THE PANAMA CANAL AND THE WEST

IN CONSTRUCTING and operating the Panama Canal as a public enterprise, the government of the United States was moved by both political and economic considerations. The general public probably grasped more clearly the political than the economic possibilities, since the spectacular trip of the Oregon around the Horn in 1898 clearly demonstrated the advantages of a waterway across the Isthmus as a means of defense in time of war. For the most part, ideas on economic effects were rather hazy, though, in general, economic advantages were taken for granted.

From 1902, when the French rights in the Canal Zone were purchased, until 1914, when the first commercial ship passed through the Canal, construction problems were foremost. From 1914 until 1918, when the Armistice was signed, commercial possibilities of the Canal were obscured by the fact that boats were almost entirely taken from the intercoastal trade because of the more lucrative European war trade, and by the fact that government operation of the railroads removed from railroad officials the immediate problems of tonnage and earnings.

CANAL BRINGS PROBLEMS AFTER ARMISTICE

Between 1918 and 1928 the Canal proved itself to be a very important commercial factor. Complaints have been made that economic effects have been far different from those anticipated during earlier years. Transcontinental railroads, intermountain jobbers, manufacturers and distributors of the Middle West, exporters on the Pacific coast, and others are positive in pointing out serious losses which they have incurred because of Canal competition. Producers of wheat, lumber, fruits, copper, potatoes, and other products in vast areas of the western United States are now watching with apprehension the loss of railway revenues in the West, fearing a modification of rates on their respective commodities to make possible adequate returns to the railroads. Atlantic coast interests, Pacific coast jobbers, boat-owning interests, and others, it is asserted, have received the benefits which the others have lost.

It is needless to state that it is almost impossible to discuss the effects of Canal operation without appearing to take sides in a conflict involving personal, sectional, or group interests. The construction and operation of a canal through public enterprise could not be expected to react with equal degrees of favorableness on different groups, sections, or persons. When there is a conflict between these interests, public need and welfare ought to determine public policy. Injury to some and benefit to others ought to be merely incidental to the main purpose. It is the purpose of this article to examine some of the claims as to losses and benefits; not to take sides with contestants, but to test the contribution to general welfare, and to suggest modifications in public policy which will better provide for the future needs of the country, and which may at the same time lessen unnecessary inequalities of opportunity.

EXTENT OF CANAL COMPETITION

Some hope has been held out to those who suffer from disadvantageous Canal competition that the Canal is fast reaching the limit of its physical capacity and that relief will be obtained in the future through the natural course of events. This is not the belief of some who are closely identified with the operations of the Canal. A former governor has published a statement to the effect that only part of the present capacity of 50,000,000 net tons lockage has been utilized, and that it would be possible to increase the capacity to 100,000,000 net register tons by duplicating present facilities as needed.[1]

Examination of Canal records will bear out this statement. During the period from 1914 to 1927, the total net tonnage of the Panama Canal was 174,677,954 tons. The total cargo for the same period was 185,655,490 tons. Panama Canal net tonnage is the space of the carrier which may be used for cargo or pas-

[1] Jay J. Morrow, *Maintenance and Operation of the Panama Canal* (1923), pp. 33–34.

senger transportation divided into units of 100 cubic feet each, exclusive of portions of the vessel used for propulsive equipment, crew's quarters, etc. A ton of cargo may be 40 cubic feet, 2,240 pounds, or 2,000 pounds, depending upon the character of goods transported or the section of the United States in which the shipment originated. While in theory a Panama Canal net ton is approximately two and a half cargo tons, because of movement of ships through the Canal in ballast, and because of the fact that it is impossible to fill each 100 cubic feet to capacity because of the character of the goods, etc., ships passing through the Canal have carried on the average 1.06 tons of cargo for each ton of capacity for the fourteen years the Canal has been in operation. On that basis we may assume that the cargo capacity of the Canal at the present time is a little more than 50,000,000 cargo tons, which is the equivalent of about two billion bushels of wheat, more than twice our annual wheat crop in any post-war year. The construction of additional facilities would increase the capacity by another 50,000,000 tons. The Canal would then be able to carry an equivalent of four or five times our present annual wheat crop. If the direction of cargo should shift so that vessels would cease to go through the Canal in ballast, and if the character of goods should become such that the total capacity would be more nearly utilized, a slight exercise of imagination enables one to see the capacity of the Canal increased still further. The greatest tonnage which has actually gone through the Canal in any year was approximately 29,600,000 tons in 1928, so the Canal has a vast unused capacity for further competition with railroads.

INCREASE IN COMPETITIVE TONNAGE

The Canal traffic at present includes goods transported to or from the Pacific coast for domestic consumption, goods transported from the Middle West or Mississippi Valley destined for a foreign country by way of a Pacific port, and goods shipped to the United States by way of the Pacific. This traffic may be considered competitive, since in any of these cases these goods may furnish tonnage for railroads of the western United States. Canal traffic also includes goods, such as petroleum and petroleum products, which because of their nature or destination are non-competitive, since they would not normally furnish tonnage for the railroads. Records for past years show that non-competitive tonnage through the Canal has fluctuated widely, while competitive general tonnage has shown a consistent growth each year since the World War. The report of the governor of the Panama Canal for 1928, after stating that fluctuations in traffic during previous years have been due largely to fluctuations in tanker traffic, calls attention to the fact that the heavy increase in 1928 over the preceding year was due largely to general traffic. "In Panama Canal net tonnage the tankships decreased 1,380,143 tons, while general cargo vessels increased 4,610,962 tons, a net increase of 3,230,819 tons."[2] One notable example of an increase in competitive tonnage cited in this report was that of wheat, which rose from 1,477,376 tons in 1927 to 3,035,884 tons in 1928, an increase of more than 105 per cent.[3]

These steady increases in general tonnage indicate that the transcontinental railroads are losing each year a larger amount of traffic to their water competitors.

