

THIS TRAIN'S GOT THE DISAPPEARIN' RAILROAD BLUES:

A STUDY OF THE MILWAUKEE ROAD

A Thesis

Presented to

the Division of History and Social Sciences

Reed College

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Arts

by

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May 1980

ACKNOWLEDGMENTS

To Mom, who searched through the Helena Independent Record for articles about my railroad, and probably still is searching----Mom, I finished.

To Arlo Guthrie, for singing "The City of New Orleans", from which I took the title of this thesis.

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ABSTRACT

As part of its reorganization plan, the Milwaukee Road Railroad hopes to abandon all of its lines west of Miles City, Montana. To understand why the railroad wants to drop these lines in particular, we look at the history of the Pacific Coast Extension and the Milwaukee's recent strategies regarding these lines, as it has attempted to operate a weak railroad under the burden of misguided regulatory policy. This thesis demonstrates that the economic rationality of abandonment is highly questionable. First, the studies which have been used to support the abandonment application are discredited. Second, the external costs of abandonment are considered in order to expand the cost-benefit analysis to include the broader effects of abandonment. Third, the effects which deregulation and rising fuel prices will have on the distribution of freight among modes is described to support the view that the demand for railroad transportation will greatly increase in the near future, and that the Milwaukee Road's western lines will contribute to efficiency in the transportation sector under these new conditions.

INTRODUCTION

Throughout 1978 and 1979, the Chicago, Milwaukee, St. Paul & Pacific Railroad (the Milwaukee Road) has considered several abandonment options as part of its attempt to reorganize the bankrupt railroad into a viable system. The plans which were revealed to the press include the potential sale of most lines west of Butte, Montana, to the Union Pacific Railroad, abandonment of most lines west of Minneapolis, Minnesota, and abandonment of all lines west of Miles City, Montana. This last option was adopted as a major part of the reorganization plan submitted to the Interstate Commerce Commission and the reorganization court in late 1979.

As shippers in the affected service region became informed or convinced that the Milwaukee Road was seriously considering a huge abandonment of its western lines, their opposition became more vocal and organized. Several groups began actively fighting the railroad's proposals. "Save Our Railroad Employment" (S.O.R.E.), a group of western Milwaukee employees wanted to buy all the lines west of Minneapolis as well as the Milwaukee Land Company (a subsidiary of the Milwaukee Road), and set up a western railroad of their own. "Women Involved in Farm Economics" (W.I.F.E.) wanted the federal government to maintain the western lines so that farmers in the area would have a fair chance to eke out a living on their little plots in Montana, Idaho, and Washington. After all, if the U. S. government could give money to foreigners, it could certainly give money to a destitute railroad. Finally, the "New Milwaukee Lines", a consortium of railroad employees and shippers, wanted to take over the whole railroad, abandon

many of the midwest branchlines, and, with the help of donations and government loans, set up a streamlined transcontinental railroad.

The western outcry seemed a bit hysterical at times. Some people thought the abandonment was a conspiracy by the Milwaukee management to make quick profits by running the western lines into the ground. Others thought it was a conspiracy by the federal government to leave the northern tier states at the mercy of the Burlington Northern Railroad ("BN", or "Big Nasty", as it is lovingly referred to in Montana). Still others said it was a conspiracy by the BN itself, claiming that BN officials have been infiltrating the Milwaukee's management over the past few years.

A more reasonable view would seem to be that the Milwaukee went bankrupt because it is an economically inefficient railroad. Its average traffic densities are well below those of most railroads, and its plant has not enjoyed normalized maintenance since the early 1950's. The obvious conclusion would seem to be that there is not enough profitable traffic on the Milwaukee's lines to justify its continued existence in its present form. It is not surprising that the shippers in the area are upset. Many of them face the prospect of bankruptcy themselves if they cannot ship their products to consumers. Still, if their economic activities are not profitable enough to support the transportation that is required to market their goods, their labor and capital should be devoted to more productive activities. Perhaps someone should give those people a lesson in economics.

However, even hysteria sometimes has substance behind it. A closer look at the transportation market in the area of the western

lines brings the "reasonable" view into question. For example, why is there two years' worth of grain sitting in silos in Montana? Why are farmers resorting to truck transportation when this mode is much more expensive than railroad transportation? Why does the Milwaukee Road show little interest in potential coal traffic when its western lines cross the largest coal field in the world? Why does the Milwaukee want to concentrate its resources in the intensely competitive midwest instead of in the quickly developing west where railroad rates are higher than average? Perhaps the transportation market, with its regulatory modifications, is not performing efficiently. This is the view that this thesis supports.

In Chapter I, we review the history of the Milwaukee Road's Pacific Coast Extension to explain some of the problems that have plagued the line in the past and have hampered its prosperity. We also provide a brief background of the present situation of American railroads, concentrating primarily on the development and magnitude of overcapacity in the industry. A broader look at this problem is provided in Chapter IV.

We turn to the more recent activities of the Milwaukee Road's management in Chapter II. First, the pattern of the railroad's policy of maintenance deferral is described to show that the western lines have been a low priority for maintenance funds. This information provides the background for the examination in Chapter III of the traffic projections upon which the Transportation Department partially based its position in favor of abandonment. Second, we look at the various attempts by the Milwaukee to merge with other railroads in the 1960's

and 1970's. Third, we note that the Milwaukee Road formed a holding company in 1970, and we examine the various ways in which holding companies abuse railroads as a means of gaining short-term profits at the expense of long-term stability and profitability of railroads. The examination of merger strategies and holding company activities suggests alternatives to the goal of long-term profit-maximization by the Milwaukee management.

Chapter III is devoted to the two major studies upon which the arguments in favor of abandonment are based. We attempt to show that the assumptions of the studies are unrealistic, and that they fail to demonstrate that the Milwaukee's western lines warrant abandonment. The only reliable conclusion that can be drawn from the studies is that the western lines will require greater rehabilitation expenditures than a smaller midwestern railroad will. In the absence of these studies, this conclusion is intuitively obvious. Therefore, the studies are, for the most part, useless.

The final chapter expands the analysis of the abandonment to allow a consideration of the external costs involved. First, we look at the effects which abandonment may have on the local economies, including higher transportation costs, higher prices, unemployment, outmigration, shrinking tax revenues, and increased truck traffic. Second, we consider the changes which the transportation sector is undergoing, in order to suggest that the present demand for railroad transportation will be substantially revived as deregulation leads to a more accurate reflection in the rate structure of relative costs of the various modes of transportation. In addition, it is suggested that

the concentration of the Milwaukee's resources in the west rather than in the midwest would promote greater efficiency in the transportation sector as deregulation allows greater competition.

In conclusion, we suggest that much of the Milwaukee's misfortune over the years has been due to misguided government intervention and bad luck, rather than any clear and unfettered market forces. There is a good chance that government intervention at this point in the form of support for the railroad during its present crisis will lead to greater overall efficiency in the transportation market.

CHAPTER I

BACKGROUND

In 1977, the Chicago, Milwaukee, St. Paul & Pacific Railroad filed for bankruptcy, and began reorganization proceedings. The railroad is presently seeking approval from the Interstate Commerce Commission and the federal courts for the formation of the "Milwaukee II", a railroad to serve the Midwest, with about 25 percent of the route miles of the present Milwaukee Road. The bulk of the abandoned tracks will be in the railroad's Pacific Coast Extension area, from Miles City, Montana, to Seattle, and south to Portland. To provide a background for an examination of the Milwaukee Road, we will look at the general market conditions of the railroad since it became a transcontinental line, and summarize the market conditions of the railroad industry today.

The Milwaukee Road was a latecomer to the Pacific Northwest. In the late Nineteenth Century, it was still a Midwest railroad, with lines no further west than the Dakota Territory.¹ By the end of the Nineteenth Century, two other railroads were already well-established in the Northwest. The Northern Pacific reached the west coast in 1883, with a large amount of government loans and land. Out of 131 million acres granted to railroads by the federal government, the Northern Pacific received 42 million acres, 18 million more than the next largest recipient, the Southern Pacific.²

¹ August Derleth, The Milwaukee Road: Its First Hundred Years, New York: Creative Age Press, 1948, p. 137.

² Albert W. Niemi, Jr., U.S. Economic History, Chicago: Rand McNally College Publishing Co., 1975, p. 84.

In 1890, the Great Northern Railway reached Seattle by a more northerly route than the NP. The GN received no government assistance, but it had several other factors which favored its success. Its builder, James J. Hill, combined his skill, luck, and numerous business connections to keep the railroad afloat while other railroads were forced into bankruptcy in the late Nineteenth Century. The NP went into receivership in 1893, and was in no position to compete aggressively with Hill's railroad. In 1895, Hill and J.P. Morgan of the NP signed the "London memorandum":

... 'GN and the reorganized NP shall form a permanent alliance, defensive and in case of need offensive, with a view of avoiding competition and aggressive policy and of generally protecting the common interests of both companies.' There would be no new construction into each other's territory; all competitive business, notably that of the Anaconda Company, the fast growing copper produced, would be divided 'upon equitable terms.'³

Although Minnesota law prevented a formal merger, Hill and his associates gained effective control of the NP through stock ownership by 1900.

Hill was very active in developing industries in the Northwest that would ship on the GN and the NP. He helped farmers improve their crops and herds, and encouraged lumber and mining companies to exploit the area.⁴ Therefore, the industrial configuration of the area was such that Hill's railroad interests would have an advantage over later railroads.

³ Matthew Josephson, The Robber Barons, New York: Harcourt, Brace and Co., 1934, p. 455.

⁴ Albro Martin, James J. Hill and the Opening of the Northwest, New York: Oxford University Press, 1976, passim.

A major weakness of the GN and NP was that neither railroad had lines into the heart of the Midwest. Therefore, Hill began looking for a strong Midwestern railroad to purchase. One of the first companies he considered was the Milwaukee Road, but its major stockholders "...refused to sell at any price, not through any devotion to the road, but simply wishing to avoid the competition of Morgan and Hill in Chicago."⁵ In 1901, Hill arranged the joint purchase by the GN and the NP of the Chicago, Burlington & Quincy Railroad.⁶ The Burlington provided direct lines to Kansas City, St. Joseph, Omaha, Chicago and St. Louis, all considered critical points by Hill.⁷

In 1905, the Milwaukee Road decided to build a line to Seattle and Tacoma, Washington. The company did not want to be dependent on its rivals, the NP and the GN, for freight from the Northwest, and it assumed that the tremendous transportation demand in the area would continue to grow more quickly than the present railroads' capacity for carriage. With a cost estimate of \$60 million, the Milwaukee began construction in 1906. By the time it reached Seattle in 1909, building costs had exceeded \$233 million, almost four times as much as first expected. The terrain of Montana proved more difficult to traverse than the engineers believed, railroad labor was in high demand and had unionized, other railroads purchased land needed by the Milwaukee and demanded extraordinary prices, and no land was granted to the railroad by the government. Along with the tremendous cost over-runs, the

⁵ Derleth, p. 154.

⁶ Martin, p. 491.

⁷ Josephson, p. 435.

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Milwaukee faced the reality of declining demand for transportation across the Northwest. The building boom in the Northwest hit its peak in 1909, and the lumber industry's level of production stabilized after 1910. The traffic of all transcontinental railroads was eroded by the opening of the Panama Canal in 1914.⁸

In 1925, the Milwaukee Road declared bankruptcy, and was not reorganized until 1930. During this period of reorganization and into the early 1930's, the railroad invested heavily in capital improvements. As a result of the Depression, increasing competition from motor vehicles, and unusually severe weather conditions, the Milwaukee declared bankruptcy a second time in 1935. During the early 1930's, the railroad had earned a miniscule 0.65% return on its investments in road and equipment.⁹

World War II brought temporary freight rate increases and a huge diversion of traffic from the Panama Canal to the transcontinental railroads. During this brief railroad boom, the Milwaukee was able to reorganize and show a profit.¹⁰ After the war, traffic levels and revenues began a decline which continued to 1960. Thereafter, the railroad achieved only small gains in traffic.¹¹

Many of the Milwaukee Road's management decisions seem to have

⁸ Derleth, pp. 166-200.

⁹ Ibid., pp. 212-245.

¹⁰ Ibid., pp. 254-258.

¹¹ Interstate Commerce Commission, Bureau of Accounts, Transport Statistics in the United States, 1950-1975.

been based on extremely optimistic assumptions regarding the potential of the railroad. The decision to invest heavily in the Pacific Coast Extension when a huge railroad system comprised of companies with mutual interests was already well-established in the area, and the possibility of the Panama Canal construction was known, was rather bold. The heavy investments in the 1920's and '30's, after the railroad had experienced poor traffic levels and as the use of motor vehicles was increasing, must have seemed risky to some people at the time.

James R. Nelson has constructed a theory of the railroad construction boom in the United States which provides a logical explanation for the Milwaukee's strong desire to build and maintain a large railroad plant.¹² Nelson begins with the assertion that railroads probably had a relatively low rate of return as early as the Nineteenth Century, and he then explores the reasons why investment in this industry continued at a high rate. His central idea is that there was a perception that the "prize" would be gained by the firm that expanded the greatest and the fastest. Expansion was to achieve economies of scale. A railroad which could offer the longest single line service would have lower costs and would be able to increase its traffic densities through lower rates and faster service. Also, the first railroad that entered an area would have an advantage in capturing the market. Therefore, railroads were constantly preoccupied with expanding their plants as quickly as possible.

¹² James R. Nelson, "The Dynamic Interdependence of Transportation Pricing, Transportation Costs, and the Rates of Growth or Decline of the Various Modes of Transportation," Transportation Economics: A Conference, National Bureau of Economic Research, New York: Columbia University Press, 1965, pp. 43-59.

A major reason why so many miles of railroad lines have survived is the protection offered by government regulation. Although the purpose of regulation is ostensibly to protect shippers from abuse by railroads, a large side-effect has been the maintenance of many miles of unremunerative low-density roadway and the survival of many inefficient firms. We will review the reasons for regulation and provide some estimates of the degree of overcapacity for which regulation is responsible in the railroad system today. This will provide the setting for a consideration of the recent history of the Milwaukee Road.

There are several aspects of the railroad industry which may necessitate its being subject to government regulation. The central assumption which leads economists to attribute certain anomalies to this industry is the belief that railroads have a continuously decreasing marginal cost curve over the relevant cost function. Plant indivisibilities make the initial fixed investment very high relative to secondary investments which vary with traffic density. More specifically, there must be a complete roadway built between two points, regardless of how much transport service is provided between the two points. Once the roadway is built, the incremental cost of increased service is quite low. The marginal cost curve will not turn upward until density is high enough that traffic cannot be efficiently directed, trains are delayed en route, and maintenance is hindered. For the most part, the U.S. railroad industry is not characterized by these conditions. Figure One shows a typical railroad cost function:

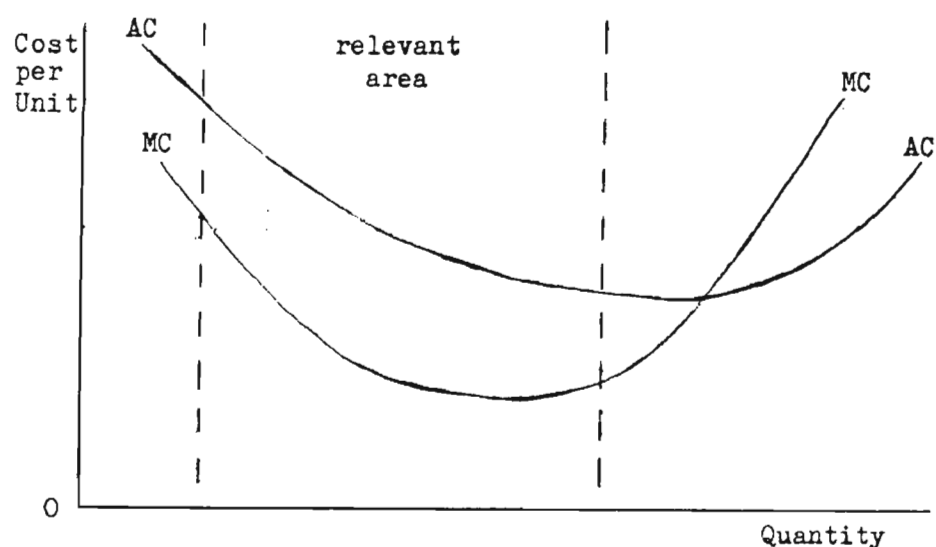


Figure 1. Railroad Cost Function

Since the average cost of railroad transport will decrease as traffic increases, the industry will tend toward monopoly in a free economy. One large firm which can meet the transportation demand will be able to provide service at a lower cost than two smaller, competing firms.¹³ Theoretically, the railroad which devolves into the monopoly position will be able to reap excessive profits and set discriminatory rates if it is left unregulated.

