literal and technical interpretation seems to permit, without regard to general considerations of equity, the whole structure of collective bargaining and union agreements is weakened and endangered.

Transportation and General Policy

Because transportation is intimately geared to the workings of the whole economy, the closest interrelationship exists between transport operation and general government policies. Objectives of a broad economic nature may be attained in part through transport rates

and services, and by the provision or withholding of basic facilities.

Transportation facilities, rates, and services constitute important potential tools for Government planning. For example, they are related to such problems as diffusion and diversification of industries in what are now predominantly one-industry regions; equalization of opportunities to serve markets regardless of relative transportation costs; dispersion of urban concentration; expansion of economic activities in undeveloped sections of the country; and bolstering of distressed areas. Such policies have frequently been promulgated in the past. Closely related to such programs for regional adjustments are those designed to foster particular industries. Import and export rates affect or may even nullify the foreign trade and tariff policies of the Federal Government.

Other possibilities of planning through transport activities lie in the rehabilitation of depressed sections in urban areas and the provision of housing and recreation projects which are to a considerable extent dependent for their success upon transport accommodations supplied in connection with them. In addition such programs urgently require the wholesale rebuilding of city terminal areas to eliminate the blight surrounding them and to permit desirable uses for potentially valuable sites abandoned because of congested, unsightly, and unhealthy conditions. In rural areas transport development must be coordinated with appropriate land use by judicious planning of local road systems and abandonment of unnecessary mileage.

If broad reforms of this sort are to be made the object of public policy, it is apparent that transportation is related to them so directly that it can be made an instrument for achieving them. But it should be recognized that the present tenets of regulation would require great expansion to embrace those ends.

Post-War Public Works

Looking beyond the present war, it seems clear that transportation policy must be based upon the assumption that general economic policy will be directed toward the maintenance of production and national income at levels assuring substantially full employment. We must expect the national income to range upward from \$100-\$120 billions a year. There can

be no question that the magnitudes with which transportation policy must deal will be markedly increased. This is of the greatest consequence, not only for the planning of a transportation system adequate in size to meet the new demands, but for the differential development of the various types of transportation. At high levels of production and consequently of transportation, the complementary character of the several modes of transport may become dominant over their competitive features. In an America enjoying a national income of \$120 billions or more, vastly greater transport capacity will be necessary.

Transportation is closely related to public investment, and it seems clear that whatever set of policies may be determined upon to secure a full-employment level of production and income, the public investment ingredient will be greatly expanded over any previous levels, and may conceivably be relied upon as the major element of general economic policy. Moreover, the expanded public works programs of the next decades may well contain an even higher transportation element than hitherto, particularly in view of the accelerated advances in technology.

Unfortunately, plans for transportation development are hampered by the absence of appropriate machinery for coordinating the projects of the different transport agencies; and the private ownership of railroad way and structures seriously restricts the opportunity for public investment. The problem of railroad modernization, particularly in the terminal areas, requires that attention be directed immediately to ways and means of including rail projects in the post-war reconstruction program. This action is necessary also to permit an over-all approach to planning public works in transportation, and it appears logical to conclude that such matters are the proper function of a unified Transportation Agency. For largely upon the nature of the post-war projects included on the public works shelf, and upon the wisdom with which they are coordinated, will depend the realization of an adequate transportation system.

Policy Recommendations

Throughout this Summary Report, conclusions have been indicated implicitly in the nature of the discussion.

In order, however, that the direction of the findings may be made explicit, salient policy recommendations have been outlined below. These recommendations naturally must be read within the context of the foregoing discussion:

I. A Unified Transportation Agency

Problem.—Though a billion dollars a year is spent by the Federal Government in the provision of transportation facilities, there is no machinery for coordinating this activity to the end of providing the most efficient transport system best adjusted to the needs of the Nation. Federal promotion of transportation operating through separate and independent agencies which act as special advocates of one medium or another is at once the most significant force in transport development and the most poorly coordinated phase of transport policy. Integration of planning and development is essential to an orderly guidance of the Federal Government's investment program.

Recommendation.—A National Transportation Agency should be established to coordinate all Federal development activity in transportation along the lines of a general and progressive plan under appropriate legislative directives. Existing development agencies would be absorbed as divisions of the new Agency. Apart from the normal development functions of these agencies, it would be the special responsibility of the Agency to undertake leadership in programs for transport consolidation, terminal unification and reconstruction, coordination of the various transport media, and encouragement of the development of new forms of transport within their respective economic spheres. Active cooperation with the regulatory agencies would be required, but the National Transportation Agency would be responsible for the unification of the Federal Government's planning, development, and administrative functions in the field of transportation.

II. Rebuilding and Coordination of Terminals

Problem.—Terminals present some of the most difficult and most neglected of transport problems. In many urban areas they have grown without plan and without attention to their effects upon land use and the general urban industrial, commercial, and residential

development, and too often they symbolize urban blight. Seldom are the facilities of the various types of transport efficiently coordinated to provide the best and most economical terminal service.