There has been much controversy over the extent and seriousness of this loss of tonnage by the transcontinental railroads to Canal carriers. Some students of the problem are inclined to consider a ton carried by the railroads in every way the equivalent of a ton carried by water, and to conclude that the few million tons of competitive freight that go through the Canal are a negligible quantity when compared with the hundreds of millions of tons carried by the western railroads. One witness before a Senate committee in 1926 testified that the total competitive cargo tonnage, both east and west through the Canal in 1924, according to Canal reports, was 5,217,636 tons, while the entire tonnage of the group of railroads listed by the Interstate Commerce Commission as western railroads for the same year was 627,754,000 tons. Accordingly, the competitive tonnage of the

[2] *Report of the Governor, Panama Canal* (1928), p. 9.

[3] *Ibid.*, pp. 16, 17.

Canal would be less than 1 per cent of the total of the western railroads.[4]

INCONSISTENCIES IN COMPARISON OF TONNAGE

There are three significant facts which those holding this point of view apparently have failed to consider. The first one is that figures for western railroads include those of many roads which are not seriously affected by Canal competition. Some of the most prosperous roads in the Mississippi Valley are listed by the Interstate Commerce Commission as western railroads. In some cases, instead of being injured by Canal competition, the roads enjoy a very profitable haul to Gulf ports as the first stage in transportation by way of the Canal. These roads are really a part of the competition which has injured other western roads so severely. Others of the western group of railroads are prosperous Middle West or Corn Belt roads. While they may be affected by Canal competition, they have such a large bulk of business independent of the transcontinental haul that they are not vitally injured. It seems that the tidewater Pacific coast roads are the ones that feel Canal competition most keenly. Some of these roads are transcontinental roads. All of them have a low traffic density, and all of them feel keenly the loss of even a small amount of traffic. From a strategic standpoint the transcontinental railroads are vital as a means of national defense. Any comparison of tonnage which leaves out of account the extent of the ill-effects of Canal competition on the tidewater roads is apt to give an entirely wrong impression of the effects of Canal competition on the general welfare.

The second fact which was apparently not considered is that in the case of tonnage transported by water carriers, only competitive tonnage was included in the total of 5,217,636 tons, while in the case of the western railroads, all tonnage was included. Even non-competitive coal and ore helped to make up the grand total of over six hundred million tons.

The third fact not considered is that the length of haul is important in the comparison. If the freight which went through the

[4] J. A. Ford, *Report of Senate Hearings*, S.B. 575 (1926), p. 62.

Canal had been carried by rail, the average length of haul for each ton would probably have been at least two thousand miles. The five million odd tons carried would thus have constituted about 10,643,000,000 ton miles. According to statistics of the Interstate Commerce Commission for 1924, the railroads which reach Pacific tidewater and which consequently would have had some part of this tonnage, in 1924, had a total of about 60,167,-000,000 ton miles.[5]

The competitive traffic carried by water carriers, viewed from the standpoint of ton miles, was thus about 16 per cent of the total revenue ton miles of the tidewater roads. The revenue ton miles for all the roads of the western district for 1924 amounted to 136,025,388,713 ton miles. It will thus be seen that, notwithstanding the fact that the list of western roads includes some roads which are actually benefited by Canal competition and many that are but slightly affected by it, the competitive traffic carried by the Canal would, if translated into ton miles, be over 7.75 per cent of the total carried by western roads, instead of "less than 1 per cent" as stated. If the competitive traffic carried through the Canal, stated in probable ton miles, is compared with the total revenue ton miles of the United States, 388,415,312,335 for 1924, it will be seen that the competitive traffic of the Canal is equivalent to nearly 3 per cent of the total for all Class 1 roads of the United States.[6]

EFFECTS OF COMPETITION ON WESTERN ROADS

It is not possible to obtain statistics by which to compare the portions of the competitive traffic carried by each set of carriers.

[5] The railroads referred to as reaching tidewater are as follows: The Santa Fe; the Northern Pacific; the Great Northern; the Chicago, Milwaukee, St. Paul, and Pacific; the Southern Pacific; the Union Pacific; the Western Pacific; the Los Angeles and Salt Lake; the O. W. R. R. and Nav. Co., and the Spokane, Portland, and Seattle. The Union Pacific is not included since it reaches tidewater through the Los Angeles and Salt Lake and the O. W. R. R. and Nav. Co. If it is considered as a system and the Spokane, Portland, and Seattle is considered with the Northern Pacific and the Great Northern, there are only seven roads (*Statistics,* Interstate Commerce Commission [1924], p. lxxxix).

[6] *Statistics,* Interstate Commerce Commission (1924), statement No. 25, p. xxxix.

Limited studies have been made for given localities. These studies, as far as they have been made, indicate that water competition has cut deeply into competitive traffic. A representative of the San Francisco Chamber of Commerce found in 1924 that water carriers transported 49.6 per cent of the competitive tonnage destined to and from California points.[7] Representatives of the Great Northern and the Northern Pacific railroads claim that these roads have lost even greater percentages of competitive business.[8] During the early part of the receivership of the Chicago, Milwaukee, and St. Paul Railroad, officials of that road testified before the Interstate Commerce Commission that the loss of tonnage to water carriers was one of the major causes of the financial failure of that road.