Another implication of a continuously decreasing marginal cost curve is that average costs will always be above marginal costs. Each railroad can, in the short-run, afford to set its rates equal to marginal costs as a competitive tactic, as investment in maintenance and the payment of debts incurred in the initial investment can be deferred.

¹³John R. Meyer, Merton J. Peck, John Stenason, and Charles Zwick, The Economics of Competition in the Transportation Industries, Cambridge, Mass.: Harvard University Press, 1959, p. 4.

Over the long-run, average costs will not be covered if rates are not raised. Chaotic price wars or collusion among competing firms will result. Also, lines where little competition exists will be subjected to rates which are above average costs in order to subsidize the lines where competition forces the rates below average costs. Before rate regulation, "...sometimes it would become cheaper to move freight from New York to Chicago than from New York to Buffalo; and occasionally cheaper to move freight from New York to Buffalo via Chicago..."¹⁴

In addition to the economies achieved through higher traffic densities, railroads can improve efficiency by increasing the distance over which goods can be carried without intermediate switching procedures. A firm which can provide direct service between two points will have lower costs for that service than will two firms, each of which carries the freight halfway and then switches it to the other firm. Managerial and related costs of the one large firm will also be lower per unit than the same costs of the two smaller firms combined.¹⁵

Aside from their cost characteristics, railroads are subject to regulation because they provide an important public service, the fate of which cannot be left to private, self-interested parties.¹⁶ Many businesses depend on railroads to carry raw materials and finished products to and from their plants. In the absence of controls on

¹⁴ Paul Samuelson, 10th Edition, New York: McGraw-Hill, Inc., 1976, p. 490.

¹⁵ Theodore Keeler, "Railroad Cost Functions: An Empirical Study," Reed College thesis, 1967, p. 22.

¹⁶ Meyer, et.al., p. 5.

railroad rates and abandonments, these firms could not make investment decisions with much certainty that they would have transportation services at a rate which would allow them to remain competitive. The characteristics of an economy's infrastructure determine to some extent the geographical configuration of industries and population. Instability in the infrastructure will cause instability in the economy.

Obviously, railroad abandonments are not looked upon favorably by the people who live in the areas around the abandoned lines. In addition to the businesses which are directly dependent on railroad transportation, other firms will also experience poorer business because of the general drop in revenue circulating in the area. Unemployment rises as jobs which depend on the railroad disappear. The tax base shrinks, and the range of businesses which might move into the area becomes narrower with the reduction in transportation services. The impact of abandonments will vary, of course, depending on the availability and cost of other transportation services. We need consider only generally the potential ramifications of an abandonment as described above to appreciate the political pressure put on the Interstate Commerce Commission by local interests when an abandonment is considered.

The forced continuation of rail service, on the other hand, is seldom looked upon unfavorably by people outside the railroad industry. This attitude is probably due in part to the lack of public awareness of both the situation and its consequences. Although [the public] may lose more collectively from an overextended rail system than the special interests gain, the public's loss is spread out over more people, and

it is more difficult to find out about."¹⁷ Given this imbalance in the lobbying pressure felt by the I.C.C., it is not surprising that few lines have ever been abandoned, and the U.S. rail system is burdened by a high degree of overcapacity:

Calculations show that with an optimal traffic density, the total traffic carried in 1969 would need about 90,000 miles of track: this includes main running track, passing track, and yard track as well, so it would entail substantially fewer miles of road, probably no more than 40-50,000. In reality, there were 350,000 miles of track and 210,000 miles of road in operation in 1969.¹⁸

Although the government has forced railroads to continue service on an extensive network of low-density lines, it has not, until recently, provided any subsidies for these inefficient operations. Instead, the I.C.C. has maintained a complex rate system which allows the cross-subsidization of unremunerative services and lines by profitable services and lines. Expensive goods, such as manufactured products, are able to bear higher transportation rates because the cost of transportation accounts for a relatively small proportion of the total cost of the good. The cost of bulky raw materials is much more affected by the cost of transportation since moving costs are a major portion of total costs. Therefore, in general, expensive products are charged freight rates that are much higher than the cost of moving the products, and the excess revenues are used to subsidize unprofitable operations.

¹⁷ Theodore Keeler, On the Economic Impact of Railroad Freight Regulation, St. Louis: Washington University, Center for the Study of American Business, Working Paper No. 17, November, 1976, p. 42.

¹⁸ Ibid., p. 24.

Similar cross-subsidization takes place from high to low density lines, and from long-haul to short-haul traffic.¹⁹ This practice is known as the "value-of-service" method of rate determination.²⁰

While it may seem unreasonable for railroads to continue carrying freight with low rates, this practice is economically rational as long as the revenues thus obtained cover at least the variable costs involved. That is, as long as the rates are equal to or above marginal costs, the railroad will reduce its losses by providing service. The fixed costs of a line that cannot be abandoned will have to be paid regardless of how much transportation service is provided.

Figure 2 shows the effects that overcapacity and artificial rate-setting have on the railroads' operations:

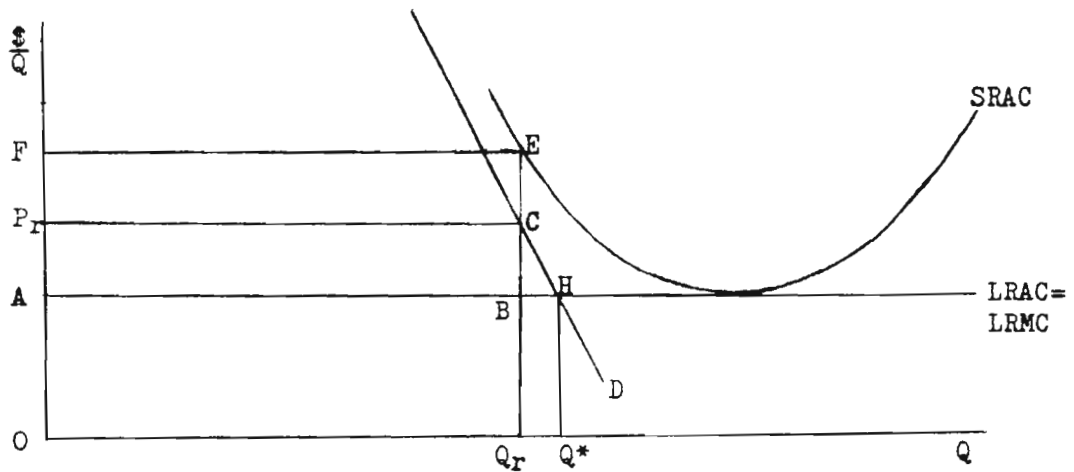


Figure 2. Railroad Costs and Rates Under Regulation

Source: Theodore Keeler, On the Economic Impact of Railroad Freight Regulation, St. Louis: Washington University, Center for the Study of American Business, Working Paper No. 17, November, 1976, p. 6.

¹⁹ Keeler, 1976, p. 40.

²⁰ Meyer, et.al., p. 8.

In Figure 2, we are assuming constant returns to scale and the absence of plant indivisibilities, so marginal and average costs are constant in the long-run. The short-run average cost curve is situated beyond the demand curve since railroads are forced to maintain lines that they would prefer to abandon. If they were free to alter their plant capacity, they would move to a short-run average cost curve which would be tangent to the long-run average cost curve at point H where the demand curve intersects the long-run cost curve. Then, the competitive rate would equal A, and the quantity of service provided would equal Q^* .

Under the value-of-service rate structure, expensive products might be charged a rate equal to P_r . Then, the quantity carried will drop from Q^* to Q_r , and average revenues will be greater than long-run average and marginal costs by an amount equal to P_r minus A. Since railroads must maintain excess capacity, their short-run average cost curve is far above the long-run average cost curve at a level of traffic equal to Q_r . Therefore, the cost of moving the traffic (point E) is above both the rate (point C) and the long-run average cost (point B).

In Figure 2, it appears that railroads will have a deficit equal to $FEC P_r$ even if they manipulate rates, but this will vary among railroads, depending on the particular market conditions that each one faces. While it is difficult to determine the overall deficit in the industry, calculations have been made of the welfare loss to society caused by artificially high rates. Although some economists consider it to be as high as \$1-2.8 billion,²¹ Theodore Keeler convincingly

²¹ Keeler, 1976, p. 26.

defends his upper bound estimate of \$260 million per year.²² Keeler's upper bound estimate of welfare losses due to overcapacity are \$3.5 billion per year.²³ We will examine causes of overcapacity in the railroad industry in Chapter IV. At this point, it is sufficient to recognize that a large degree of railroad overcapacity exists in the present transportation sector, with its many regulatory modifications.

The internal subsidization of inefficient operations was successful for many years, in the sense that it did succeed in maintaining many lines that would have been abandoned, but today the industry is generally in such poor financial shape that it is attempting to rid itself of the burden. For example, passenger service, which was subsidized by freight revenues, has been taken over by the government subsidized Amtrak company. Many other companies are attempting to find merger partners so that duplicate lines can be eliminated and economies of scale can be achieved to a greater degree.

The I.C.C. has allowed a few mergers in the past two decades, but it has also turned down a large number because of opposition from labor groups and from railroads that serve areas where merged railroads would operate. Labor is fearful that much of the money saved by merging will be at the expense of employees, as the consolidation of lines often leads to fewer and longer trains, and to less demand for maintenance workers. Other railroads oppose mergers because traffic may be lost to the larger, more efficient firms.

The Great Northern, the Northern Pacific and the Chicago, Burlington

²² Keeler, 1976, p. 32.

²³ Ibid., p. 23.

& Quincy railroads filed a merger petition with the I.C.C. in 1961, and were turned down until 1967 when they finally worked out mutually acceptable terms with the labor unions and most other railroads. The labor unions were assured that the number of employees would be reduced through attrition rather than lay-offs. The Milwaukee Road and the Chicago & North Western, the two railroads that the I.C.C. thought would suffer most from the merger, were given trackage rights and reduced switching charges on the new system.²⁴

After the railroads and unions withdrew their opposition, the only obstacle left to the formation of the Burlington Northern was a suit by the Justice Department charging that "...the Interstate Commerce Commission 'failed actively to protect the public interest' in approving the Northern lines railroad merger...."²⁵ The I.C.C. responded by claiming that the Justice Department was acting contrary to "...Congressional policy to reshape the nation's railroads into fewer systems."²⁶ The case finally went to the Supreme Court where the Justice Department's complaint was unanimously rejected on the grounds that there is no legal basis on which to deny a merger simply because all of the railroads involved are relatively prosperous.²⁷

It seems that an important factor in the withdrawal of opposition

²⁴ Robert E. Bedingfield, "3 Western Roads Press Merger Bid," New York Times newspaper, 28 July, 1966, p. 41.

²⁵ "Northern Merger Hit," New York Times newspaper, 4 June, 1968, p. 71.

²⁶ "I.C.C. Assails Effort to Bar Merger," New York Times newspaper, 7 February, 1969, p. 49.

²⁷ Robert E. Bedingfield, "Court Approves 3-Way Railroad Merger," New York Times newspaper, 3 February, 1970, p. 55.

by the Chicago & North Western and the Milwaukee Road was the belief of the managers of these companies that the I.C.C. would promptly allow them to merge with one another once the BN was approved. The stockholders of both companies were assured that the merger would occur, and others in the industry expressed the same belief. The president of the Denver and Rio Grande Western Railroad said that "...if the Northerns were merged it would assure the mergers of the North Western with the Milwaukee and the Union Pacific with the Chicago, Rock Island & Pacific Railroads."²⁸

The plan to merge with the Chicago & North Western was never realized. First, the merger negotiations between the two were delayed as the C & NW discussed merger possibilities with at least five other railroads in an attempt to find the best partner.²⁹ After terms were finally negotiated, the C & NW was purchased by a holding company, Northwest Industries, Inc., causing the value of the railroad's stock to greatly increase, and thereby making the merger terms unacceptable.³⁰ Although new terms were reached, the I.C.C. delayed action so that the effects of holding company ownership of railroads could be investigated; the amount of money to be paid to the Chicago, Rock Island & Pacific Railroad to compensate for the traffic losses it would sustain as a result of the merger could be determined; and the possibility of the entry of

²⁸ Robert E. Bedingfield, "Northern Rails' Merger Approved in I.C.C. Reversal," New York Times newspaper, 1 December, 1967, p. 69.

²⁹ Robert E. Bedingfield, "North Western Presses Merger," New York Times newspaper, 7 February, 1967, p. 53.

³⁰ Robert E. Bedingfield, "New Terms Seen for Rail Merger," New York Times newspaper, 20 May, 1968, p. 73.

the Soo Line into the Milwaukee area could be considered.³¹ Finally, the C & NW withdrew its merger proposal in 1970.

The Milwaukee management then decided to try to merge with the Union Pacific or the Southern Pacific, but these two railroads were involved in a case before the I.C.C. to purchase and divide the Rock Island Railroad.³² In 1973, the Milwaukee petitioned the I.C.C. to allow it to become part of the Burlington Northern system, as one of the conditions of the BN merger was that the Milwaukee would have five years to press its case for joining the BN. The BN opposed the inclusion of the Milwaukee, and the I.C.C. found the merger application to be incomplete. The I.C.C. gave them 180 days to give "...details on economies to be achieved by the merger, compensation to be paid the Burlington Northern, and why the merger would be in the public interest."³³ These conditions were never fulfilled.

³¹ "I.C.C. Aide Backs Chicago Rail Link," New York Times newspaper, 19 December, 1968, p. 75.

³² Robert E. Bedingfield, "Milwaukee Road Seeks a Merger," New York Times newspaper, 3 April, 1970, p. 51.

³³ "I.C.C. Finds Technical Bar to Milwaukee-Burlington Tie," New York Times newspaper, 30 July, 1976, p. D2.

CHAPTER II

ALTERNATIVES TO PROFIT-MAXIMIZATION

The performance of a firm in the recent past can be one indication of how successful it will perform in the near future. In general, firms act to maximize profits over time, and the profit records reflect how economically efficient the firms are. In the case of the Milwaukee Road, it may be incorrect to assume that a major goal of the management has been long-term profit-maximization. In this chapter, we will examine the pattern of maintenance deferral, the recent attempts to merge with other railroads, and the formation of a holding company in 1970, to suggest that the management has pursued goals other than long-run profit-maximization.

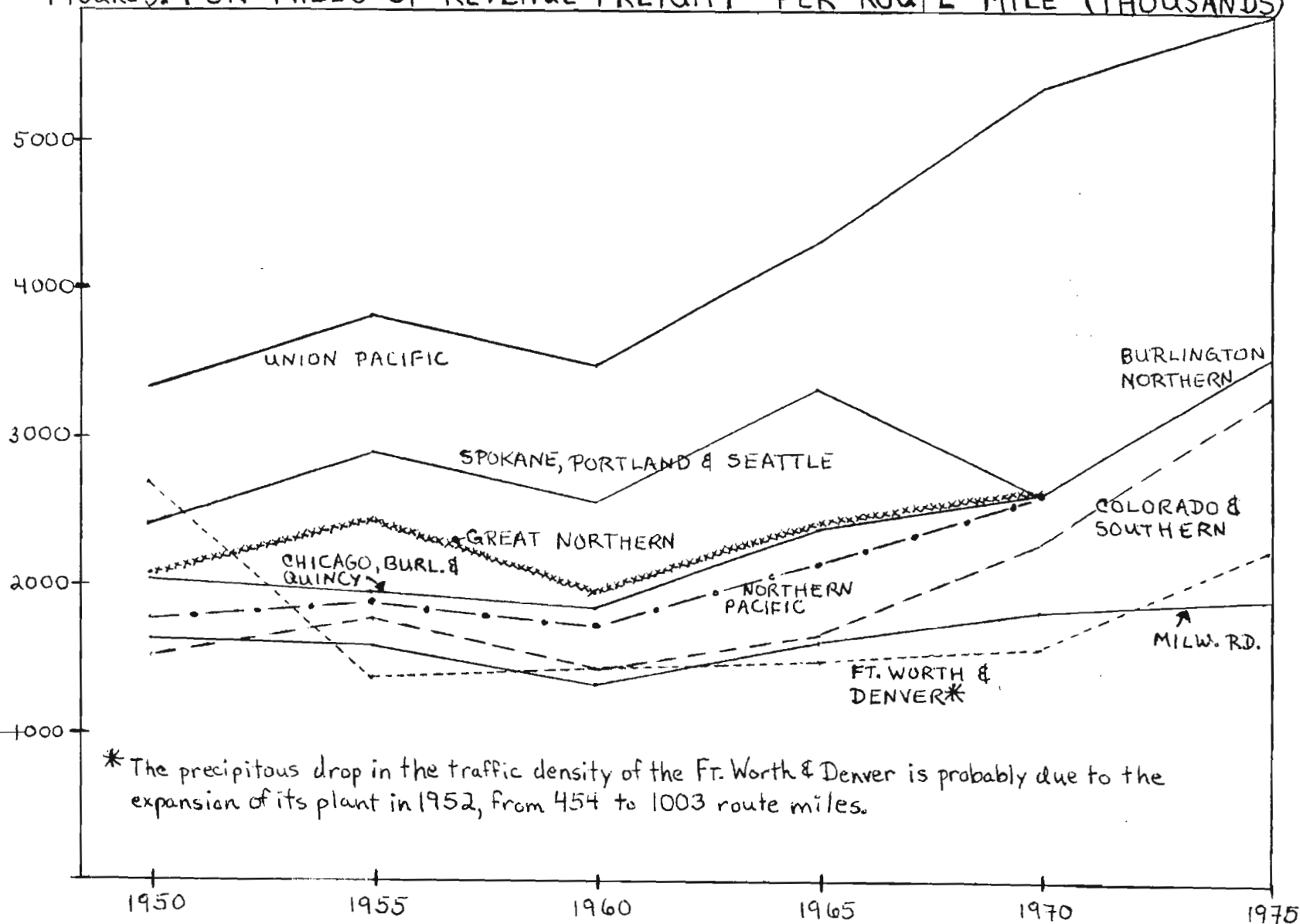
Over the past three decades, the Milwaukee Road has had relatively low average traffic densities, as is shown in Figure 3. The railroads to which it is compared are the Union Pacific (the only transcontinental American railroad in the general area of the BN and the Milwaukee Road), the railroads which formed the BN (Great Northern; Northern Pacific; Chicago, Burlington & Quincy; and the Spokane, Portland & Seattle), and the BN's subsidiary lines (Colorado & Southern and Fort Worth & Denver).