Recommendation.—The planning and construction of modern, unified terminal facilities to serve a coordinated transport system is a logical public responsibility for which leadership should be undertaken by the proposed Transportation Agency. Such modern terminal areas should be provided by appropriate government action as an integral part of the city plan, their facilities open on equal terms to all suitable carriers.

III. Public Responsibility for Basic Transport Facilities

Problem.—The basic facilities for highway, waterway, and air transport are publicly provided. A strong, insistent, and pervasive public demand by a transport-conscious people has resulted in a great development of these facilities and their progressive improvement and modernization in keeping with technological progress. Although these developments are necessarily brought to a halt in the war emergency, it is abundantly clear that, with the return of peace, the shackles will be broken and a transport-rationed people will demand and secure a vastly enlarged system of highways, airways, and, to a lesser degree, waterways that will overshadow all the progress of the past.

In sharp contrast, the privately owned railway plant is in the main dependent for its modernization and improvement on access to private investment markets. No matter how antiquated these facilities may be; no matter how great the need for modernization, improvement, and rebuilding; and no matter how imperative may be the national economic need for the resuscitating influence of these developments in time of growing unemployment, the decisions must rest with managers and investors who necessarily are confined to the limits set by private finance. In consequence, the railroads are barred from participation in public works and development programs, and likewise, they are excluded from public plans embracing physical coordination with other forms of transportation.

Another condition stemming from the position of the privately owned railroad plant in a setting wherein all other basic general transport facilities are publicly pro-

vided is their unequal competitive position. In the lean years as well as the fat years, the railroads must carry a heavy burden of fixed charges while at the same time their competitors operating over public ways are subject more to variable costs which fluctuate with the volume of traffic. That these burdens have for many roads become unbearable is attested by the record of railroad bankruptcy and receivership. And even in the lean years public investment in highways, airways, and waterways grows apace, thus threatening the railroads with ever more and sharper competition. The net result of this condition has been increasingly to place railroad securities in the speculative classification. Under these circumstances there can be little assurance that capital funds will be forthcoming for a program of railway modernization and improvement commensurate with the national need in the post-war transition period.

Recommendation.—Logic and necessity suggest that the credit of the Federal Government must, by appropriate fiscal devices and under appropriate safeguards, be made available to the end that the formidable tasks of railway modernization and improvement may be included in public works programs aimed at upbuilding the country and at sustaining the national economy in the forthcoming difficult years of transition from war to peace. It must be a central task for the proposed Transportation Agency to devise suitable means.

IV. Railroad Consolidation

Problem.—Well-planned combination has been thwarted by the opposition of a multitude of interested groups, unworkable provisions of the Act of 1920, and the failure to provide authority to compel consolidation. In consequence, wasteful duplication of facilities and competing services continue. Plans for coordination and consolidation in transportation which can be shown to result in increasing the economy of operations should be furthered despite opposition from investors, labor, management, or affected communities based on a narrow vested interest in existing economic relationships.

Recommendations.—Under appropriate legislation the Transportation Agency should be empowered and directed to proceed at once with developing and carrying out plans for the economic consolidation of

operating railroads. Consolidation should contemplate a limited number of systems arranged along regional lines, but avoiding systems of excessive size.

V. Highway Transport

Problem.—The rubber shortage and the conversion of automobile plants to war production make inevitable a drastic curtailment in the use and development of highway transportation equipment. At the same time, shortages in material and labor and the loss of normal sources of highway funds require a similar reduction in roadbuilding activities until after the war.

Recommendation.—War conditions provide an excellent opportunity in the highway transportation industry for the redesign of automotive equipment along functional lines; and for the planning of a modern interregional highway system and urban express routes to accommodate the automobile of the future. The highway transportation industry and the Federal and State governments should undertake now the task of assuring the restoration of motor transport after the war on a modern and efficient basis. Leadership in this program should be undertaken by the proposed Transportation Agency, with special reference to the powers inherent in the control of Federal promotional funds.

VI. Urban Highway Development

Problem.—Accidents, congestion, delays, high operating costs, and lack of accommodations which harass the movement of city traffic provide striking demonstration of the inadequacy of highway transportation in urban areas.

Recommendation.—Major emphasis in future highway development must be directed to the provision of express highways and off-street parking in urban areas. Under the guidance of the proposed Transportation Agency, the Federal-aid program and the distribution of State motor vehicle revenues to municipalities should be revised to cope adequately with the magnitude of the urban problem.

VII. Land Acquisition

Problem.—Needed development of transport facilities is frequently restricted or prevented altogether by antiquated legal procedure and inadequate financial

ability which beset the States and localities in acquiring land for public purposes. This situation constitutes a primary obstacle to preparing transportation projects for a post-war program of public works.

Recommendation.—Immediate authority should be granted to permit the Federal Government to acquire and finance land acquisitions at the request of State and local governments, as well as for Federal promotional agencies. Properties acquired for State and local governments would be repurchased from the Federal Government on such terms as the proposed Transportation Agency may determine to be suitable.