A study of the returns of western railroads indicates that the rate level in the West, so long as the volume of traffic stands at the present figure, is not adjusted properly to yield an adequate return, which the Interstate Commerce Commission has fixed according to the Transportation Act at 5.75 per cent on the fair valuation of the roads of the territory as a whole. In 1923 Class I carriers of the entire western district earned only 3.75 per cent per annum on the valuation claimed by them, and only 4.35 per cent per annum on the tentative valuation adopted by the Commission for the general rate increase of 1920.[9] While the fair value has not been determined by the Commission for all of the railroads of the West, it may be safely assumed that their earnings are well below 5.75 per cent of their fair valuation.

From the beginning the transcontinental railroads have been handicapped by lack of tonnage. They have a low traffic density and a small ton mileage total when compared with other railroads of the United States. It has been repeatedly charged that transcontinental railroads have been overbuilt, that there are more railroads than business requires. It should not be forgotten that the competitive traffic carried through the Canal in 1924 would

[7] Seth Mann, *Reports of House Hearings,* S.B. 2327 (1924), p. 318.

[8] Charles Donnelly, *Reports of Senate Hearings,* S.B. 2327 (1924), p. 505.

[9] 107 *I.C.C.* 448.

have been equivalent to approximately 10,643,000,000 ton miles if carried by transcontinental railroads. This amount is almost 25 per cent greater than the total ton miles of the Great Northern Railroad, almost 60 per cent greater than the total of the Northern Pacific, greater than the totals of the Union Pacific or the Southern Pacific. Only the St. Paul and the Santa Fe, if considered as systems, had an amount equally large. In other words, the Panama Canal, as far as the ton mileage it has withdrawn from the railroads is concerned, is the equivalent of another transcontinental railroad reaching from Chicago to the Pacific coast. Diversion of this traffic to carriers using a Canal which was constructed after the last of the transcontinental railroads was built is one of the main causes of the condition which has given rise to the charge that roads in the West have been overbuilt.

It is fair to say that, while western roads have lost some of their business, roads reaching the Atlantic seaboard and the Gulf have gained some, since goods produced at Detroit, Pittsburgh, and other inland centers must go by rail to the Atlantic coast for shipment to the Pacific coast or the Orient. It is also true, on the other hand, that some of the goods carried by water to Pacific ports furnish backhauls for western carriers, so that, while they lost traffic which they formerly carried west, they regain the shipment at the Pacific port and carry it to its destination inland. Hence tonnage carried through the Canal is not in all cases entirely lost to the railroads.

EFFECTS OF THE CANAL ON THE MIDDLE WEST

Not only have the transcontinental railroads been adversely affected by Canal competition, but the Middle West has also suffered severely from the effects of Canal activities. The location of population and industry in the Middle West has been largely determined by rates offered by railroads serving the district, just as the location in the Far West of the citrus fruit industry, the lumber industry, the copper industry, and many other industries was determined by the same factors. Anything which removes the advantages of favorable rates will necessitate a serious readjustment of industries and population. At least future growth and development will be checked.

That the Middle West has suffered such a loss of advantage was made apparent by a study made by the Department of Commerce in 1926, which compared the freight rates on a ton of steel goods, such as harvesters, plows, harrows, etc., from the Atlantic coast to the Pacific coast, and from Chicago to the Pacific coast before and after the World War. Before the Canal was put into operation in 1914, New York was 1,904 cents per ton away from San Francisco. In 1926, because of favorable Canal rates, though there had been no appreciable change in ocean rates as a whole, it was 1,680 cents away. Before the war, Chicago was 2,160 cents away from San Francisco; in 1926, it was 2,964 cents away. Chicago's raise of rates has a double explanation. First, in 1918, during the period of government operation of the railroads, relief under the Fourth Section was withdrawn and rates to the Pacific coast were raised to the level of rates at intermediate points, and, second, the general level of freight rates on shipments to all parts of the United States was raised during and following the war. Chicago, according to this calculation has moved 336 cents further away from the Pacific coast, while New York has moved 224 cents closer.[10]

That Chicago's disadvantage in rates is not greater than the figures given in the foregoing is due in part to the fact that the transcontinental railroads in 1923 voluntarily lowered rates on the competitive commodities named in the foregoing illustration, to both intermediate and coast points by amounts running as high as $7.00 a ton.[11] After all adjustments have been made, the Middle West, as far as freight rates are concerned, is farther from the Pacific coast than New York is. Part of the apparent disadvantage in rates, however, is offset by the fact that most products, or the raw materials entering into them, originate at an inland point and require a rail haul to the Atlantic coast, and the cost of this haul must be added to the New York to San Fran-

[10] *St. Lawrence Waterway Project,* Senate Document 183, p. 2.

[11] W. P. Kenney, *Report of Senate Hearings,* S.B. 2327 (1924), p. 576.

cisco water rate to determine the actual cost of delivery at the Pacific coast city.

Theoretically the changes in charges for transportation should cause readjustments of population and industry in the Middle West. Actually they appear to be doing so. A representative of the Chicago Association of Commerce testified to a Senate committee in 1924 that "there is not a day, any business day, that we are not constantly pressed on account of loss of business, not prospective but actual loss of business and the relocation of industries."[12]

Frequent reference has been made to the experience of two large Middle West concerns, one carrying stocks of general merchandise in the Middle West and on the Atlantic coast, and the other doing a manufacturing business with plants in the same general locations. Because of the absence of favorable rates by rail, both concerns were forced to transfer some of their activities from the Middle West to the Atlantic coast to care for business on the Pacific coast which for many years had been cared for by each from the Middle West.[13]

One Chicago traffic director said that "the building and operation of the Panama Canal completely revolutionized the trend of American transcontinental commerce."[14]

The Interstate Commerce Commission, in its majority opinion handed down March 1, 1926, admitted the plight of the Middle West, though this decision denied the relief asked for by the railroads.[15]

There are some who feel that the Middle West can get along without the business of the 5,000,000 people who live on the Pacific coast, since it still has its great home markets. Chicago, for example, has a territory reaching from 500 to 1,000 miles in all directions which for several decades has furnished a constantly growing local market for her products.