Due in large part to its light density traffic, the Milwaukee has spent an average of 82 percent of its revenues to cover operating costs each year, 1950-1977.¹ While this percentage is not a great deal higher than the 70-80 percent that most railroads spent on operating costs, it becomes more striking when one considers the small amount that the

¹ Interstate Commerce Commission, Bureau of Accounts, Transport Statistics in the United States, 1950-1977. (Unless noted otherwise, the statistics in this chapter are from this source.)

FIGURE 3. TON-MILES OF REVENUE FREIGHT PER ROUTE MILE (THOUSANDS)

Source: Interstate Commerce Commission, Bureau of Accounts, Transport Statistics in the United States, 1950-1975.



Milwaukee has invested in its road and equipment compared to the other companies. In 1977, the Milwaukee Road was spending 13.3 percent less on equipment and only 4.6 percent more on road maintenance, in nominal dollars, than it spent in 1950. Considering the rate of inflation, these figures represent a tremendous drop in maintenance expenditures. The other railroads in Figure 3 spent between 90 percent and 571 percent more on equipment, and between 33 percent and 81 percent more on road maintenance in 1977 than in 1950. The Milwaukee's roadway is in even worse shape than the low maintenance figures imply, as most of the ties were installed in the 1930's and 40's, and their average lifetime of approximately forty years has come to an end. Due to the poor maintenance of the past few decades, the ties have been severely damaged by an unusually high number of derailments.²

A drop in maintenance expenditures is a rational response to inadequate demand. In the event of overcapacity, a firm should consume the capital which is embodied in the excess plant until the plant size is reduced to the point at which the output demanded is equal to the output produced when the plant is operating at its optimal level.

If the Milwaukee was simply trying to consume excess capital, it did not proceed to this end in a very rational manner. The railroad did not even petition the Interstate Commerce Commission to be allowed to abandon lines before their condition had deteriorated to the point that the Federal Railroad Administration was fining the company for

² Reebie Associates, "Traffic Effects Study; The Viability of the Western Lines of the Milwaukee Road," prepared for the Department of Transportation, Federal Railroad Administration, Report No. DOT-FR-8072, July, 1979, p. 42. (The data quoted was obtained from Thomas K. Dyer, Inc., for the Trustee, "Milwaukee Railroad Maintenance of Way Working Papers," made available through the Federal Railroad Administration, 1979.)

unsafe operations. By 1977, the safety fines reached \$300,000, of which \$165,000 was for bad track. Few railroads have ever been fined so much. Another aspect of the maintenance deferral which seems irrational is the fact that the condition of the entire system was allowed to decline. Even in the Midwest where the Milwaukee hopes to remain in service, its major lines have many sections where slow orders of 10 miles per hour have been applied by the F.R.A. This general decline may have been due to mismanagement. Railroad executives of other companies have said that the Milwaukee management often claimed that all their branchlines were profitable even when it was clear to most people in the industry that no railroad could continue to maintain light-density branch lines.³

Even though much of the maintenance deferral may have been due to miscalculation, the deferral which has taken place in the last few years seems to have been directed at securing the abandonment of the Pacific Coast Extension. Statistics are available only for the system as a whole, so we cannot say with certainty where the railroad allocated its investments. Still, we can infer from the testimony presented at the abandonment hearings and from the abandonment arguments of the Milwaukee Road that the western lines have suffered far more than average.

The major indication that the eastern part of the system is favored is the fact that the best engines and rolling stock are sent east. A Milwaukee employee in Harlowton, Montana, testified that, "We no sooner

³ David Young, "Milwaukee Road: A Once-Proud Railroad Runs Out of Time," Chicago Tribune newspaper, 3 December 1978.

get a group of locomotive power...worked up to the point where it is operable, it goes back east and is replaced for power that they tell us has been momentarily taken out of service."⁴ The stock cars are so bad that, "...on one run, the legs of cattle slipped through the bottom and were cut off."⁵

Even though the western lines are in horrible shape, "...the present management has quietly moved nearly all of its mechanical equipment required for track rehabilitation to its eastern lines and a major portion of the labor force has been laid off (over the past three years)."⁶ Even rails and ties which had been laid along western lines were picked up and shipped east.⁷ Auxiliary operating equipment such as snow plows and wreckers has also been shipped east over the past few years.⁸

The number of trains on the western lines has been reduced from four to only one per day. Instead of carrying freight to the west coast, the Milwaukee sometimes gives it to other railroad companies to carry much of the way. Employees testified that freight from the

⁴ Leo Graybill, Jr., William F. Murphy, Brief of the Montana Citizens Freight Rate Association before the I.C.C., Docket No. AB-7 (Sub-No. 86), 14 December 1979, p. 43 (From transcripts of Harlowton, Montana, I.C.C. abandonment hearing, Robert Conley, Milwaukee Road Employee, p. 370.).

⁵ "Rail Employee Protests Gag," Independent Record newspaper (Helena, Montana), 4 October 1979.

⁶ Graybill and Murphy, p. 42 (From transcripts of Great Falls, Montana, I.C.C. abandonment hearing, Allen Netters, Milwaukee Road employee, p. 228.).

⁷ Ibid., p. 47 (From transcripts of Missoula, Montana, I.C.C. abandonment hearing, Robert Richardson, Milwaukee Road employee, p. 159.).

⁸ Ibid., p. 45 (From transcripts of Three Forks, Montana, I.C.C. abandonment hearing, Ed Bellach, Milwaukee Road employee, p. 279.).

Dakotas was given to the BN in Miles City, Montana,⁹ and that, in Butte, Montana, the UP was often paid to haul Milwaukee freight west.¹⁰

In the past few years, there have been attempts in Montana to provide state aid to railroads, but they have not been actively supported by the Milwaukee Road. A state representative from Deer Lodge, Montana, introduced such legislation in both 1977 and 1979, but no representative from the Milwaukee appeared to testify in its support.¹¹ One can infer that the company did not think it would be operating in Montana long enough to benefit from such legislation.

A major argument offered by the Milwaukee Road to support abandonment of the Pacific Coast Extension is that rehabilitation costs on the western lines are so high that they preclude the possibility of operating profitable services. No estimate has been made of the cost of rehabilitating the lines west of Miles City, Montana, but for the lines west of St. Paul, Minnesota, the cost would be about \$115 million to allow for speeds of 40 miles per hour.¹² Certainly during the past two years when plans were being made to abandon the western lines, and probably during the past seven or eight years as well, the Milwaukee

⁹ Graybill and Murphy, p. 44 (From transcripts of Miles City, Montana, I.C.C. abandonment hearing, Kenneth D. Clark, Milwaukee Road employee, p. 767.).

¹⁰ Ibid., p. 45 (From transcripts of Butte, Montana, I.C.C. abandonment hearing, Lloyd Schott, Milwaukee Road employee, p. 342.).

¹¹ Ibid., p. 19 (From transcripts of the Butte, Montana, I.C.C. abandonment hearing, Joe Brand, State Representative, p. 133.).

¹² Reebie Associates, p. 45 (From Thomas K. Dyer working papers.).

has concentrated its meagre maintenance funds on its midwestern system.

Beyond the ordinary steps that the average firm would take in order to reduce its capacity, further actions have been taken by the Milwaukee in order to secure the approval of the I.C.C. to abandon major segments of line. In particular, the railroad has attempted to inflate the apparent costs and deflate the apparent revenues so that areas that they hope to abandon will seem to be inherently unprofitable. These steps are economically irrational, but they are often considered necessary by railroad companies, given the government's power to control plant capacity.

One means by which to attain this end is to carry on ineffective maintenance. For example, maintenance expenditures can be increased by working on minor branch lines, and no operating costs will be saved since the important revenue-generating lines will remain in poor shape. A Milwaukee employee in Alberton, Montana, testified that, "Maintenance-of-Way employees [were] being used to repair a spur track that is seldom used and has no industrial use, while the main line waits for repair."¹³

Labor costs can be raised by slowing and delaying trains more than is necessary. A Milwaukee employee in Great Falls, Montana, complained that the few maintenance crews still employed interfere with traffic: "Anyone at all familiar with railroad operations knows very well that under proper management, construction and repair normally is done around train traffic, [so] the train will not be delayed."¹⁴ The Milwaukee

¹³ Graybill and Murphy, p. 47 (From transcripts of Missoula, Montana, I.C.C. abandonment hearing, Darrel Dewald, Milwaukee Road employee, p. 164.).

¹⁴ Ibid., p. 43 (From transcripts of Great Falls, Montana, I.C.C. abandonment hearing, Allen Netters, Milwaukee Road employee, p. 229.).

has also slowed some trains below the speed limits set by the Federal Railroad Administration. As trains move slower, the train crew wage bill increases. "For example, it now takes three crews more than 20 hours to run a train the 217 miles from Miles City to Harlowton (Montana)---a trip that used to take one crew eight hours."¹⁵ Even on shorter lines where a train can make a full trip within one crew shift, the management often slows the train even more and sends out a new crew in a chauffeured car to operate the train for the last stretch of line.¹⁶

To review briefly, the above scenario for the Milwaukee's decline postulates that low traffic density caused high average costs, thereby leaving little capital for road and equipment maintenance. The resulting deterioration was system-wide until the management finally decided that the western lines should be abandoned. Then, the railroad concentrated its maintenance in the midwest while driving up costs in the west, so that a stronger case could be made before the I.C.C. for a large western abandonment.

Another explanation of the long-term maintenance deferral in the absence of abandonment applications is that the Milwaukee was trying to improve its profit record so that other railroads would consider it to be a good merger partner. Once such a partner was found, the combined systems could trim their lines to suit their needs. In the meantime, the Milwaukee would have more merger possibilities since it is contiguous to a relatively large number of railroad systems. The

¹⁵ Jeannie Cross, "Milwaukee: Slow Freight Through State," Independent Record newspaper (Helena, Montana), 13 December 1979.

¹⁶ Ibid.

management may have believed that the I.C.C. would allow them to join the BN system as a last resort, since the I.C.C. reserved this right when it approved the BN merger. If this had occurred, the lines which the BN-Milwaukee would probably have dropped would have been their contiguous lines in the west where traffic densities are presently low. This prospect offers a logical explanation for the greater deferral of maintenance in the west during the 1970's. When the I.C.C. rejected the Milwaukee's petition to join BN in 1976, the Pacific Coast Extension appeared to be the obvious candidate for abandonment since it was in the worst shape.

During the past decade, another set of circumstances may have been involved in the Milwaukee's decline. When the railroad declared bankruptcy in 1977, the New York Times reported that,

Many industry observers think the demise of the railroad raises unanswered questions about the activities of the holding company which is not covered by the bankruptcy action. The holding company has diversified into lumber, food service and manufacturing. These sources think bankruptcy was speeded along by "milking" the railroad of funds for investment in other ventures.¹⁷

In 1970, after the Chicago & North Western Railroad withdrew its merger proposal, a group of dissident Milwaukee stockholders began pushing harder for the formation of a holding company. The group tried to replace the entire board of directors, complaining that the directors have "...lost money, and after 10 years they have been unable to merge. They have failed to diversify. They basically are do-nothings

¹⁷ "Milwaukee Road Seeks Protection in Bankruptcy Act," New York Times newspaper, 20 December 1977, p. 51.

or we'll think about it people.'"¹⁸ They sued for the right to have preferred stockholders elect the majority of the board, but their suit was rejected in late 1970.¹⁹ Less than six months later, the Milwaukee management met the group's major demand by forming a holding company, the Chicago-Milwaukee Corporation, with the intention of expanding into the consumer-products field.²⁰ By early 1972, 85 percent of the railroad's stockholders had exchanged their stock for holding company securities.²¹

As noted in Chapter One, the I.C.C. delayed the merger of the Milwaukee with the Chicago & North Western to allow the Commission time to investigate the effects on railroads of holding company ownership. In a report released in 1977, the I.C.C. concluded that there is great potential for the exploitation and abuse of railroads within a holding company structure, and requested that Congress allow for greater government control over the acquisitions of railroads.²² Although the report states that the Chicago-Milwaukee Corporation has not transferred substantial assets from the Milwaukee Road, it describes many other ways in which holding companies can adversely affect railroads. One major

¹⁸ Robert E. Bedingfield, "Milwaukee Road is Sought," New York Times newspaper, 16 April 1970, pp. 63 and 66.

¹⁹ "Milwaukee Suit Rejected," New York Times newspaper, 29 December 1970, p. 43.

²⁰ "Chicago Road Holds Meeting," New York Times newspaper, 12 May 1971, p. 68.

²¹ "Chicago Milwaukee Corporation Gets 85% of Milwaukee Road Stock," New York Times newspaper, 18 January 1972, p. 42.

²² Interstate Commerce Commission, Railroad Conglomerates & Other Corporate Structures, 5 February 1977, p. 74.

benefit enjoyed by holding companies is the tax savings achieved through consolidated income tax returns. Through the use of tax losses and investment tax credits, the Chicago-Milwaukee Corporation has saved at least \$14 million in taxes. The I.C.C. could find no evidence that these railroad-generated tax savings have been returned to the railroad, so they concluded that the funds have been used for diversification into non-carrier activities.²³

In 1972, shortly after the Chicago-Milwaukee Corporation was formed, a new president was elected for the Milwaukee Road. The same person was also elected to be a director of both the railroad and the holding company.²⁴ Therefore, for the past eight years, the Milwaukee Road has not had top management that was interested only in the welfare of the railroad. The I.C.C. report states that,

Without full access to all holding company and other non-carrier board minutes and underlying notes, memoranda, etc., the extent to which the holding companies dictate subsidiary companies' budgets or other actions could not be determined.²⁵

The report then notes that there are enough officers and directors in common between the Milwaukee Road and its holding company that the latter corporate body can directly control the policies of the railroad.

While the I.C.C. cannot say with any certainty how the Chicago-Milwaukee Corporation has influenced the railroad, they do note that

²³ Interstate Commerce Commission, Railroad Conglomerates & Other Corporate Structures, 5 February 1977, p. 13.

²⁴ "Milwaukee Road Elects," New York Times newspaper, 1 July 1972, p. 31.

²⁵ I.C.C., 1977, p. 12.

railroads owned by holding companies have a marked tendency to understate, to a much greater extent than other railroads, the degree to which they have deferred maintenance. As of June 30, 1976, holding company railroads reported \$502 million in deferred maintenance for roadway and equipment, yet the I.C.C. estimates that these companies will need to spend \$3.9 billion (in constant dollars) on this account by 1985. All other Class I railroads reported \$1.1 billion in deferred maintenance, and should spend \$3.2 billion by 1985. On the capital expenditures account, holding company railroads reported \$1.2 billion in deferred capital improvements, while the I.C.C. estimates that they should spend \$1.8 to \$2.8 billion annually from 1976 to 1985. The other railroads reported \$1.4 billion in deferred capital improvements, a figure which falls well within the range of the I.C.C. estimate of \$1.0 to \$1.9 billion required annually.²⁶ Although the total assets and total operating revenues of Class I railroads are about evenly divided between holding company and non-holding company railroads,²⁷ just over 60 percent of the investment required to cover deferred maintenance and capital expenditures is attributable to the holding company railroads. In addition, their lower estimates of the deferred expenditures imply that the holding companies do not perceive a need to undertake as large an investment program in their railroads as do the managers of other railroads.