VIII. Expansion of Air Transport

Problem.—The impact of war conditions upon air transport through aircraft development and production, pilot training, airport construction and other aids promises a tremendous acceleration of the industry and an enormous peacetime capacity in the post-war period.

Recommendation.—The proposed National Transportation Agency should be directed to accept the unexampled challenge of air transportation by planning in the most enlightened manner for the establishment of the new medium as a major and integral part of our future transportation system. This planning must comprehend programs for conversion of the airplane industry from war to peace, for location and construction of airports on a vastly expanded basis, for enhanced development of aids to aerial navigation, and—above all—a rational program for coordination of air transport with other forms of transportation.

IX. Regulation

Problem.—Questions have been raised regarding recent extensions of regulatory controls in the transport industry. It has been suggested that differing economic characteristics of motor and water transport make it undesirable to pattern their regulation upon established methods in the railroad industry. The danger follows that unnecessary rigidities and the encouragement of rate agreements may lead to inferior service and higher costs than would prevail from unregulated competition. The problem, in essence, is that of finding a balance between competitive forces and public controls. Public policy must insist on retention of the maximum benefits

of competition in price, in service, and in flexibility consistent with the avoidance of chaos.

Recommendation.—The extended regulation under the Motor Carrier Act of 1935 and the Transportation Act of 1940 is too new to provide adequate experience on which to base a policy decision at this time. The proposed Transportation Agency should, however, undertake continuing evaluation of the economic results of present regulatory practices, including changes in the rate level, quality of service, and intensity of competition. It should examine regulatory authority and practice critically, in the light of developments in transport technology, with a view to determining whether the alternative of relaxation should be attempted; and it should make suitable recommendations to the President and the Congress for any legislation which it may consider advisable. Meanwhile, regulatory agencies should apply with caution the minimum rate and right-of-entry controls to avoid undue restriction of competitive forces.

X. Interterritorial Freight Rate Controversy

Problem.—No conceivable freight rate structure can be free of “discrimination.” This condition underlies charges of discrimination against particular regions. The policy problem is that of a careful, comprehensive, and objective weighing of the freight rate structure with a view to eliminating unfair discrimination. This cannot be done in terms of specific rates in isolation but, rather, must be done with reference to transportation conditions and rates for similar hauls elsewhere. Although discrimination among localities has been unlawful since 1887, in the Transportation Act of 1940 the Congress has specifically recognized and proscribed regional discrimination in rates, directing the Interstate Commerce Commission to study the elements of the question.

Recommendation.—The complexity of the rate structure and of the issues involved in the present controversy and the nature of the problem are such that further legislative treatment appears inadvisable. It is urged, however, that all the interested groups lend their cooperation to the Interstate Commerce Commission in order that a fair solution may be sought in an objective and dispassionate spirit. Moreover, it is to be noted

that the acuteness of this problem will be alleviated with the further development of competitive agencies of transport.

XI. Labor

Problem.—Long-range considerations require greater attention to the desirability of more equitable balance among the several transport agencies in collective bargaining arrangements, labor standards, and labor legislation.

Recommendation.—The logic of nation-wide organization of transport employees requires a parallel organization of employers in each of the several branches of transportation for the conduct of industrial relations on an industry-wide basis. These industrial relations must extend far beyond the normal limits of bargaining to embrace systematic cooperation between men and management, not only for their mutual benefit but to serve the public interest in transport efficiency, service, and safety. Arrangements for negotiation between men and management, however different they may be in the various transport agencies, must be equally effective in promoting the solution of employer-employee conflicts without interruptions in transportation service. There should be a greater degree of uniformity of standards in social security legislation for the transportation industry, and greater consideration should be given to the possibility of substituting workmen's compensation procedure for the present system of employer liability. Procedures of the National Railroad Adjustment Board should be revised to accord with the recommendations and suggestions of the Attorney General's Committee on Administrative Procedure. Agreement rules which have been interpreted to require a rigidity of jurisdictional lines as between occupations should be altered to permit greater flexibility in securing economy and efficiency and in improving service without sacrificing the interests of employees in maintaining labor standards on a high and equitable level. In the interpretation of rules any attempt to substitute a narrow legalism for considerations of justice and equality should be rigorously opposed.

XII. Post-War Investment

Problem.—Inevitable readjustments following the present war will require far-reaching participation in

productive investment designed to stimulate and maintain a high level of national income. Although billions of dollars have been spent in the past to provide emergency relief employment on transportation projects, results have been grossly inadequate in the light of what might have been attained.

Recommendation.—The transportation industries, properly developed and coordinated as contemplated in this report, offer some of the most promising opportunities for wise investment. Public expenditures aimed at securing lasting enhancement of the national income, however, must be carefully planned in the field of productive enterprise. Both the formulation and the execution of such plans must be the special province of the proposed Transportation Agency, to the end that the transportation industries may make their contribution toward bridging the transition between war and peace and in order that the Nation may build a transportation system commensurate with our material resources, our technological possibilities, and the resourcefulness of our people.