[12] J. P. Haynes, *Report of Senate Hearings,* S.B. 2327 (1924), p. 602.

[13] Butler Brothers, *Report of Senate Hearings,* S.B. 2327 (1924), p. 604; J. P. Haynes, *Ibid.,* p. 606; J. A. Ford, *Report of Senate Hearings,* S.B. 575 (1926), p. 59.

[14] Robert Hula, *Report of Senate Hearings,* S.B. 2327 (1924), p. 125.

[15] 107 *I.C.C.* 427.

But there is no reason to assume that growth of the Middle West as a home market will continue indefinitely. The phenomenal growth has been the result of favorable freight rates. The favorable freight rates to the Pacific coast have been lost, and as far as trade with that section is concerned, manufacturers and merchants have been forced to curtail their operations and move part of their respective enterprises to the Atlantic seaboard. With the loss of business activity, we may expect local markets to contract rather than to expand to take up the slack. Growth in population and industry must inevitably be checked. Without doubt the Middle West faces some very serious problems which have grown out of Canal competition.

COAST PRODUCERS HANDICAPPED

When the Pacific coast is considered, it is found that some producers have been benefited by the Canal. For example, oil producers of California have been benefited because their product could not have been handled advantageously by rail. Lumber producers have received benefits because of lower rates on the part of their product shipped to such markets as can be reached by water. But they must depend upon railroads to reach some of their most important markets, and they may lose the advantage gained by water transportation on their less important markets if, because of loss of revenues, the railroads must raise rates on their product to their more important markets which Canal carriers cannot reach. Those engaged in the production of wheat, copper, livestock, fruits, potatoes, and lumber in the intermountain region have secured less benefit from Canal transportation than producers of oil and lumber nearer the coast. They must depend entirely upon rail transportation to reach all their markets, even if part of the transportation is by water through the Canal. So must the producers of fruits and vegetables on the coast. As competitive tonnage continues to be handled in increasing proportion by boat, rail traffic becomes necessarily less. There can be but one result—rates must be raised on shipments of non-competitive commodities. The producers affected must stand the greater part of the loss which will be entailed by the raise, since the cost of transportation is deducted from the market price of the product to determine the price which the producers shall receive. So producers in the intermountain region, even though the Canal is utilized to reach part of their markets, find themselves handicapped in competing with other producers.

EFFECT OF CANAL ON JOBBING BUSINESS

Intermountain jobbers have suffered severely from the operation of the Canal. On the forty-odd groups of commodities which can be transported by water, and which make up a large part of the goods handled by jobbers, the coast jobber has the advantage over the intermountain jobber of several cents per hundred pounds in freight charges alone. In the case of certain iron and steel products, for example, charges for rail shipments are $1.00 a hundred pounds from Chicago to Seattle, and the same to points in the intermountain territory. The same commodities may be delivered by water from the Atlantic coast for about 70 cents a hundred pounds. The differential enables the coast jobber to undersell the inland jobber in territory which the latter formerly controlled and which he looks upon as his own. The result has been that the intermountain jobber has suffered severely, and up to the present has found no relief from coast competition.[16]

The operation of the Canal has brought certain expected benefits to the Pacific ports, but these gains have been accompanied by certain unexpected drawbacks. It was anticipated that the coast cities would have the benefits of competition between Atlantic and Middle Western producers. But the competitive railroad rates, established under Fourth Section relief, were removed in 1918, and many of the benefits of that competition were lost.

EXPORT TRADE OF PACIFIC COAST AFFECTED

While the loss of competitive rail rates has not seriously affected the ability of coast cities to compete with neighboring inland cities as jobbing centers, since they have the advantage of lower water rates, the export trade of these cities has been seri-

[16] 107 *I.C.C.* 427, 463, 468, Appendix.

ously affected, especially in relation to trade with the Far East in the class of goods produced in the eastern part of the United States. Pacific merchants cannot procure goods for export from Middle West producers at prices which can compete with Atlantic coast prices on account of present prohibitive freight rates. It follows that coast stocks, as far as competitive goods are concerned, must be made up largely from goods shipped from the Atlantic section. If goods produced on the Atlantic coast are to be exported to the Orient, there is no reason to ship them to the Pacific coast when the shipment might better go directly to its destination through the Canal. It is admitted that there are many influences which modify this tendency, but in general the Atlantic producers have very important advantages in developing this business for themselves. That they are doing so is attested by the fact that shipments by rail for export to the Orient are declining, while business through the Canal between the Atlantic coast and the Orient is increasing. A vice-president of the Northern Pacific Railroad said in 1924 that, while the business with the Orient in goods produced in the eastern United States has greatly increased, "the movement by way of the Pacific ports is actually less than it was twenty years ago."[17]

It is a fact that Pacific cities, as export centers, enjoy a tremendous trade, quite independently of any influence of the Canal, in the products of their respective territories, lumber, canned fruit, canned fish, flour, wheat, etc. It is only in regard to goods shipped from the East to these ports for export that the loss is so pronounced.