The policy of holding companies to defer railroad investment to

²⁶ I.C.C., 1977, p. 72.

²⁷ Ibid., p. 7.

a large degree seems to stem from the character of their organization:

The basic forces dominating conglomerate managements... are the need to maximize reported per share earnings and the appearance of growth in these earnings. The pressure to achieve short term results may, in fact, be accentuated, since holders of shares in these companies must be sought in the diminished ranks of speculatively-oriented institutions rather than in patient investors convinced of or interested in the long term fundamentals of any particular industry.²⁸

The prospect of destroying the railroad may be unimportant to a holding company since it can take over most valuable assets and reap short term profits, and then divest itself of the railroad. Both the Chicago & North Western and the Bangor Punta Railroads were stripped of their noncarrier assets and then disposed of by holding companies.²⁹

The greater degree of deferred maintenance common to holding company railroads may be due in part to their restricted means of financing investment. While independent railroads are allowed to issue capital stock, "...railroads under the control of diversified holding companies are now limited to the use of internal and debt financing to satisfy operating and capital improvement requirements."³⁰ Railroads can usually obtain loans in the market because they have so much fixed capital to use as collateral, but holding companies often pervert this advantage by using their railroad assets to secure loans for noncarrier divisions of the conglomerate.³¹

²⁸ I.C.C., 1977, p. 4.

²⁹ Ibid., pp. 10-11.

³⁰ Ibid., p. 71.

³¹ Ibid., p. 25.

There are several other ways in which railroads may be harmed by holding companies. In particular, a railroad may be deprived of highly competent personnel if the holding company decides that their talents would presently be more profitable in some other unit of the conglomerate. There may also be increasing management costs to scale as the conglomerate becomes larger and more complex, and these greater costs will be borne in part, at least, by the railroad.³² Since the Milwaukee Road and its holding company share many of their top management personnel, the railroad may be paying for the top management of most of the Chicago-Milwaukee Corporation. The Milwaukee Road apparently paid these managers quite well, as its railroad chairman and chief executive officer was "...paid \$190,000---second highest of any railroad executive in Chicago."³³

The charge of holding company abuse in the case of the Milwaukee Road has been countered by the assertion that profits of the railroad's subsidiaries have been used to offset some of the railroad's losses. For the years 1975 through 1977, \$31 million was paid to the Milwaukee by its subsidiaries.³⁴ By itself, this figure means very little, for we do not know in what ways the relationship between the railroad and

³² I.C.C., 1977, p. 6.

³³ David Young, "Milwaukee Road Shapes Up for the Winter---and Beyond," Chicago Tribune newspaper, 4 December 1978.

³⁴ Stanley E. G. Hillman, Court-appointed Trustee for the Chicago Milwaukee, St. Paul & Pacific Railroad, from testimony introduced in U.S. District Court in Chicago in support of a petition for authority to issue \$5.1 million in Trustee's Certificates, 20 March 1978, p. 8.

its subsidiaries has changed since they were put under the control of the holding company. We do not know how large the dividends from the subsidiaries have been in the past, nor how much of the profits of the past decade have been passed on to the holding company. We also do not know how much the subsidiaries are charging the railroad for services under the new corporate organization. Dividends to the railroad are not a gift, but are warranted by the fact that the railroad paid for its subsidiaries with railroad funds. For example, the land held by the subsidiary Milwaukee Land Company was purchased in a piecemeal fashion by the railroad as it expanded its plant in the Midwest and to the West Coast.³⁵ The dependence on non-transportation assets is certainly not unique to the Milwaukee Road. The I.C.C. report states that without Burlington Northern's physical non-transportation properties, "...the remaining operations would be only marginally profitable and the BN might have difficulty surviving as a viable economic entity."³⁶ The BN is presently one of the strongest railroads in the United States.

Three months after the Milwaukee Road declared bankruptcy, the Court-appointed Trustee reported to the U.S. District Court in Chicago that he was "...separating all operations of the holding company, Chicago-Milwaukee Corporation, from the operations of the railroad. Completion of this separation will yield further efficiencies for the

³⁵ August Derleth, The Milwaukee Road: Its First Hundred Years, New York: Creative Age Press, 1948, p. 126.

³⁶ I.C.C., 1977, p. 30.

railroad's operations."³⁷ He did not elaborate on the manner in which the holding company was causing inefficiencies in the railroad's operations. After accountants examined the earnings of the Milwaukee Land Company, the Trustee directed the subsidiary to pay the railroad a dividend of \$5.8 million.³⁸ We have no way of knowing whether this payment was extraordinary, or whether the amount was in the expected range of a dividend payment and was held back at the direction of the holding company.

There is little evidence that the Chicago-Milwaukee Corporation has abused the Milwaukee Road. There is little means to examine the possibility of abuse since holding companies are not subject to government review and regulation. Still, some speculation on the possible abuses of the holding company is pertinent when the economic viability of a railroad is being considered. A major goal of the managers of the Chicago-Milwaukee Corporation may have been short-run profit-maximization for the holding company, at the expense of the long-run profitability and stability of their subsidiary, the Milwaukee Road.

In Chapter III, we will examine the major studies that have been used to support the Milwaukee Trustee's petition to abandon the western lines. These studies assume that the management of the Milwaukee Road has been primarily concerned with maximizing long-term revenues over the entire railroad system. Clearly, this is a risky assumption, given the management's actions to the contrary. The western lines have

³⁷ S. E. G. Hillman, p. 3.

³⁸ Ibid., p. 11.

been discriminated against in maintenance and equipment allocation, the entire system was neglected as merger partners were pursued, and the railroad has been used to support the expansion of the holding company.

CHAPTER III

THE STUDIES

In August, 1979, the court-appointed Trustee for the Milwaukee Road requested that the Interstate Commerce Commission allow the railroad to abandon its operations west of Miles City, Montana, because he believed that further investment in the lines was economically unjustifiable.¹ Two studies serve as the primary basis for the Trustee's arguments in favor of abandonment: The Milwaukee Road Strategic Planning Studies by Booz-Allen & Hamilton, Inc.² (hereafter referred to as "Booz-Allen"), and Traffic Effects Study: The Viability of the Western Lines of the Milwaukee Road by Reebie Associates³ (hereafter referred to as "Reebie"). The Department of Transportation found that the assumptions and methodologies of these reports were reasonable and, on the basis of the two reports, concluded that "...the Western Lines of the Milwaukee are not likely to become self-sustaining, either independently or as part of a reorganized Milwaukee system."⁴ There are many problems with the studies themselves and with the use that has been made of them which greatly reduce their value in planning the reorganization of the Milwaukee Road. We will examine first the basic

¹ United States Department of Transportation, Brief before the Interstate Commerce Commission, Docket No. AB-7 (Sub-No. 86F), 14 December 1979, p. 1.

² Transportation Consulting Division, Bethesda, Maryland, May, 1979.

³ Consultants to Management, Greenwich, Connecticut, July, 1979.

⁴ W. Graham Claytor, Jr., Acting Secretary of Transportation, Letter to Honorable Harley O. Staggers, Chairman, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, 31 July 1979, p. 3.

assumptions and the sources of data of the studies to reveal their biases and deficiencies, and second, the highly questionable manner in which the Milwaukee Road used the studies to support its case.

The Booz-Allen study was Commissioned by the Trustee of the Milwaukee to assist in evaluating the costs and benefits of various parts of the railroad system. In-depth analysis was performed on eight configurations to estimate the probable range of net revenues and the equipment, employment, and rehabilitation requirements of each. The manner in which these eight were chosen from thirty-three preliminary configurations is not clear, as Booz-Allen considered the preliminary results to be "company proprietary information." In assessing the merits of the eight systems, the study emphasized the desirability of reducing rehabilitation costs, risks, and plant size so that the company could become self-sustaining at an early date, given its present financial resources and equipment. No consideration is given to the possibility of outside assistance, even though the railroad has been receiving government aid through the Railroad Restructuring and Revitalization Act. The assumption of a fixed amount of financial support biases the recommendations of the study against the configurations which require relatively large amounts of rehabilitation and equipment expenditures, regardless of the potential return on such expenditures.

The bias against the larger systems is accentuated by the unusually high rehabilitation estimates of the study. An independent assessment of the rehabilitation requirements was done for Booz-Allen by Harry Williamson, a professional engineer, and when his estimates were found to generally agree with the Milwaukee Road's gross estimates, the

consulting firm accepted them as accurate.⁵ During cross-examination at I.C.C. hearings in Butte, Montana, and Chicago, some major deficiencies in Williamson's estimates were revealed. First, his inspection of the lines was superficial, having travelled over them at twenty-five miles per hour, and stopping to inspect only one or two percent of the track closely. Second, his estimates involve a degree of rehabilitation high enough to cover normalized maintenance for about three years after the tracks are repaired. This approach to maintenance hardly seems appropriate for a railroad in a strained financial situation. Third, he had little idea of the unit costs of the ties and rails which would be used in the program that he proposed, and did not even know the weight of rails necessary for the lines. Fourth, he assumed that the process would be highly capital-intensive, and that a large labor force would have to be trained and housed for the project. Since the Milwaukee Road has been laying off its maintenance crews over the past few years, and since the reorganized railroad will undoubtedly reduce its route miles substantially, there is apt to be a large supply of trained maintenance labor available. Williamson provided no basis for his estimates and assumptions except his past experience in railroading.⁶

An engineer hired by the New Milwaukee Lines performed a more

⁵ Booz-Allen & Hamilton, Vol. II, Appendix A, p. 4.

⁶ Mike Greeley, Attorney General of Montana, and the New Milwaukee Lines, Brief of Protestants before the Interstate Commerce Commission, Docket No. AB-7 (Sub-No. 86), 14 December 1979, pp. IIC-4--IIC-10.

extensive inspection and, using present costs for materials and labor, estimated that the western lines' rehabilitation costs are about 20 percent lower than Williamson estimated.⁷ This second estimate may or may not be accurate. The validity of the first estimate is clearly questionable. If the Booz-Allen rehabilitation costs are too high, the reliability of the recommendations of the study are jeopardized, as a major factor in evaluating the various configurations is these costs.

The other major consideration in assessing the configurations is the revenue potential of each one. Booz-Allen's traffic projections are over-simplified at best, and border on being naive and illogical. A major distortion is introduced by the use of 1977 traffic statistics as the basis for their projections. Most of the Milwaukee's rail system and equipment was in such poor shape and supply that the amount of traffic actually carried can hardly be viewed as a reliable indication of the potential market share. In a Booz-Allen survey, Milwaukee shippers indicated that they often choose truck over less expensive rail transport because "...railroads have often provided highly erratic transit times on important routes, and have not been able to assure car supply."⁸ This preference is especially relevant to the Milwaukee Road in recent years. The underestimation of traffic potential is probably greater for the western lines because, as was described in Chapter II, these lines have had a low priority in the allocation of equipment and maintenance in recent years.

⁷ Greeley, pp. IIC-8--IIC-9.

⁸ Booz-Allen & Hamilton, Vol. II, Section IV, p. 2.

Booz-Allen used two sources of data to project traffic levels: an assessment of business opportunities done by the Milwaukee Road's marketing and sales staff, and the results of a shipper survey conducted by the consultants. Although Booz-Allen believed that "...the Milwaukee Road traffic officers were fairly conservative in their estimates....,"⁹ the consultants lowered the projections, "...based on the findings of the survey, existing traffic flows, and the consultants' extensive railroad marketing experience."¹⁰ The manner in which the adjustments were made is not known, as the relevant appendix is classified as "company proprietary information." The Milwaukee staff's incremental carload and revenue estimates were reduced from 276,869 to 211,384 (-23.7%), and from \$205.5 million to \$145.6 million (-29.1%), respectively.¹¹ While these reductions apply to all of the Milwaukee's mainlines, they are probably greater for the western lines because the existing traffic flows are especially poor in the west, and the shipper survey was probably biased against the west. Ninety-eight customers were chosen for the survey, and seventy-two firms, together accounting for 63 percent of the Milwaukee's present traffic, actually participated.¹² The bulk of these customers is obviously in the midwest since that is where the rolling stock has recently been concentrated. The survey questions are not included in the study, but it has been alleged that

⁹ Booz-Allen & Hamilton, Vol. II, Section IV, p. 8.

¹⁰ Ibid., p. 7.

¹¹ Ibid.

¹² Ibid., Vol. II, Section IV, p. 2.

eastern and western shippers received different surveys. The chairman of the Montana Grain Growers claims that, "'They asked eastern shippers what their traffic potential was....They asked western shippers what they planned to do when the Milwaukee is gone, and they only asked a few.'"¹³ The survey responses may have been affected by the Milwaukee's announcement in August, 1978, that it could no longer operate as a transcontinental railroad.¹⁴ Those firms which require transcontinental service, and especially the firms on the western lines that are prime candidates for abandonment in the event of the formation of a non-transcontinental railroad, were probably making fewer transportation plans based on continued service from the Milwaukee Road.

Another problem with the conclusions drawn from the projected traffic levels is that "...no consideration was given to the desirability of the traffic increments or to their profitability."¹⁵ While it is not clear how the projections regarding revenue would be different if the study had considered profitability, it is possible that the relative marginal revenue figures for the various configurations would be quite different. The western lines generate primarily bulk commodities which are usually considered to be low-rate, low-revenue goods, but in the northwest, the rates for these goods are very high. During the I.C.C. hearings in Montana, it was repeatedly noted that, "Montana

¹³ "Graingrowers Protest Basis of Milwaukee Money Refusal," Independent Record newspaper (Helena, MT), 13 Aug. 1979 (quote from Viggo Andersen).

¹⁴ Greeley and the New Milwaukee Lines, P. IIA-8.

¹⁵ Booz-Allen & Hamilton, Vol. II, Section IV, p. 9.

farmers pay the highest freight rates in the nation."¹⁶ A witness for the Milwaukee Road, Glen F. Reynolds, admitted that "...grain traffic from Montana is among the most profitable on the Milwaukee system."¹⁷ It may be the case that the western lines would be shown to have relatively poor profit potential if a study were done on the profitability of traffic increments. The point is that no such study has been done, and this deletion in the analysis reduces the reliability of the Booz-Allen recommendations.

There are several other questionable assumptions made by Booz-Allen:

The trends in the rail industry's market share and the western railroad share of total United States traffic volume would not change. The rate of decline of these market shares would be reduced to 50 percent of the 1966 to 1977 rates by 1982, mainly as a result of changes in government policy and deregulation.¹⁸

The major reason given for assuming that railroads would continue to lose their share of the market is that "...in recent years neither the Milwaukee nor the U.S. railroad industry as a whole has participated in the growth of the economy in terms of tonnage carried."¹⁹ Figure 4 plots this trend.

The "Gross Tonnage vs. Real GNP" statistic is essentially

¹⁶ Leo Graybill, Jr., William F. Murphy, Brief of the Montana Citizens Freight Rate Assoc. before the Interstate Commerce Commission, Docket No. AB-7 (Sub-No. 86), 14 December 1979, p. 10.

¹⁷ Terry Whiteside, Brief of the MT. Dept. of Agriculture before the I.C.C., Docket No. AB-7 (Sub-No. 86F), 12 December 1979, p. 12 (from I.C.C. hearing transcript pp. 471 & 2928).

¹⁸ Booz-Allen & Hamilton, Vol. II, Section IV, p. 11.

¹⁹ Ibid., Vol. II, Section IV, p. 12.