EXPORT RATES INADEQUATE

The railroads now have rates to Pacific ports on goods for export which are far less than their domestic rates on the articles affected. For example, steel for export may be carried to Seattle from Chicago for 40 cents a hundred, whereas the domestic rate is $1.00 a hundred. This rate applies only to straight carloads, with the minimum weights running as high as 80,000 pounds a carload. It can apply to foreign trade only in those extraordi-

[17] J. G. Woodworth, *Radio Speech,* March 10, 1924, p. 5.

nary shipments in which the foreign buyer desires a quantity large enough to be shipped in 80,000-pound carloads. Without doubt, in such cases, this export rate is of benefit to steel producers in the Chicago district in their competition with producers of the Pittsburgh district. As far as the Pacific ports are concerned, it will benefit them in furnishing their citizens with jobs connected with transferring the goods from the railroad cars to ships for export. As far as export merchants of the port are concerned the rate is really a paper rate, since goods of like nature shipped to them for stocks, to be unloaded in their warehouses and reshipped as foreign exports, will carry the higher rate of $1.00 a hundred. They are thus at a disadvantage in competition with Atlantic merchants who have the lower rate through the Canal. What Pacific merchants must have to develop an export trade is rates which will give them access to the products of the Middle West under terms which will permit them to compete with Atlantic merchants. Such rates are at present denied through the refusal of the Interstate Commerce Commission to re-establish rail and water competition.

HIGHER CANAL TOLLS ONE SUGGESTED REMEDY

One proposal which has been advanced to relieve the conditions described in the foregoing is to increase the tolls charged for passage through the Canal. It has been maintained that Canal operating accounts omit several items which constitute heavy expense items for the railroads. One of these is taxes. Railroads of the United States paid in 1925 $359,000,000, or approximately 6 per cent of their gross income, in taxes. The rate was approximately 14 mills per dollar on the valuation of the roads.

Railroad rates must be high enough to enable the roads to pass the taxes on to users of the service. Users of the Canal are free from this burden. There are many who feel that it would be desirable for every government enterprise to make its contribution to the tax burden in the same way and at the same rate that private enterprises do. Even if one objects to the actual payment of taxes, there is no reason why the Canal should not consider taxes at the rate paid by the railroads as an implicit cost in estimating the cost of operating the Canal. Investment in the Canal has been divided by accountants into two parts: one part, amounting to $275,000,000, is considered as a commercial investment; the other, amounting to $115,000,000, is considered an investment for national defense.[18] Estimates of implicit costs will be based on full valuation of the Canal rather than on this arbitrary division of investment, for reasons which will be given later.

If taxes on the full valuation of the Canal, approximately $390,000,000, were estimated at the average rate actually paid by the railroads of the United States, approximately 14 mills on the dollar, more than $5,500,000 would have to be added to the expenses of operation. Users of the Canal would be on a parity with users of the railroads as far as this one item is concerned.

The situation is similar when interest on invested capital is considered. It is probable that on their entire indebtedness the railroads pay a rate something over 5 per cent.[19] If the Canal were to compete on an equality with the railroads in this regard, an interest charge on the entire investment of at least 5 per cent would have to be added to the expense side of the operating account of the Canal. This would add an expense item of more than $18,750,000 a year which does not now appear in the profit and loss sheet in any amount. Taxes and interest together would thus add about $24,000,000 a year to expenses as now computed. The surplus of about $99,000,000 which accountants show has been earned during the last fourteen years of operation would be converted into a deficit of nearly a quarter of a billion dollars, approximately 60 per cent of the original investment in the Canal.

Not only do railroads have to cover taxes and interest by their rates, but they are compelled to provide, from earnings, adequate reserves for depreciation. Depreciation is a matter for experts, who seldom can agree, even among themselves, upon a definite figure. It is true that deductions for depreciation appear

[18] *Report of the Governor, Panama Canal* (1927), p. 99, Table I.

[19] Interstate Commerce Commission Reports, Docket 17021, brief by respondent, p. 35.

in certain of the Canal accounts. To a layman they appear inadequate. The 1928 report of the governor of the Panama Canal shows that a little more than $1,000,000 was set aside by accountants as a reserve to cover depreciation of the Canal and its equipment for 1928.[20]

Since the reserve set aside amounts to about 0.298 per cent of the total investment covered, it would indicate that the accountants assume that the Canal will have a usefulness approximately that of the present for about 335 years. If reserves adequate to cover depreciation from use and obsolescence on a basis similar to that used by railroads were deducted, much larger amounts would have to be added to the expense side of the ledger, thus adding to the deficit mentioned above.

IMPLICIT COSTS IN RELATION TO PUBLIC POLICY

There are many who object to the policy of considering implicit costs as a basis for Canal charges on one ground or another. It may be objected that the Canal is a government enterprise and that the government ought not to tax itself, or that the government secured its capital at low cost and that it ought not to profit from its dealings with its citizens. As far as depreciation is concerned, the government has never taken it into account in any case in which public safety and national defense are concerned.

The reply is that the policy of the goverment with regard to Canal tolls has a very important commercial significance. Failure to include all costs, actual or implicit, has the effect of subsidizing citizens of certain favored sections who are so situated as to receive full benefit of its use, or those engaging in certain favored enterprises who may be able to take full advantage of its facilities. Steel producers of Pittsburgh, with their rate of approximately 70 cents a hundred to San Francisco, have some measure of subsidy in the advantage they have over Chicago producers with their rail rate of $1.00 to the same point. Owners of ships using the Canal enjoy some measure of subsidy in their competition with railroads, which are compelled to pay all costs of operation.

[20] *Report of the Governor, Panama Canal* (1928), p. 5.

It may be objected that the Canal has important defense functions to perform. So have the railroads, the steel plants, the cotton mills, the highways, and all other wealth, whether it be owned by the public or by private citizens. Our present law recognizes the strategic value of the railroads and authorizes the president to take them over for defense purposes in case of war, as President Wilson did during the World War. In this war the railroads were a vital factor. Of course the Canal competition affects only western railroads, and really only a part of them. But through the railroads the Canal may affect the development of the entire western area of the United States. We can imagine that western wheat, western copper, western spruce, and, above all, access to the western coast by rail might be of great importance in a serious struggle in which the United States might in the future be forced to take part. Moreover, we may assume that the great Middle West may be the hope of final victory in a war to which the Atlantic and Pacific coast expose vulnerable positions. Yet as public policy is at present determined, the West and the Middle West are retarded in their development. It must be admitted by all that both the Canal and the railroads would be important agencies in any struggle that involved the United States. We may assume that the government would be far sighted if it would develop and protect both, having defense in time of war as its motive in each case.

Of course it will be borne in mind that the government has contributed vast sums to aid in the construction of both Canal and railroads. Only in the case of the railroads is the rate charged for services supposed to furnish an adequate return on the true and full valuation, including any sums furnished in money or land by the government.

COMMERCIAL FUNCTIONS MOST IMPORTANT

If the government cannot subsidize both railroad and Canal equally, it should forget the defense function of the Canal as it apparently has forgotten the defense functions of the railroads, and remember only the commercial functions of each. Coddling one agency in the hope of providing defense in time of war may have serious complications. When the emergency comes the government may find that it is depending upon some factor, equally as vital as the favored one, which has been crippled by the coddling process. It is perfectly reasonable to ignore the defense functions of both railroads and Canal, and say that, as far as the merchant who uses the facilities is concerned, the entire investment should be regarded as a commercial investment and the charges made for the facilities furnished by each should cover the full cost of furnishing the service, including explicit or implicit taxes, interest, and depreciation.

How much tolls would have to be raised to cover these costs is a matter for experts. If they were raised in any amount at all, they would to that extent relieve the Middle West of the oppressive competition with Atlantic producers; relieve the intermountain jobbers of the competition of coast jobbers; relieve the transcontinental railroads of part of burdensome Canal competition; relieve the producers of the coast and intermountain territories of one influence which tends toward higher rates. Pacific ports would be benefited as export centers, though they would be injured by the loss of part of their advantages as jobbing points. Atlantic ports, territory tributary to them, and carriers through the Canal would be injured as the other groups were benefited.

Probably a raise in Canal tolls such as is here suggested is not politically possible, because of the intense sectional opposition which the proposal would meet. The plan is suggested, not only as a matter of justice to western interests affected, which makes the discussion one of sectional interests, but also as a measure to protect the future welfare of the United States if, as is generally conceded, the western territory and adequate means of access to it are vital to the country as a whole.

RESTORATION OF FOURTH SECTION RELIEF

Probably a more plausible proposal than that to increase Canal tolls is the proposal to restore relief under the Fourth Section of the Act to Regulate Commerce. This relief sets aside the provisions of the Fourth Section which make it unlawful for any carrier subject to the provisions of the act to receive a greater compensation in the aggregate for the transportation of passengers, or of like kind of property, for a shorter than for a longer distance over the same line or route, in the same direction, the shorter being included within the longer, by permitting the carrier to charge less for the longer than for the shorter haul if authorized to do so by the Interstate Commerce Commission. It was by this arrangement that Seattle long enjoyed a lower rate by rail from Chicago than did Spokane which had a several hundred miles shorter haul.

Transcontinental railroads enjoyed this relief until 1918, during the period of government operation of the railroads, when it was withdrawn at the suggestion of the director general's office. It was felt that, coastwise vessels having been diverted to the more profitable war trade, water competition no longer existed. Before the roads were returned to private hands, the Esch-Cummins Act of 1920, added Section 500, a new provision, that "it is the policy of Congress to promote, encourage, and develop water transportation, service, and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation." Acting under their interpretation of the requirements of this section, the Commission has refused to restore relief to the transcontinental railroads, though application has been repeatedly made.

There is nothing revolutionary in the railroads' petition for relief, since relief under the Fourth Section of the Act to Regulate Commerce has been applied in more than six thousand cases in the United States.[21] One traffic man said, in 1925, that in his opinion the preponderance of tonnage in the United States was carried under departures from established rates as permitted by the Fourth Section.[22] Until 1918, relief under the Fourth Section had been in force in the West almost continuously since water competition of any importance developed between the east and the west coasts. Under it, and partly because of it, the transcon-

[21] Interstate Commerce Commission, *Report Senate Hearings,* S.B. 2327 (1924), p. 113.

[22] J. P. Haynes, *Report of House Hearings* (1924), p. 270.

tinental railroads made their great investments and built up their present rate structures. Through its important assistance the Middle West has reached its present industrial and commercial development.

Withdrawal of relief in 1918, during the period of government operation, came at a time when neither the private owners of the railroads nor others affected could take measures to protect their interests. It is doubtful whether they would have protested the withdrawal, since it would not have been construed as a permanent change in the policy of the government.