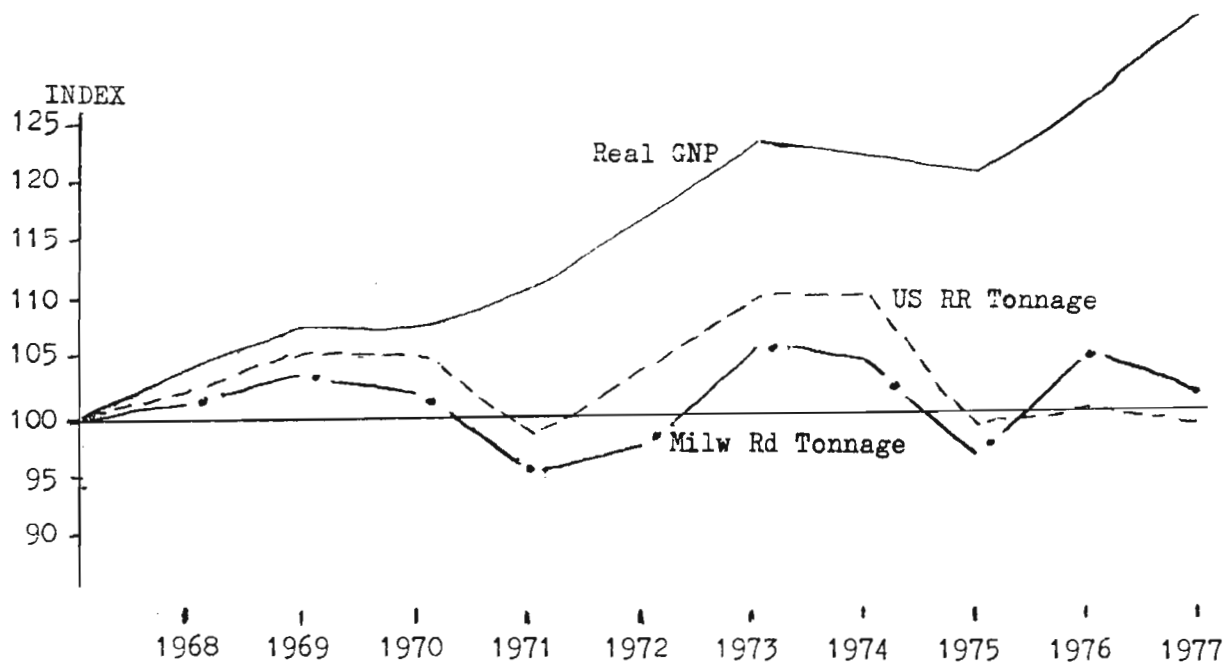


Figure 4. Gross Tonnage Vs. Real GNP

Source: Booz-Allen & Hamilton, Vol. II, Section IV, Exhibit IV-8.

irrelevant for two reasons: First, "tonnage carried" does not reflect the distance over which the given tonnage was carried. For example, if Railroad A loads one ton of freight and carries it one mile, while Railroad B loads one-half ton of freight and carries it two miles, they will provide the same number of ton-miles of freight (one each), but Railroad A will carry twice as much tonnage. Although railroad tonnage growth has been sluggish, railroad ton-mile growth has been strong in the past decade, as is shown in Figure 5. Second, one would hardly expect that the growth in freight volume would be as great as the growth in GNP in an advanced country for the simple reason that an increasing percentage of the GNP is composed of services rather than goods, and services are not shipped on railroads. In the three decades

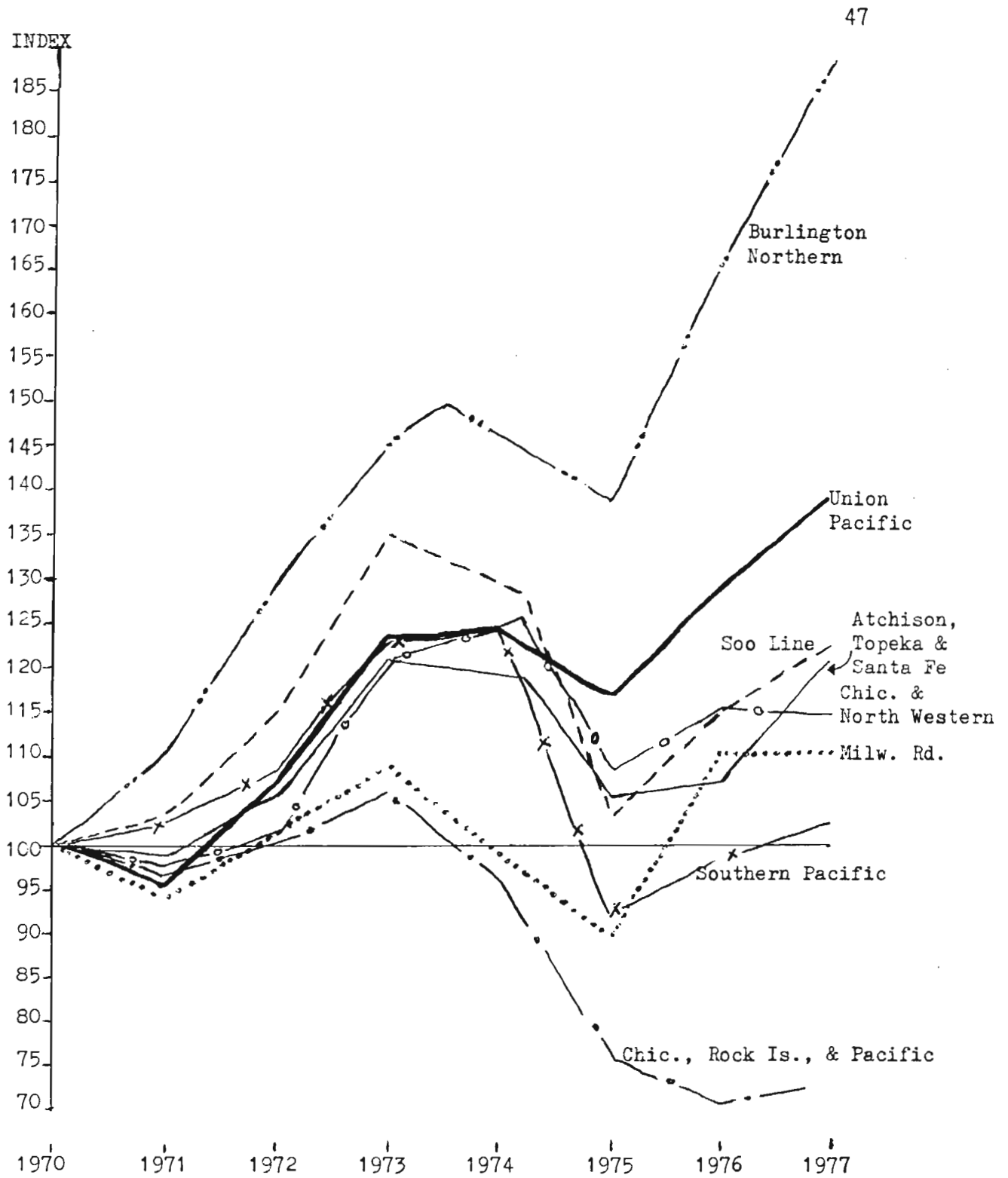


Figure 5. Western District Class I Railroad Net Ton Mile Index
 Source: Bocz-Allen & Hamilton, Vol. II, Section IV Exhibit IV-10.

from 1948 to 1978, the proportion of GNP made up of goods dropped from 60 percent to 44 percent, while the proportion of services increased from 29 percent to 46 percent. From 1970 to 1978, goods decreased from 48 percent to 44 percent, while services increased from 42 percent to 46 percent.²⁰

Booz-Allen counters the importance of the present upward trend in ton-miles of freight with the statement that, "The bulk of that ton-mile growth, however, has come from longer hauls and from coal."²¹ There is no explanation as to why the fact that longer hauls were a contributing factor to ton-mile growth reduces the importance of the increases. Increasing the average distance over which freight is carried is one way that railroads achieve economies of scale because terminal expenses (loading, switching and unloading) can be averaged over larger distances.²² Therefore, the fact that the ton-mile growth is due to longer hauls is a positive factor in a cost-benefit analysis of freight trends.

Booz-Allen's negative view of coal traffic seems unwarranted. Figure 6 shows the recent growth trends in ton-miles of coal traffic for the Burlington Northern and the Milwaukee Road. The only reason

²⁰ Bureau of the Census, U.S. Dept. of Commerce, Historical Statistics of the United States, Colonial Times to 1970, Part 1, Washington, D.C., 1976, p. 228, and Statistical Abstracts of the United States, 100th Edition, Washington, D.C., 1979, p. 435.

²¹ Booz-Allen & Hamilton, Vol. II, Section IV, p. 13.

²² Theodore Keeler, "Railroad Cost Functions: An Empirical Study," Reed College Thesis, Portland, Oregon, May 1967, p. 22.

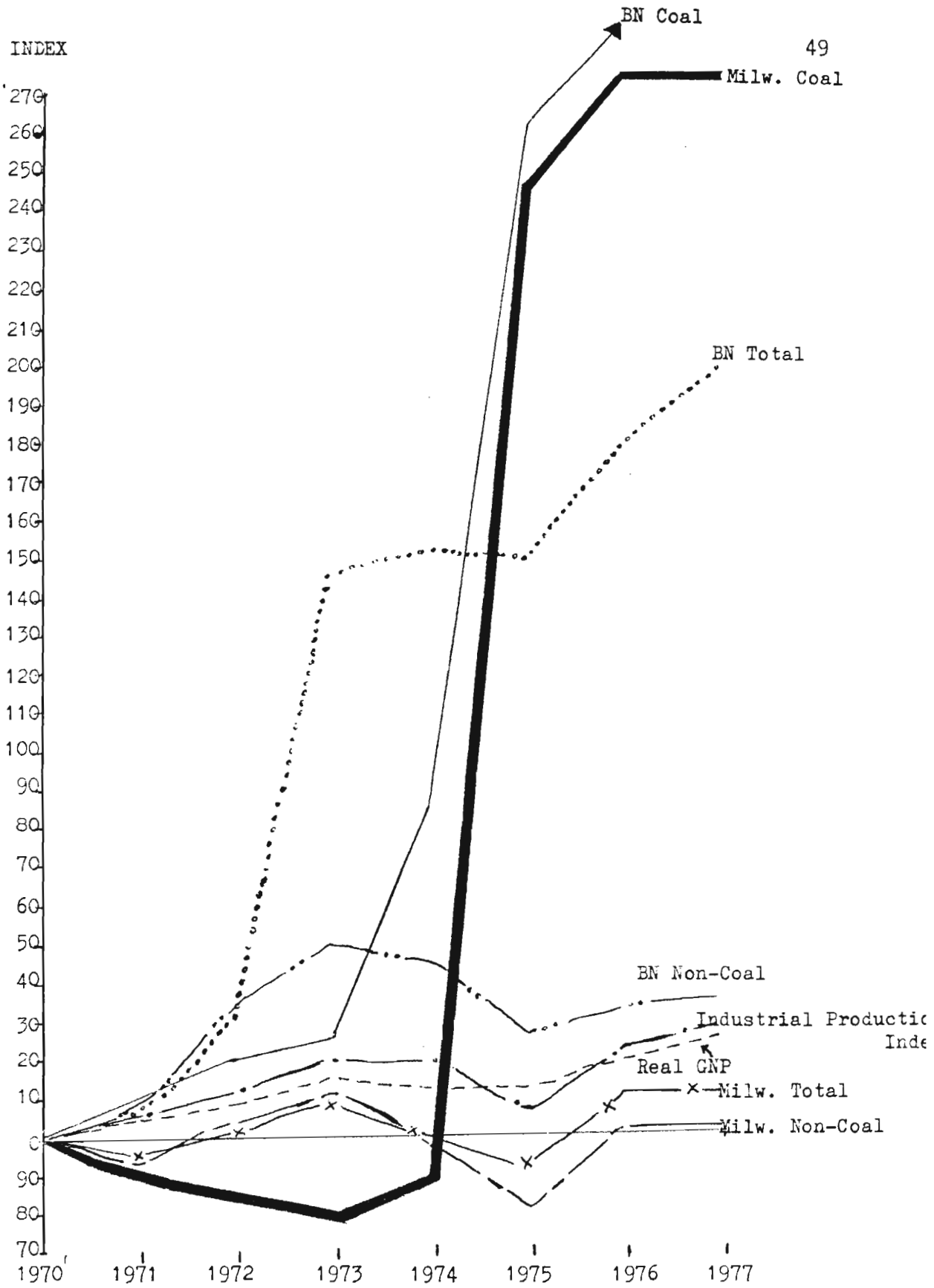


Figure 6. Milwaukee Road Vs. Burlington Northern Ton Mile Trends

Source: Booz-Allen & Hamilton, Vol. II, Section IV, Exhibit IV-11.

given for ignoring potential coal traffic is that "...coal is not as susceptible to normal solicitation."²³ No explanation is given for what this statement means, or why this marketing characteristic of coal will reduce its traffic and revenue generating potential. Booz-Allen included no growth factor for coal in its traffic projections except for "Weston Spur" coal (location not known) and Panora, Iowa coal.²⁴ During the abandonment hearings, a witness for the consulting firm testified that they found that the west held no new potential coal business, and that the Milwaukee marketing department did not mention any coal potential in the area.²⁵ During the same hearings, coal industry representatives testified that they had discussed potential coal business in the west with the Milwaukee management.²⁶

Shortly after the Booz-Allen study was completed, the Energy Information Administration of the U.S. Department of Energy released new projections on coal production through 1995, shown in Table 1. The Great Plains region is expected to increase its production of coal by over 1000 percent, and its share of U.S. production from the 1977 level of 12 percent to a 1995 level of 44 percent. The study also projected the demand distribution for Great Plains coal, as is shown in Table 2.

²³ Booz-Allen & Hamilton, Vol. II, Section IV, p. 13.

²⁴ Ibid., p. 12.

²⁵ Graybill and Murphy, p. 6 (from I.C.C. hearing transcript pp. 1853, f.f.).

²⁶ Ibid. (from I.C.C. hearing transcript p. 2337).

TABLE 1

PRODUCTION OF COAL
(millions of tons)

<u>Region</u>	<u>1972</u>	<u>1977</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Great Plains*	26	86	224	536	881
Rest of West	24	48	62	71	103
Other U.S.	<u>544</u>	<u>558</u>	<u>747</u>	<u>858</u>	<u>1014</u>
National	595	691	1033	1465	1999

*Montana, North and South Dakota, Wyoming, and northern Colorado

TABLE 2

CONSUMPTION OF COAL
(millions of tons)

<u>Demand Region</u>	<u>1977</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
East Coast	0	0	0	0
South	0	2	11	20
Midwest	36	101	208	308
Southwest	<u>7</u>	<u>48</u>	<u>212</u>	<u>355</u>
Total Out of Region	43	151	431	683
West	<u>43</u>	<u>73</u>	<u>105</u>	<u>198</u>
Total	86	224	536	881

Source: Policy and Management Associates, Inc., Milwaukee Lines Study: An Independent Assessment of Proposals Regarding the Milwaukee Line, Boston, Sept. 1979, pp. 11 and 14 (from the Annual Report to Congress of the Energy Information Administration of the Department of Energy, July 1979).

The Burlington Northern and the Union Pacific can be expected to dominate in the carriage of coal to the Southwest, as the BN's subsidiaries (Colorado & Southern, and Fort Worth & Denver) reach to

Galveston, Texas, and the UP has a mainline across southern Wyoming, through Utah, to Los Angeles. The markets of the Midwest and West are served by the UP, the BN and the Milwaukee.

Seventy-seven percent of coal movements nation-wide will be by rail,²⁷ but the proportion will probably be substantially higher in the western production area served by the Milwaukee, due to physical and economic constraints on other modes. Coal slurry pipelines have little potential in eastern Montana because of the scarcity of water. Farmers have substantial water rights on the two major rivers in the area, the Missouri and the Yellowstone, and their wells, the only alternate source of water, are subject to disrupted flows as the coal seams (natural underground water conduits) are mined. The rivers east of the Continental Divide have not been modified for barge traffic because the cost is prohibitive, and any attempt to modify them will probably be met by strong opposition from environmentalists. The rivers west of the Continental Divide carry barge traffic, but they are now operating at near capacity.²⁸ Trucks are an efficient alternative for distances under fifty miles,²⁹ but the average distance that coal

²⁷ Policy and Management Associates, Inc., Milwaukee Lines Study: An Independent Assessment of Proposals Regarding the Milwaukee Line, Boston, Sept. 1979, p. 13 (from the Final Environmental Impact Statement on the Federal Coal Management Program, Dept. of the Interior).

²⁸ Paul L. Mills, Acting Chief, Transportation Services Division, Office of Transportation, U.S. Dept. of Agriculture, Verified Statement on behalf of Bob Bergland before the I.C.C., Docket No. AB-7 (Sub-No. 86F), 22 Oct. 1979, p. 4.

²⁹ Gary M. Larwood and David C. Benson, Coal Transportation Practices and Equipment Requirements to 1985, Bureau of Mines Information Circular No. 8706, U.S. Dept. of the Interior, Washington, D.C., 1976, p. 17.

will be hauled is expected to increase from the 1973 level of 300 miles to an average of about 500 miles by 1985.³⁰

One other alternative is to burn the coal near the mining site, and carry the power over transmission lines to the consumption areas. Much of the energy of the coal is lost in this process, both in the additional changes in the form of energy (coal to heat energy to mechanical energy to electrical energy to the final form of consumption), and in the long-distance transmission itself. Also, the ecosystem of the western Great Plains is rather fragile and will be less able to withstand the sulfuric acid rain that results from the sulfur emitted when coal is burned than will the moister ecosystems in the Midwest and West Coast consumption areas. It is also questionable whether there will be enough water available in the coal regions to use in the steam powered plants.