Relief is now withheld by the Interstate Commerce Commission in the exercise of its discretionary powers. A restoration of relief would be merely a reversion to pre-war conditions. Such a move would keep faith with those who have made investments in the great Middle West, in the intermountain region, and in the Far West. By some this may be construed as a plea for restoration of Fourth Section relief under something akin to "vested rights." The idea of vested rights, however, it would seem involves the idea of opposing the right of the public to modify the property rights of a given person or group of persons, when public interest demands such a modification, or when the right in question is an unreasonable right or is used in an unreasonable manner. None of these conditions is present in the case we are considering. Economic and political considerations herein set forth show that the public interest justifies the protection of the property rights in question. It has been suggested that the sacrifice of the rights of those who have made their investments in good faith in the great Middle West, in the intermountain territory, and in the Far West is being made in the interests of business competitors by public agencies under the guise of public welfare.

ECONOMIC LAWS JUSTIFY RELIEF

Permitting a lower charge for a longer than for a shorter haul under Fourth Section relief, has been justified by students of railroad economics from President Hadley down to the present because of the fact that in the railroad industry about "twothirds of the expenses incurred under average conditions are constant," and consequently increases in traffic affect the net return out of all proportion to the amount of traffic involved. Even at lower rates, such as would be necessary under Fourth Section relief, the increase in net profits would still be greater than proportional to the increase in tonnage, the amount of increase, of course, depending upon how much above out-of-pocket costs the rates were. Whether the amount of traffic involved in the competition with the Canal carriers is 1 per cent, as stated by some or 16 per cent, as stated by others, and whether rates which must be made to permit the traffic to be carried by the railroads are equal to, or less than, the general rate level, there is sound economic justification for relief which will permit the return of part of the lost traffic to the railroads.

Practical observations seem to bear out the foregoing theory. Officials of the Great Northern Railroad testified to a Senate committee in 1924 that it could carry across the country 1,427 tons of freight a day without additional power, cars, or crews. Northern Pacific officials testified to substantially the same possibilities for that road. The Santa Fe reported 5,118,948,000 westbound empty car miles on six leading tidewater roads for the period from January 10, 1919, to November 30, 1924, as compared with 1,876,009,000 eastbound empty car miles on the same lines for the same period. The same investigation also disclosed that, although refrigerator cars can be loaded with any of the commodities involved in Canal competition, except fabricated steel, only 30 per cent of westbound refrigerator cars were loaded in 1925, because these competitive goods were being carried through the Canal. Formerly more than 60 per cent of these westbound cars were so loaded.[23]

The principle that joint cost products must sell for what they are worth to the user also justifies relief. The user of railroad services cannot be made to pay more than the services are worth to him. If Seattle has a water rate from the Atlantic coast of 70 cents a hundred for steel, that is what the transportation of steel is worth to Seattle. Spokane, located a few hundred miles inland,

[23] P. B. Hastings, *Report of House Hearings,* S.B. 2327 (1925), p. 558.

finds the value of the transportation of steel fixed, not by the rate paid by Seattle, but by the water rate plus the back haul to Spokane. The service for the longer haul to Seattle is actually worth less than the service for the shorter haul to Spokane. If the railroad cannot carry steel to Seattle for what the service is worth to Seattle, it cannot carry it at all, and boats secure the business. Allowing railroads to meet water competition would not create a discrimination against the inland point, but would attempt to minimize the bad effects of a situation already in existence.

Restoration of Fourth Section relief, if permitted, will aid materially in solving the financial problems of the transcontinental railroads. It will aid the producers of the Middle West by restoring to them the opportunity to compete with Atlantic producers for Pacific coast and oriental business. It will aid producers of the intermediate and coast regions by protecting them against advances of rates caused by inadequate earnings. It will benefit jobbers at Pacific ports by giving them the benefit of two markets and two methods of transporting goods instead of one, as at present. It will benefit export merchants by giving them access to Middle Western products which are essential to their export trade.

Intermountain jobbers would not be relieved from the oppressive competition of coast merchants. Atlantic-coast producers and merchants, owners of boats in the coastwise service, and eastern railroads enjoying a haul to Atlantic tidewater would lose in the proportion that western interests would gain.

WOULD LOSSES UNDER RELIEF EQUAL GAINS?

Fair-minded persons will ask whether the eastern and Gulf lines, the producers and merchants of the Atlantic seaboard, and the boat-owning interests would not lose as much as the western interests would gain. As far as the railroads are concerned the answer depends upon conditions. A million tons of freight to eastern and Gulf lines, which are operating at a higher traffic density, may not be nearly as important as to the western lines which are operating at a very much lower traffic density; and which are at present operating with inadequate earnings. As far as eastern railroads are concerned, it should be remembered that the process would take nothing from them that they depended upon in making their original investments. During their period of development this business was in the hands of western roads. Relief would merely return to western interests what the government took from them in 1918, when it cancelled Fourth Section relief.

The same question may be asked concerning the water carriers. Would not the loss of traffic by water carriers to rail carriers hurt the former as much as it would help the latter? Again the answer is, no. The investment in railroads is a more or less indivisible and permanent investment. Once made it cannot readily be either decreased or abandoned or transferred from one section to another. The investment cannot in any great measure adjust itself to the use to be made of it. The loss of a few million tons of traffic finds the railroad with virtually the same costs, but with greatly diminished income. Bankruptcy, inferior service, or higher rates must result. Investments in water carriers are different. The number of boats in any service is adjustable to the need for them. Should the tonnage increase, the investment to carry it will be increased by diverting boats, already in use elsewhere, to that service. Should the need for boats in that service decrease, boats can be withdrawn and taken to other regions where the need for them is greater. Of course the owners would suffer financial loss during the time that it was being demonstrated that there were too many boats in that particular trade. But the point is that the loss would not be so sweeping as in the case of a railroad facing the same conditions. The gain of a few million tons by boats operating through the Canal would merely mean a flocking to that district of many boats already in service elsewhere. The loss of a few million tons need not mean bankruptcy for the shipping industry nor for individual owners, as it would in the case of loss of tonnage by a railroad, but a withdrawal of boats from that service.