The question which remains, then, is whether the Milwaukee can get a significant share of coal traffic when it is competing with the BN at the coal origin and with both the BN and the UP at the coal destinations. The answer seems to be that the demand for coal transportation will exceed the supply for many years, so no railroad will be squeezed out of the western market. The National Transportation Policy Study Commission expects the Great Plains annual coal production to reach 1.12 billion tons by the year 2000,³¹ and concludes that "...to judge energy transport needs on the basis of 1985 flows could result in

³⁰ Larwood and Benson, p. 47.

³¹ Policy and Management Associates, Inc., p. 14 (from NTPSC report, June 1979).

short-sighted policies."³² The report identifies the transportation corridor between the Great Plains coal region and the north and south Midwest region as one of two key corridors that will experience a deficiency in rail capacity after 1985, even if the Milwaukee Road remains in service.³³ So far, the Montana Bureau of Mines and Geology has identified 23.35 billion tons of strippable coal in eastern Montana, and "...Milwaukee would be the logical carrier for approximately 20 percent of that tonnage."³⁴

Most of the coal mines which will be in production in Montana in the next five years are situated near the Milwaukee's lines. The National Coal Association has identified ten coal mines in Montana that will be producing 80.7 million tons annually by 1985.³⁵ Nine of these mines are within seventy miles of the Milwaukee, and most are much closer.

It is clear that Booz-Allen's exclusion of potential new coal traffic greatly reduces the reliability of its traffic and revenue projections. Even though the revised projections of coal production were released after the study was completed, one would have expected the consultants to realize that coal could play a major role in the future of the Milwaukee. A transportation specialist for the state of Montana

³² Policy and Management Associates, Inc., p. 19 (from NTPSC report).

³³ Ibid.

³⁴ Greeley and the New Milwaukee Lines, p. IIA-23 (from Ex. 85, pp. 2, 6).

³⁵ Policy and Management Associates, Inc., Exhibit II, p. 9.

has noted that, "The Milwaukee Road traverses regions which bear one-third of the nation's coal reserves."³⁶ Given the present energy crisis in the U.S., and the emphasis being placed on conversion to coal to secure greater energy independence, Booz-Allen should have expected that this coal will be mined.

Another major commodity group which is slighted by the use of 1977 traffic levels and by the assumption of generally low growth potential is western agricultural produce. In 1977, the Milwaukee was not providing nearly as many cars as shippers were requesting. For example, twelve grain elevators owned by the Grain Terminal Association on the Milwaukee's western lines received about 25 percent of the rail cars that they needed.³⁷ Most of Montana's grain elevators are full with approximately two years' grain production.³⁸ The unmet demand for rail transportation is actually greater than the present inventories indicate, as some farmers have been shipping by trucks even though their rates are substantially greater. The rate differential between the two modes varies, depending primarily on the distance a truck must travel off of a major highway, but the general range indicated in the testimony to the I.C.C. is ten to thirty cents per bushel. In 1978, the Milwaukee carried 13.5 million bushels of Montana export wheat alone.³⁹

³⁶ Vern Littell, MT. Dept. of Agriculture, Letter to Sara Levitan, 4 Dec. 1979, p. 2.

³⁷ Milton J. Grossman, Acting Director, Office of the Rail Public Counsel, Brief before the I.C.C., Docket No. AB-7 (Sub-No. 86), 14 Dec. 1979, p. 58 (from Ex. 105, p. 3).

³⁸ Whiteside and the MT. Dept. of Agriculture, p. 17 (from Great Falls, MT. transcript, p. 504).

³⁹ Ibid.

If this wheat were shipped by trucks, Montana farmers would pay between \$1.35 and \$4.05 million in extra shipping costs. Presently, the BN is not an alternative, as it has been unable to meet the demand of its present customers in the Northwest.⁴⁰

While some grain is usually stored in anticipation of higher prices, the bulk of the storage in the Northwest seems to be due to transportation difficulties. Farmers testified that they have not been able to take advantage of rising prices,⁴¹ and some are worried that prices will rise above the point at which the government demands payment on commodity credit loans.⁴² Another indication of involuntary storage is the low proportion of the national grain reserve that was shipped out of Montana when these reserves were released in May, 1979. In the first five months after the grain was released, 37.3 percent was moved nationally, while Montana moved only 12.5 percent of its released grain.⁴³

The potential for increased agricultural output is higher in the Northwest than in most areas of the country. For example, the Economic Analysis Division of the U.S. Department of Agriculture estimates that wheat production in the northern tier states (boundary states of Washington through Minnesota) and in Oregon will increase 31 percent by

⁴⁰ Graybill and Murphy, p. 11.

⁴¹ Interstate Commerce Commission, Report on Docket No. AB-7 (Sub-No. 86), 29 Jan. 1980, Appendix A, Great Falls hearing, p. 36 (from testimony of Martin Udeltoven, farmer, Winifred, MT.).

⁴² Graybill and Murphy, p. 50 (from testimony of Vivian Theusen, Great Falls hearing, p. 101).

⁴³ Grossman, p. 59 (from Great Falls hearing, p. 31).

1990, while the rest of the country will experience a growth rate of 25 percent for this commodity.⁴⁴ The growth rate of agricultural exports from these states will be higher than the growth rate of production because consumption in the producing states will not increase at as fast a rate as production. Table 3 shows the effect that relatively slow growth in consumption will have on the demand for transportation services in Montana:

TABLE 3

PROJECTED GROWTH IN GRAIN PRODUCTION AND TRANSPORTATION
(millions of bushels: wheat, barley, oats and corn)

	<u>1985</u>	<u>1990</u>	<u>2000</u>	<u>Growth Ratio</u> <u>2000/1985</u>
Total Production	245	268	308	1.257
Local Use	<u>63</u>	<u>60</u>	<u>64</u>	<u>1.015</u>
Transported	182	208	244	1.341

Source: Policy and Management Associates, Inc., Milwaukee Lines Study: An Independent Assessment of Proposals Regarding the Milwaukee Line, Boston, Sept. 1979, p. 22 (data provided by Dr. Won Koo, Professor, Agricultural Dept., University of Montana).

Nationally, the growth in agricultural commodity consumption will be less than the growth in production, so the ratio of exports to domestic consumption will rise. The U.S. Department of Agriculture expects grain exports to rise from 112 million metric tons in 1978 to 190 million metric tons by 1990.⁴⁵

Plans have already been made to substantially increase agricultural

⁴⁴ Policy and Management Associates, Inc., p. 21.

⁴⁵ Mills, p. 3.

production in the Northwest. For example, the Washington Bureau of Reclamation is investing \$32 million to expand its irrigation project in the Columbia Basin area (to be completed in 1980) in order to bring 555,000 acres (867 square miles) of land into production.⁴⁶ There are now 540,000 acres of irrigated land in this area.⁴⁷

The traffic potential of various other kinds of freight has also been understated by Booz-Allen. Many shippers of lumber, minerals, processed foods, and agricultural inputs such as fertilizer and feed supplements testified at the I.C.C. hearings in Montana, Idaho, and Washington that they have not received enough rail cars in the past few years, and that they have delayed expansion of their plants because of difficulties with transportation availability and cost. Some shippers no longer use the Milwaukee because of its poor equipment and tracks. For example, some of the factors used in fertilizer production are hazardous materials, and will not be shipped on a railroad with such a poor safety record.⁴⁸ Produce which requires refrigeration during transport has been shifted away from the Milwaukee because the railroad's refrigerated cars are in such bad shape.⁴⁹ Certainly, shipments which are time-sensitive have been lost since the Milwaukee is so slow. In general, shippers who have shifted their business from

⁴⁶ Grossman, p. 79 (from Ex. 8, pp. 1-2).

⁴⁷ I.C.C., 1980, Appendix A, Moses Lake, WA. hearing, p. 5 (from testimony of Clyde Owens, President, Moses Lake Chamber of Commerce).

⁴⁸ Ibid., Appendix A, Moses Lake, WA. hearing, p. 9 (from testimony of Jini Vanourek of Coleman Soil & Crop Service, Inc., Othello, WA).

⁴⁹ Ibid., Appendix A, Moses Lake, Wa. hearing, p. 3 (from testimony of Norman Hansen of Elmer Hansen Produce, Inc., Moses Lake, WA.).

the Milwaukee indicated during the hearings that they would return if service levels improved.

The shippers who testified at the hearings are probably not representative of the Milwaukee's western shippers as a whole. Rather, it is likely that they are the people who have received the poorest service or are most dependent on this particular railroad. Still, their general assertions regarding traffic potential are substantiated by the statistics on inventories and growth rates in the western service area of the Milwaukee. Booz-Allen's estimates of present traffic potential are too low because they are based on service provided rather than on service demanded. Their estimates of future traffic potential are too low because they are based on national growth rates rather than growth rates in the area served by the Milwaukee. "The economy in the area served by the western lines is growing more rapidly than the U.S. economy as a whole, and traffic forecasts for railroads serving this region show greater growth than the railroad industry as a whole."⁵⁰

The third, and last, major freight category to be examined is that of overseas container traffic. Imports from the Orient have been growing at tremendous rates in the past five years, and are expected to continue growing. The Puget Sound Traffic Association has noted that overseas container traffic handled by the Port of Tacoma tripled from 103,000 tons to 348,000 tons from 1975 to 1978. Seventy percent of this freight is carried by rail to the Midwest and East.⁵¹ Container

⁵⁰ Consulting Center, Inc., "Assessment of the Financial Selfsustainability of the SORE Lines West Proposal," Wash., D.C., 2 July 1979, p. 9.

⁵¹ I.C.C., 1980, pp. 41-2 (from verified statement of H. E. Franklin, Jr., p. 7).

traffic volume from Seattle to the Midwest and East increased by 73 percent from 1974 to 1978, and the Planning and Research Department of the Port of Seattle expects it to grow another 49 percent from 1978 to 1983. Eighty percent of this traffic now moves by rail, and nearly 100 percent of the projected increases is expected to move by rail.⁵² The Milwaukee Road has an advantage in this market because its Seattle yard is closest to the harbor. Even with car shortages and slow service, the Milwaukee has carried 47 percent of Seattle's container freight to the Midwest.⁵³ In addition, an inland container port has just been completed in Butte, Montana, to serve as a distributional satellite of Seattle. The development was financed by a federal grant, and the project's director testified that, "In applying for the federal grant, heavy emphasis was put on the fact that the industrial park would be adjacent to...(the Milwaukee)."⁵⁴ The BN is the only other railroad that provides direct service from Seattle to Butte and Chicago, major terminal points for this traffic, and the Seattle Port Commission believes that, "...by 1982, the Burlington Northern and the Union Pacific will not be able to handle the amount of traffic moving through the Port of Seattle."⁵⁵

⁵² I.C.C., 1980, p. 42 (from verified statement of Robert C. McQuigg, p. 5).

⁵³ Policy and Management Associates, Inc., p. 23 (from Port of Seattle records).

⁵⁴ I.C.C., 1980, Appendix A, Butte, MT. hearings, p. 16 (from testimony of George B. Schotte, Executive Director, Butte Local Development Corp.).

⁵⁵ Ibid., Appendix A, Seattle, WA. hearings, p. 25 (from testimony of Walter S. Gordon of Gordon & Cross Engineers, Tacoma, WA.).

Booz-Allen assumes that the only forces that will check the decline in railroads' share of the transportation market are changes in government policy and deregulation. A major factor which they ignore is the effect of fuel prices on the relative efficiency of different modes. Railroads are less affected than trucks by rising fuel costs for two reasons: First, trains use much less fuel per ton of freight than trucks. Depending on the distance over which freight is carried, trains use one-third⁵⁶ to one-fourth⁵⁷ as much diesel fuel as trucks. Second, fuel costs are a much lower percentage of the total cost of railroad service than of the total cost of truck service. Therefore, when fuel prices increase, they cause truck costs to increase by a greater percentage than rail costs. This phenomenon has been reflected in the size of fuel surcharges allowed to the two modes. "In recent months truckers have received authorization to add up to 9.5 percent charge to their freight rates for fuel, compared to railroad surcharges that add up to 3.6 percent."⁵⁸

An important point to remember in considering incremental traffic is that railroads have declining marginal costs over much of their production function. Until the optimal traffic density is reached, each marginal unit of freight costs less to move than the former unit, but the average revenue for the marginal freight does not decrease.

⁵⁶ Graybill and Murphy, p. 14 (from testimony of MT. Lieutenant Governor Ted Schwinden).

⁵⁷ Policy and Management Associates, p. 8 (from Final Environmental Statement on Federal Coal Management Program, Bureau of Land Management, U.S. Dept. of Interior, April, 1979).

⁵⁸ Ibid.

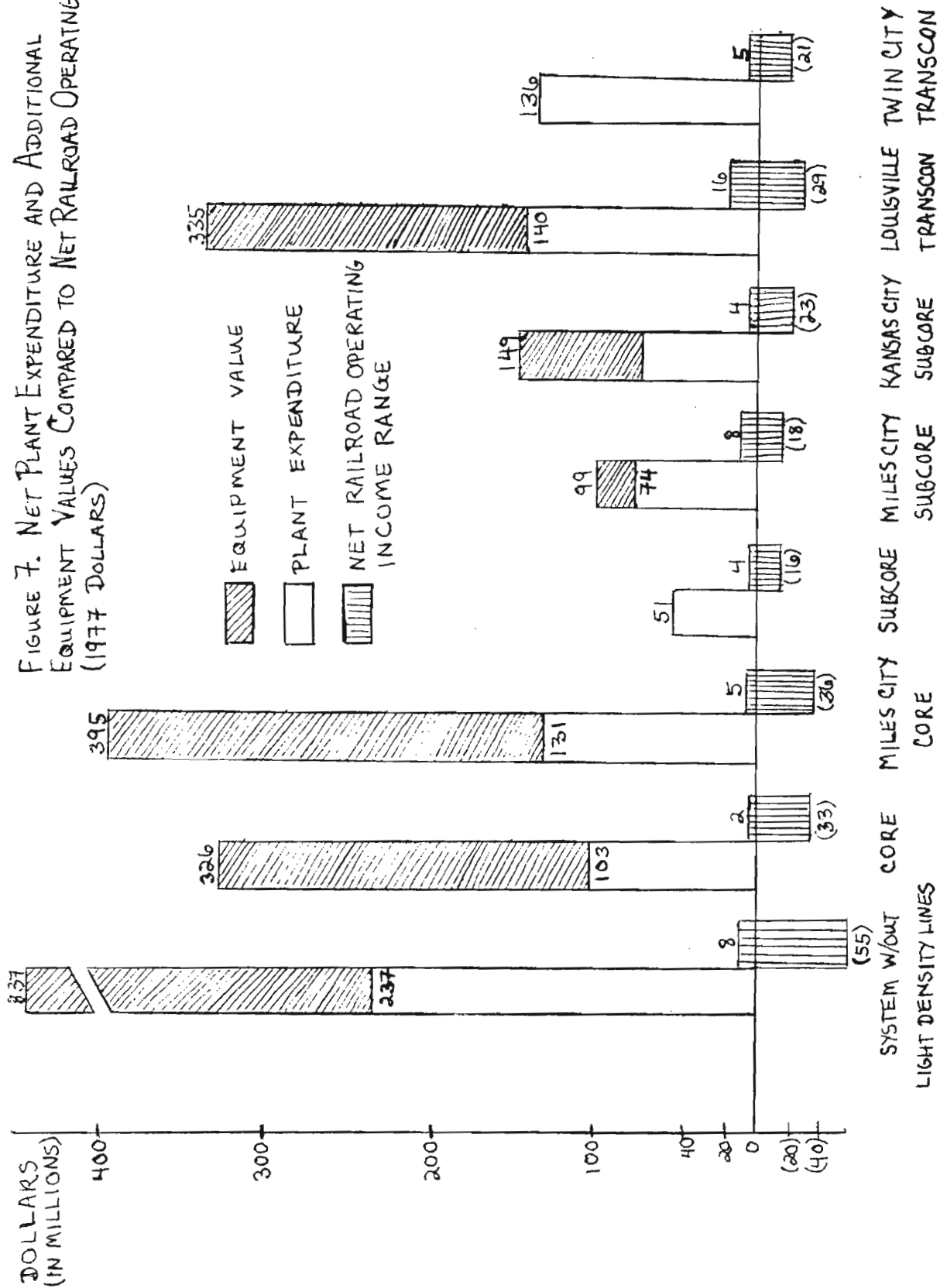
Therefore, an underestimation of traffic will result in an overestimation of average costs, and thereby reduce revenues to a greater degree than traffic. The traffic potential which Booz-Allen ignores will be more profitable than the traffic which they consider.