As in the case of increases in Canal tolls, the proposal to grant relief has aroused bitter sectional strife, with the powerful Atlantic and tributary interests opposing and the great Middle

West and West, with the exception of jobbing interests in the intermountain region, favoring. So far, more pressure has been brought to prevent than to permit relief, but, if we have properly interpreted the importance of a well-balanced development of the country as a whole, it seems probable that some modification of the present policy of the Interstate Commerce Commission must be made, and some measure of relief granted.

GENERAL LOWERING OF RATES ON COMPETITIVE TRAFFIC

The third remedy which has been suggested is for the railroads to lower their rates, both at seaports and at intermediate points, to the level of water rates at the Pacific coast. Western railroad officials maintain that they cannot afford to make such blanket reductions, as they would lose more revenue on goods carried to intermediate points than they would gain on such traffic as they might recapture from water carriers. Others assert that competitive business at the Pacific coast is so important that, in order to secure it, the railroads will lower rates, both to the seacoast and to intermediate territory, when they have given up hope of relief under the Fourth Section.

The bills, officially designated Senate Bill 2327 of 1925 and Senate Bill 575 of 1926, were introduced by Senator Gooding of Idaho, to make illegal any further granting of relief under the Fourth Section. The chief proponents of the bills were owners of ships operating through the Canal, who expected to prevent a renewal of competition by railroads, and jobbers of the intermountain territory, who, if statements made by their spokesmen may be taken as evidence, hoped to force the railroads to extend water rates to the intermountain region in order to get a share of the competitive business at the coast.[24]

This explanation of the activity of the intermountain jobbers in behalf of the Gooding bills is supported by the fact that jobbers are interested principally in the relationship of rates. It makes less difference to them, as jobbers, whether rates are high or low, than whether there is a competitor who has a lower rate. Farmers, miners, lumbermen, manufacturers, and other producers, shipping to an established market, are more interested in

[24] *Report of House Hearings,* S.B. 2327 (1925), pp. 684, 686–87, 693.

the rate level, since freights are deducted from market prices to determine what shall be received by the producer for the product.[25]

Interests in the New England and Atlantic states, one witness explained, fought the Gooding bills because, among other reasons, they feared injury to the railroad industry upon which they must depend for transportation services. Coast jobbers, manufacturers, and agricultural producers, as well as lumbering, mining, and manufacturing interests of the intermountain section opposed the bills for the same reason. All Middle West interests fought the bills vigorously because of the belief that they would close the door to the only relief possible for them.

If the railroads in some manner could see their way clear to lower rates in accordance with the plan here suggested, intermountain jobbers would secure almost complete relief from the present oppressive competition of coast jobbers. Many other groups suffering from Canal competition would receive benefits similar to those which would be offered by one or both of the other remedies discussed. Pacific coast merchants would have, on equally advantageous terms, the markets of the Middle West and the Atlantic Coast. Trade with the Orient might be developed without hindrance. Middle West producers would be able to regain the markets which they lost when relief was suspended in 1918. Transcontinental railroads would secure much competitive traffic carried now by boats, though it is maintained that they would lose more revenue on goods carried at reduced rates to intermediate sections than they would gain from added business at coast points. It is doubtful therefore whether the railroads would secure adequate relief from a financial standpoint. It is probable that their relief would have to come in the form of increased rates on non-competitive traffic. Atlantic producers and merchants, the ships using the Canal, the railroads delivering competitive goods to Atlantic tidewater would all be injured in the same way that they would by Fourth Section relief.

While it is true that this remedy offers relief to the intermountain jobbers who probably can get relief in no other way,

[25] E. M. Antrim, *Report of Senate Hearings*, S.B. 575 (1926), p. 184.

and while it is true that it offers adequate relief to several other interests, it appears that it has a serious disadvantage in that it leaves the producing classes in danger of higher rates to their markets to make adequate returns for the investors in railroad securities. The proposal appears to "trade" the welfare of millions of producers for the welfare of a smaller number of jobbers whose functions are not so essential to the development of the West.

PROBLEM NOT SOLELY A RAILROAD PROBLEM

The problem of Canal competition is not, as many think, solely a railroad problem. Probably the railroads have less at stake than any other of the groups named, since the Transportation Act of 1920 requires the Interstate Commerce Commission to permit rates high enough to provide a fair return on the railroad investment. If the return on railroads of the West, as a whole, continues to be inadequate, rate increases on traffic that must depend solely upon the railroad must be allowed. The users of the service must pay the rates or be driven from the territory. At least it may be said that an effort must be made to pass the burden from the railroad investors to the producers and consumers dependent solely upon railway transportation.

The problem of loss of traffic and revenues by transcontinental railroads possibly can be solved through an increase in rates on such traffic as must of necessity continue to use railroad transportation, but the large number of other problems brought in by the Canal cannot be solved in this manner. Vital interests are affected, both public and private. People of the West and Middle West are entitled to reasonable protection from unnecessary injury by Canal competition. The people of the United States as a whole are entitled to a policy on the part of the government which will make available every necessary agency for defense in case of war. An increase in Canal tolls and a restoration of relief under the Fourth Section appear to promise the most satisfactory solution possible under present circumstances.

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