Even though Booz-Allen's rehabilitation cost estimates for the west are too high, and their revenue projections are too low, these biases do not lead to a conclusive rejection of the viability of the western lines. Instead, the consultants advise against the inclusion of the lines in a reorganized railroad because the investment and managerial requirements of such a large system would be greater than those of a smaller midwest system, and the Milwaukee does not have the resources for much investment.⁵⁹ Figure 7 shows the investment and revenue projections for the eight configurations. The Net Railway Operating Income (NROI) range was determined by using the 1977 traffic levels for the minimum NROI, and projected long-term market opportunities for the maximum NROI. The long-term opportunities are based on Booz-Allen's traffic projections through 1985, but the date at which these traffic levels will be realized depends on the rate of track and equipment rehabilitation. "Net Plant Expenditure" represents rehabilitation costs, but not normalized maintenance costs. "Equipment Value" reflects the amount of equipment that must be added to the present stock in order to meet the projected demand.

In its review of the Booz-Allen studies, the Federal Railroad Administration states that the Twin City Transcontinental "...equates

⁵⁹ Booz-Allen & Hamilton, Vol. II, Section IV, pp. 3, 4-5, 8-9, 11-13, 15, 18.

FIGURE 7. NET PLANT EXPENDITURE AND ADDITIONAL EQUIPMENT VALUES COMPARED TO NET RAILROAD OPERATING INCOME (1977 DOLLARS)



Source: Booz-Allen & Hamilton, Vol. II, Section VI, Exhibit VI-11 (see appendix to this chapter for descriptions of the configurations).

to the 'Western Lines' considered in other studies...."⁶⁰ While the Twin City configuration contains many of the lines around which the dispute has centered, the configuration does not equate to the system proposed in December, 1979, by the New Milwaukee Lines, the consortium of employees and shippers. Rather, their alternate plan for reorganization is based on the Louisville Transcontinental configuration which offers the greatest net revenue potential of the eight configurations, and the third largest investment requirements. Since "plant expenditure" refers to the present rehabilitation requirements and not to the normal maintenance expenditures, the high levels of investment shown in Table 4 do not reflect long-run investment requirements. Once the plant is rehabilitated, investment requirements will drop considerably. Table 4 gives a better view of long-run operating levels. In the long-run, the Louisville Transcontinental has a ratio of operating expenses to operating revenues of 78.7 (BN's average ratio was 82.18, while UP's was 74.75, 1970-1977),⁶¹ and a net income of \$15 million, far above the potential income of any other configuration.

The reorganized railroad proposed by the Milwaukee Trustee, the "Milwaukee II," is not comparable to any single configuration studied by Booz-Allen.⁶² In presenting its case in favor of Milwaukee II, the Milwaukee Road basically juggled the statistics from three of

⁶⁰ Federal Railroad Administration, U.S. Dept. of Transportation, "A Review of Booz-Allen & Hamilton's 'Milwaukee Road Strategic Planning Studies'," 23 July 1979, p. 9.

⁶¹ Interstate Commerce Commission, Bureau of Accounts, Transport Statistics in the United States, 1970-1977.

⁶² Grossman, p. 34.

TABLE 4

BOOZ-ALLEN CONFIGURATION STATISTICS

Configuration	<u>Expenses</u> <u>Revenues</u>	NROI Adjusted (millions)	Route Miles	Employees
System without light density lines	77.6	\$8.4	7965	10,700
Core	78.5	\$2.3	3894	6,600
Miles City Core	78.4	\$4.9	4661	7,100
Sub Core	82.6	\$3.8	1722	4,400
Miles City Sub Core	81.2	\$7.5	2488	4,900
Kansas City Sub Core	80.5	\$3.5	2393	5,100
Louisville Transcontinental	78.7	\$15.0	3861	7,000
Twin City Transcontinental	89.1	\$5.5	4467	4,300

Source: Booz-Allen & Hamilton, Vol. II, Appendix W, pp. 2-9.

Booz-Allen's configurations, and added some statistics from the Reebie study. We will examine briefly the Reebie study, and then consider the manner in which the statistics of the two studies were combined.

The Reebie study suffers from many of the same deficiencies as the Booz-Allen study. Reebie used 1977 as a base year, and assumed that there would be "...no significant new sources of rail traffic... through 1985."⁶³ Since the consultants did not know the exact location and

⁶³ Reebie, p. 4.

time of new coal mines, they included no new coal freight in their traffic projections, even though they admit that, "Coal has been, and will continue to be the most significant area of new opportunity."⁶⁴ Projections regarding increased grain production in the Northwest were not considered because "...realization of these volumes would require major structural changes in the grain marketing system which are unlikely to occur by 1985."⁶⁵ Further, Reebie asserted that any growth in traffic could be handled as well by other railroads. This assertion ignores the conditions and predictions cited earlier with regard to Booz-Allen: BN car shortages, and future rail deficiency at Northwest ports and in the coal corridor from the Northwest to the Midwest. Even though the market share of the Milwaukee is depressed by the railroad's poor service, this share will not increase if the plant is rehabilitated and equipment is provided, according to Reebie.

The future trends in railroad market share were extrapolated from past trends without any regard for the changing relative cost conditions or the relative capacity for greater freight carriage of different modes. Reebie notes that from 1955 to 1976, the market share of railroads dropped from 50 percent to 36 percent, while the share of trucks and barges increased from 25 percent to 35 percent.⁶⁶ As was noted earlier, the river system is operating at near capacity, so barges cannot be expected to maintain their share of the market as the

⁶⁴ Reebie, p. 4.

⁶⁵ Ibid., p. 5.

⁶⁶ Ibid., p. 49.

volume of freight increases. Even if trucks were not suffering relatively more from increasing fuel prices, they would still face growth limits because of the highway system of the northwest. Many of the roads are impassable to large trucks in the winter, and are restricted in the spring because the ground becomes too soft as the snow melts. Because of the soil conditions, many of the roads cannot be improved to the point where heavy trucks can be used. A county engineer in Washington noted that "...soil which is good for producing wheat is very bad for building and maintaining roads."⁶⁷ Many farmers testified that truckers are unwilling to travel far from the interstate highway, which is quite understandable, given the primitive state of the roads. One farmer testified that in northeastern Montana, "...semis have to be helped up and down hills with farm tractors...."⁶⁸ Some products cannot be shipped on trucks. For example, maltsters will not accept truck deliveries of barley because trucking of the grain makes it unsuitable for beer production. Even if the economic limitations on trucking are ignored, the practical limitations preclude a large diversion of freight to trucks.

Although Reebie assumes that the Milwaukee's plant will be rehabilitated in the period considered, the study concludes that the western lines (west of Minneapolis, Minnesota) will carry only one-half of the

⁶⁷ I.C.C., 1980, Appendix A, Spokane hearing, p. 4 (from testimony of Marvin Carroll, county engineer for Whitman County, Washington).

⁶⁸ *Ibid.*, Appendix A, Great Falls hearing, p. 33 (from testimony of Ronald Long, Shonkin, Montana).

freight that they carried in 1977.⁶⁹ When one considers the characteristics of the northwest transportation market---the excessive demand, the unusually high growth rates of freight, and the limitations on other modes---one can clearly recognize how ludicrous the Reebie conclusion is.

The railroad proposed in the Milwaukee's reorganization plan, Milwaukee II, basically consists of Booz-Allen's Miles City Sub Core (main lines between Louisville and Duluth, Green Bay and Madison, and the main line to Miles City along with a few feeder lines) plus a line to Kansas City. Since this configuration was never studied by Booz-Allen, the Milwaukee Road added and subtracted the data provided for other configurations to supply the data for the Milwaukee II configuration. The data for the Miles City Sub Core and the Kansas City Sub Core were added together, and the data for the Sub Core were subtracted out of this sum.⁷⁰ When a witness for the Booz-Allen consultants was questioned about the validity of the Milwaukee's manipulations, he stated that the configurations could be compared, but their data could not be combined or divided. When questioned as to how close an approximation might be obtained by manipulating the figures as the Milwaukee Road did, the Booz-Allen witness responded, "I would almost have to pick that out of the air. But it would be in the variance of a couple of million. That is a straight guess. I have no basis for the guess."⁷¹

⁶⁹ Reebie, p. 51.

⁷⁰ Grossman, p. 42 (see Appendix to this chapter for descriptions of Booz-Allen configurations).

⁷¹ Ibid., p. 46, footnote 1 (from testimony of Mr. Owen, transcript pp. 1841-1842).

Since the Reebie study included all lines west of Minneapolis, the data had to be arithmetically manipulated to arrive at data for the lines west of Miles City. The Reebie consultants believe this is a risky manipulation.⁷² Finally, it is not legitimate to compare the data of the two different studies. "It was stated unequivocally by Booz-Allen and Reebie that their respective studies...cannot be compared with other studies because of different assumptions, methodology, and costing models."⁷³

The decision by the Department of Transportation to favor abandonment of the lines west of Miles City is based primarily on two studies, the validity of which is highly questionable. Neither study has analyzed the potential return on investment for any part of the system. In addition, neither study has analyzed in particular either the lines proposed for abandonment or the lines which are to form the reorganized railroad. There is essentially no basis for the Transportation Department's decision.

⁷² Grossman, p. 45, footnote 1 (from testimony of Mr. Gallamore of Reebie Associates, transcript pp. 1016-1018).

⁷³ Greeley and the New Milwaukee Lines, p. IIB-3 (from exhibit 36, p. VI-21, and transcript pp. 1065-1056, 1094-1095, 1759, and 1889).

APPENDIX: DESCRIPTIONS OF BOOZ-ALLEN CONFIGURATIONS⁷⁴

A System Without Light Density Lines: This system excluded all light density lines identified as of March 31, 1978, that are most likely to be abandoned shortly. It is a transcontinental system, basically like the present system.

The Core: This system included main lines between Louisville and Duluth, Chicago and Omaha, and Milwaukee and Kansas City as well as secondary lines to Green Bay, Wausau, Sioux City, Sioux Falls, Des Moines and Madison, and a number of feeder lines.

A Miles City Core: This system included all lines in the Core system plus the Renville, Minnesota--Miles City, Montana, line, the New England branch in North Dakota, and the Sisseton branch in South Dakota.

A Subcore: This system was a reduced Core system designed to minimize rehabilitation requirements and consisted of main lines between Louisville and Duluth, and Green Bay and Madison as well as certain feeder lines.

A Miles City Subcore: This system included all lines in the Subcore, plus the Renville--Miles City line, the New England branch and the Sisseton branch.

⁷⁴ Federal Railroad Administration, "Review of Booz-Allen...", pp. 6-8 (These descriptions are taken almost verbatim. The maps of the configurations were not included in the copy of the Booz-Allen study sent to me by the Dept. of Transportation. The map following the descriptions is copied from the complimentary system map given to customers by the Milwaukee Road's Portland, Oregon office.).

A Kansas City Subcore: This system included all lines in the Subcore, with the addition of the River Junction--Kansas City line, the Davis Junction--Sabula line, the Burlington--Beloit Junction segment and the East Moline--Albany and Eldridge branches.

A Louisville-Transcontinental System: This system included all lines in the Subcore, plus the transcontinental main line from Renville to Portland, as well as the New England, Sisseton, Bonner, Spokane, Coeur D'Alene, Snoqualmie Falls and Everett branches.

A Twin City Transcontinental System: This system included the main line from St. Paul to Portland, as well as branches in the Sioux City-Mitchell area and most branches along the transcontinental main line.

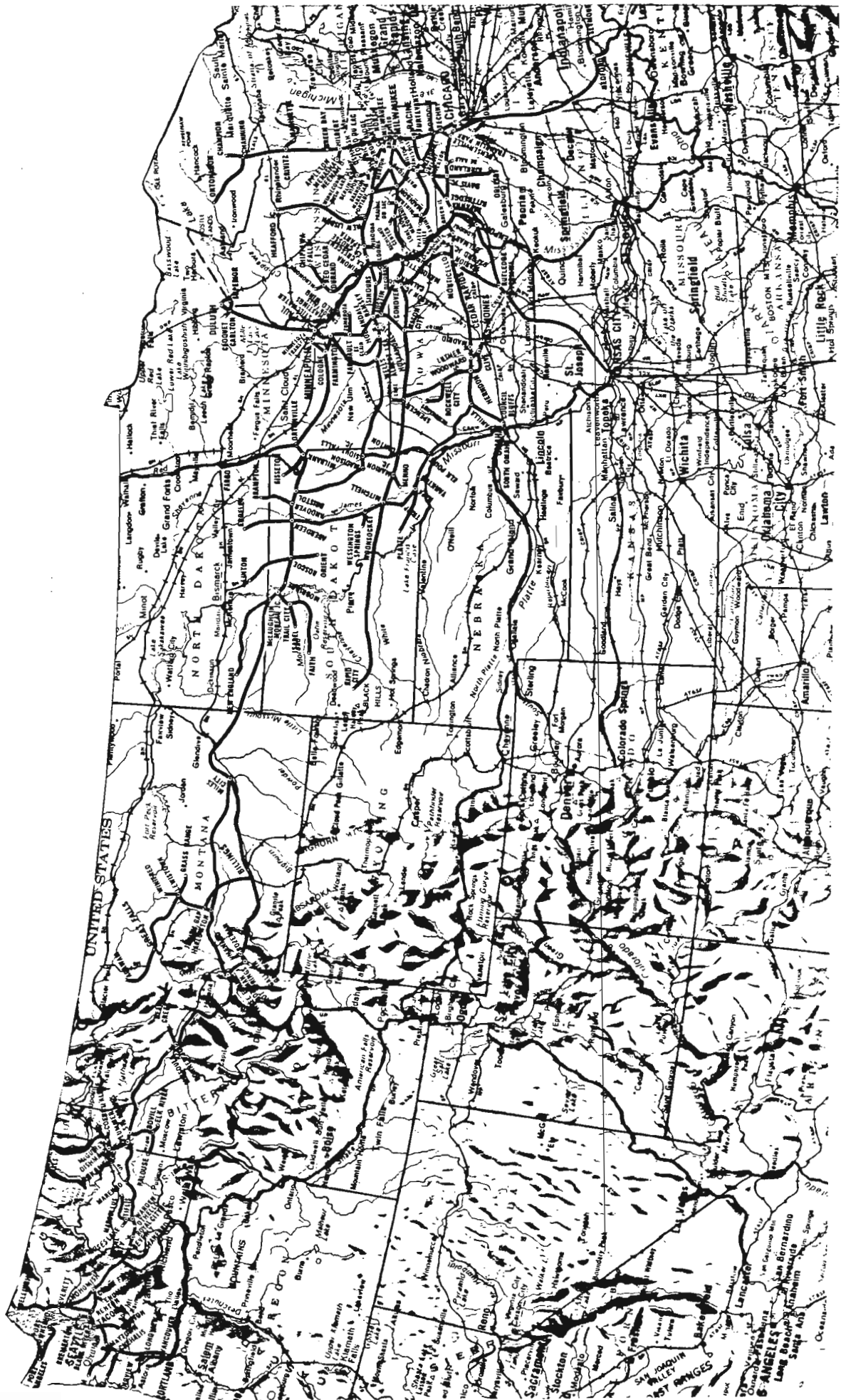


FIGURE 8. MAP OF THE MILWAUKEE ROAD

CHAPTER IV

EXTERNALITIES AND LONG-RUN CONSIDERATIONS

The only solid information that we have regarding the Milwaukee Road is that it went bankrupt, and it does not have the funds to rehabilitate its plant or increase its equipment fleet. If this railroad were a typical small firm in a competitive environment, its failure would be a clear indication that it is not an economically efficient activity. This seems to be the view of many government officials. For example, Governor Ray of Washington, in denying public funds for the railroad, stated that, "My position would be the same if you asked me to spend taxpayers' money to help you open a grocery store or other private business."¹ This is an extremely narrow view of both the role which railroads have in local economies, and the economic environment in which they operate. We will examine three general areas which are pertinent in considering the abandonment of a railroad line: first, the broader costs which will be experienced in the abandoned service area; second, the governmental and market constraints under which the railroad has operated up to this point; third, the probable shifts of these constraints in the near future, and the effects these shifts will have on the viability of railroads.

Since railroads are a major part of an economy's infrastructure, they have a great effect on the geographical distribution of economic activity and population. When a railroad line is abandoned, the

¹ "Dixy Ray Noncommittal on New Milwaukee Plan," Independent Record newspaper (Helena, Mt.), 17 December 1979.

adjacent communities will suffer from higher transportation costs at best, and isolation from the rest of the economy in the extreme case. The Milwaukee has 255 stations on its mainline from Miles City to Seattle and Tacoma, of which only 77 are served by other railroads. In general, the stations on the mainline which are served by other railroads are the same stations served by major highways, since the highways and railroads tend to meet at major population centers. On its branchlines in this area, only 21 of its 114 stations are served by other railroads. Although there are many secondary roads in the branchline areas, most cannot carry heavy truck traffic.²

Communities which cannot obtain transportation services will become ghost towns. Towns which are accessible by other railroads or trucks will experience higher transportation costs since the replacement services are implicitly more expensive. If they were not more expensive, the shippers would be using them now. The Transportation Department considered only the costs of increased rates on the out-going shipments of each firm. This approach fails to recognize that the prices on the factors of production that are shipped to the firms will also increase. For example, it will cost more to ship chemicals to fertilizer plants, and to ship fertilizers to farms, and to ship farm goods to markets. The more transportation-intensive a good's production is, the more its costs will rise with transportation price increases. Some firms will still have service on the routes over which they ship their products,

² I.C.C., 1980, pp. 77-82.

but not on the routes over which they receive their supplies. A plywood mill owner in Bellingham, Washington, testified that the BN provides service from his mill to his customers, but the Milwaukee is his only link to a major portion of his wood suppliers.³

There are several other major sources of cost increases which are overlooked when only rates are emphasized. Delays in transportation caused by car shortages and by the seasonal service of trucks increases storage and credit costs, and are often accompanied by penalties charged by suppliers for late deliveries. In areas where trucks will be the primary replacement mode, loading structures of the storage facilities will have to be modified, as they were designed particularly for service by railroads. In addition, some of these facilities are located for the efficient movement of goods to railroad cars, not trucks. For example, grain elevators that are situated by the railroad line may be abandoned as farmers switch to trucks, since it will be inefficient to truck grain to elevators, unload it for storage, and then load it back on to trucks for shipment. Farm labor costs will increase with a shift to trucks because the arrival time for trucks is more unpredictable than for railroads. Grain producers in Montana testified that they must have people on duty twenty-four hours a day to load the trucks as they arrive.⁴ The pool of potential customers is often reduced as shippers are forced to use trucks. Some flour mills will not accept

³ I.C.C., 1980, Appendix A, Seattle hearings, p. 13 (testimony of Jim Johnson, President, Mt. Baker Plywood Co., Bellingham, Washington).

⁴ Ibid., Appendix A, Great Falls hearing, p. 30 (testimony of Marion Little, Grain Producer, Geraldine, Montana).

grain in trucks because it takes longer to unload.⁵ Some buyers will accept truck shipments for a large fee. For example, farmers in north-east Montana are charged 29 cents per bushel by local grain buyers if they deliver their wheat by trucks.⁶ The president of the Montana Grain Growers Association asserted during the abandonment hearings that, "Including all expenses, it costs nearly four times as much for a farmer to ship by truck as it does by rail."⁷

Just as shippers' incomes are dropping due to higher production costs, their cost of living will be rising because consumption goods will also be subject to higher transportation costs. In Butte, Montana, retailers pay 30 percent more for truck shipments.⁸ Retail businesses can be expected to suffer from decreased demand for their products. Figure 9 shows the accentuated effect on the volume of retail business which occurs when the demand and supply curves shift in opposite directions:

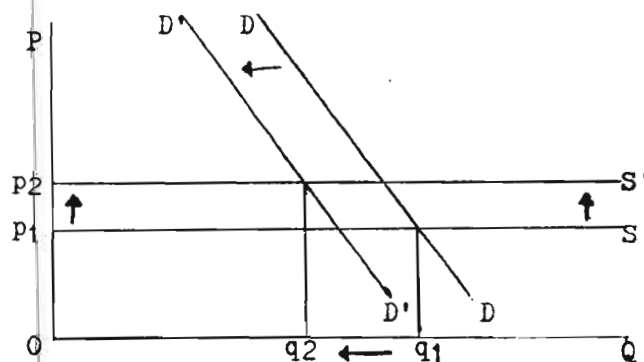


Figure 9. Retail Business Contraction in Abandoned Areas

⁵ I.C.C., 1980, Appendix A, Great Falls hearing, p. 25 (Melvin Menja, Wheat and Barley Producer, Sun River, Montana).

⁶ Ibid., Great Falls hearing, p. 33 (Ronald Long, Grain Producer, Shonkin, Montana).

⁷ Ibid., Great Falls hearing, p. 23 (Steve Keil, Conrad, Montana).

⁸ Ibid., Butte hearing, p. 10 (Dennis Bien, President, Butte-Silver Bow Chamber of Commerce, Butte, Montana).

Demand will drop to a greater degree in those towns where railroad employees now live. The laid-off employees will probably receive substantial compensation from the Milwaukee, so they will still have income to spend, but it is unlikely that many of them will be absorbed into the local economies since these economies will be experiencing a drastic downturn. Therefore, many Milwaukee families will probably move away.

The effects of out-migration of employees will be concentrated in several towns because the Milwaukee families are clustered in a few communities along the lines. One such town is Harlowton in south-central Montana, where the Milwaukee's branchlines into the northern Montana agricultural areas intersect. Harlowton, with a population of only 1375, has 101 families with Milwaukee employees.⁹ The only industries in the area are agriculture and tourism, so there is little opportunity for alternative employment. If all these families move away, fifty homes will be put on the market in a short period, thereby depressing real estate values and disrupting the bank's mortgage activities.¹⁰ Many of the Milwaukee employees will probably have trouble finding work anywhere, as their job skills are rather specialized and many of the workers are rather old for a major change in their employment field (The average Milwaukee employee is thirty-nine years old, and has worked for the Milwaukee for nine years.¹¹).

⁹ I.C.C., 1980, Appendix A, Great Falls hearing, p. 16 (testimony of Robert Fredin, on behalf of Harlowton, Montana, Chamber of Commerce).

¹⁰ Ibid., Great Falls hearing, p. 19 (testimony of S. D. Piper of the Continental National Bank, Harlowton, Montana).

¹¹ Ibid., p. 90.

The areas which the railroad and its employees leave behind will be left with an excess of social overhead capital, and a reduced tax base with which to support this capital. Schools, hospitals, fire departments, and other public services can be somewhat reduced, but it is not possible to reduce them in an amount proportional to the reduction in population. There is not much that a city or county government can do with the excess space in its buildings, especially when a declining economy leads to the exodus of businesses and organizations from the area. The reduction in the staffs of these agencies cannot be as great as the drop in population because of the loss of economies of scale. For example, a school which loses twenty of its 100 students will still retain an administrator, and may retain all of its teachers in order to provide the diversity of subjects required to meet state educational standards. The superintendent of the Deer Lodge, Montana, school district testified that a loss of the children of Milwaukee employees from his district would reduce their funds from the state government by more than \$68,000, without any corresponding reduction in their overhead costs.¹²

Since there will be more social overhead capital and services to be supported per taxpayer, tax rates will have to rise. This will further increase the burden on people whose incomes are declining and whose consumption expenditures are rising due to higher transportation costs. In some areas, the tax increases will have to be substantial because the Milwaukee's taxes provide a relatively large proportion of the total

¹² I.C.C., 1980, Appendix A, Butte, Montana hearings, p. 2 (testimony of Gene Comes, Deer Lodge, Montana).

revenues. For example, in Mineral County, Montana, 85 percent of the land is held by the state and federal governments, leaving only 15 percent on which property taxes are paid. In this county, the Milwaukee accounts for 7 percent of total tax revenues.¹³ Some communities will not be able to support their local services, and will have to travel to bigger or more prosperous towns to obtain services. This situation can certainly lead to a decline in the cohesiveness of a community, as the children are put in more distant schools, and the sick and elderly are sent to facilities in other areas.

The degree of disruption in the economy will vary, depending on how much transportation costs increase, how dependent local industries are on transportation, how capable these industries are in absorbing higher costs, and how large a proportion of the local population is employed by the railroad. The least disruption would occur if another railroad were to take over all of the Milwaukee's lines. The logical carrier to do this is the Burlington Northern since its mainlines are nearest to the Milwaukee's western lines. At the points where the tracks of the two railroads meet, freight from the Milwaukee lines could be diverted onto BN's lines, thereby increasing traffic density and reducing average costs. If this were to occur, we would still expect service to decline and rates to rise because the industries in the area would be captive shippers of the BN. The car shortage in the region will become more severe as the Milwaukee's fleet is shifted to the midwest. Even if the present car shortage is reduced as the BN

¹³ I.C.C., 1980, Appendix A, Missoula, Montana, hearings, p. 2 (testimony of Sally Jo M. Price, Assessor, Mineral County, Montana).

increases its fleet, the captive shippers will always be discriminated against during peak demand periods. It is not efficient for a railroad to invest in enough cars to meet peak demand, as some of the cars will be left idle when demand returns to its average level. Whenever a car shortage occurs, a railroad will concentrate its equipment in competitive markets so that its market share will not be lost. The captive shippers have no alternative railroad to which to shift their freight, although some may ship freight on trucks. As soon as the railroad can provide cars to the captive shippers, they will shift back to the railroad since it is less costly than trucks. Based on past experience, rates can be expected to rise as competition decreases. The BN already discriminates against shippers by geographical location. BN shippers in Wolf Point, Montana, pay appreciably higher freight rates than BN shippers in Great Falls, Montana, as the latter location is served by two railroads.¹⁴ BN freight rates are 20 percent higher in Montana than in Nebraska, as the Union Pacific is a strong competitor in the Nebraska market.¹⁵

Since transportation costs will increase regardless of how many of the tracks are taken over by the BN, the local economies will suffer. Marginal firms will go out of business, unemployment will increase, the tax base will shrink, and people will move elsewhere. In the rural areas of Washington, it is estimated that, "With every dollar lost as

¹⁴ I.C.C., 1980, Appendix A, Great Falls hearing, p. 7 (testimony of John Rabenberg, Wolf Point, Montana).

¹⁵ Terry Whiteside, Director of Transportation and Marketing, Mt. Dept. of Agriculture, interview with Sara Levitan, 28 December 1979.

a result of lost employment, \$6 are lost to the community."¹⁶ The Montana Department of Agriculture estimates that even if rates remain the same, abandonment will cost the state \$40 million because of increased car shortages and the multiplied costs of both these shortages and decreased employment. When increased rates are considered, the cost will be \$100 million. The total freight bill of wheat farmers in the state is now \$115 million, so we can see that these estimates of losses are substantial.¹⁷

Beyond the measurable costs to these economies are the intangible costs involved in the damage to the social communities, to the quality of life, as nebulous as that term may be. Many of the farms have been owned by the same family for several generations, and the supporting industries are commonly owned or operated by several generations of the same families. Fluidity in the labor force certainly promotes greater efficiency in the economy, but it has its social and psychological costs.

The obvious reply to this discussion regarding costs is that long-run efficiency will be achieved through abandonment, even though there will be intermediate costs involved in the transition which will be necessary to adjust to an altered infrastructure. This position is based on the assumption that the present transportation market promotes efficiency, and the railroad went bankrupt because it is inefficient.

¹⁶ I.C.C., 1980, Appendix A, Moses Lake, Wa. hearings, p. 14 (testimony of David Hiklan, Partnership for Rural Improvement, a federally funded program associated with Wa. State University).

¹⁷ Whiteside interview.

We will presently examine the economic environment of American railroads to see some of the major market distortions that preclude their efficient operation.

In Chapter I, we discussed the problem of overcapacity among American railroads. There are far too many miles of track for the present amount of freight carried, so average traffic density is below the level that would achieve maximum economies of scale. Therefore, the average cost of hauling a unit of freight is unnecessarily high. The central question to be answered before one can formulate a policy regarding the problem of railroad plant overcapacity is why there is overcapacity. There are two possible causes: First, the amount of freight which railroads can carry efficiently ("efficiently" means the lowest real cost in terms of resources expended, rather than the lowest market cost) is too low to allow economies of scale to be achieved, given the present plant capacity. Second, the relative costs of different modes of transportation are not accurately reflected in the present rate structure, so freight is inefficiently distributed among the various modes. In order for these rate distortions to be a cause of overcapacity, they must discriminate against railroads in the allocation of freight. Before considering these two possibilities, we will briefly review the evolution of the present rate structure, and the major effects which the structure may have on the distribution of freight among modes.

In the absence of inter- and intra-modal competition, a railroad can operate as a price-discriminating monopoly. That is, it can charge each customer a price based on the value of the good to the customer

rather than on the cost of production. Since we are assuming the absence of competition, there will be no market forces to drive prices down to marginal costs. Since transportation is a service rather than a physical good, the product cannot be resold by those who receive it at a lower cost to those who are charged a higher rate. Finally, the pool of customers can be divided fairly accurately based on their elasticities of demand. In general, the more expensive the product is, the less elastic its demand for transportation because the cost of transportation is a relatively small proportion of its total costs, so an increase in its freight rate will have a relatively small effect on the final cost of the product.¹⁸

Obviously, a railroad will maximize its revenues by charging each class of shippers the highest rate they can afford. For this reason, the "value-of-service" method of ratesetting was implemented by the early railroads in America.¹⁹ Unfortunately for the railroads, intra-modal competition did exist in many areas, so the discriminatory rate system was often difficult to maintain.²⁰ Figure 10 illustrates the effect that competition had on railroad rates. Under monopoly conditions, a railroad could charge a rate of r_1 on a commodity with inelastic demand, thereby earning revenues above average costs equal to the distance between points A and B. When competition is introduced,

¹⁸ John R. Mayer, et. al., The Economics of Competition in the Transportation Industries, Cambridge, Mass.: Harvard Univ. Press, 1959, pp. 170-173

¹⁹ Robert W. Harbeson, "Toward Better Resource Allocation in Transport," Journal of Law and Economics, Vol. XII, No. 2, October, 1969, p. 336.

²⁰ Gabriel Kolko, Railroads and Regulation, 1877-1916, Princeton, N. J.: Princeton Univ. Press, 1965, p. 7.

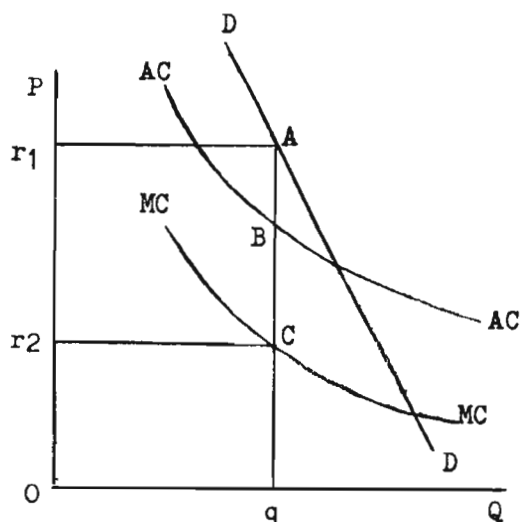


Figure 10. Effect of Competition on Railroad Rates

the rate may be driven down until it equals r_2 , and railroads will earn enough to just cover the marginal cost of carrying the commodity. The average cost is not covered at point C, so if rates are persistently driven down to marginal costs, railroads will go bankrupt.

In the late Nineteenth Century, American railroads were increasing their capacity at a phenomenal rate, and were commonly engaged in chaotic rate wars with one another. If the railroads had been able to form a cartel, they could have reaped excess profits, but they were unable to maintain collusive agreements because the temptation to capture more traffic by lowering rates was too great to resist for long. Therefore, competition often forced rates into the area below the average cost curve, and thereby brought bankruptcy to many railroads. This situation was intolerable to the railroad industry and to many shippers as well, so pressure was put on the federal government to regulate the industry. The Interstate Commerce Commission was formed for this purpose in 1887, and was successful in stabilizing

the industry and protecting it from itself and the public.²¹ In the course of stabilizing the railroads, the I.C.C. legalized and institutionalized the value-of-service system of rate-setting for three reasons. First, the system was already somewhat established, and the Commission's power to alter rates was not clear. ~~Not only did its~~ lack of clear power prevent the I.C.C. from tampering with rates, but it also placed the Commission in a position of being somewhat dependent on the railroads for its survival. This sharing of interests between the regulator and the regulated was more conducive to cooperative improvement of the existing system rather than drastic alteration. Second, the system allowed the railroads to increase their profits, and thereby encouraged them to increase their construction in the sparsely settled areas of the Midwest and West. Third, the I.C.C. did not have sufficient information regarding costs to detect price discrimination, so a policy aimed at ending discrimination was sure to fail.²²

Discriminatory pricing was a boon to railroads as long as intermodal competition was minimal. However, after about 1920, other modes began capturing traffic. "These other carriers often have concentrated their competitive efforts on the traffic most discriminated against by value-of-service rate-making, rather than on the traffic in which they have a cost advantage. This is particularly true of trucks."²³ The

²¹ Kolko, passim.

²² Meyer, et.al., p. 179.

²³ Ibid., p. 187.

graphs in Figure 11 show why this phenomenon occurs:

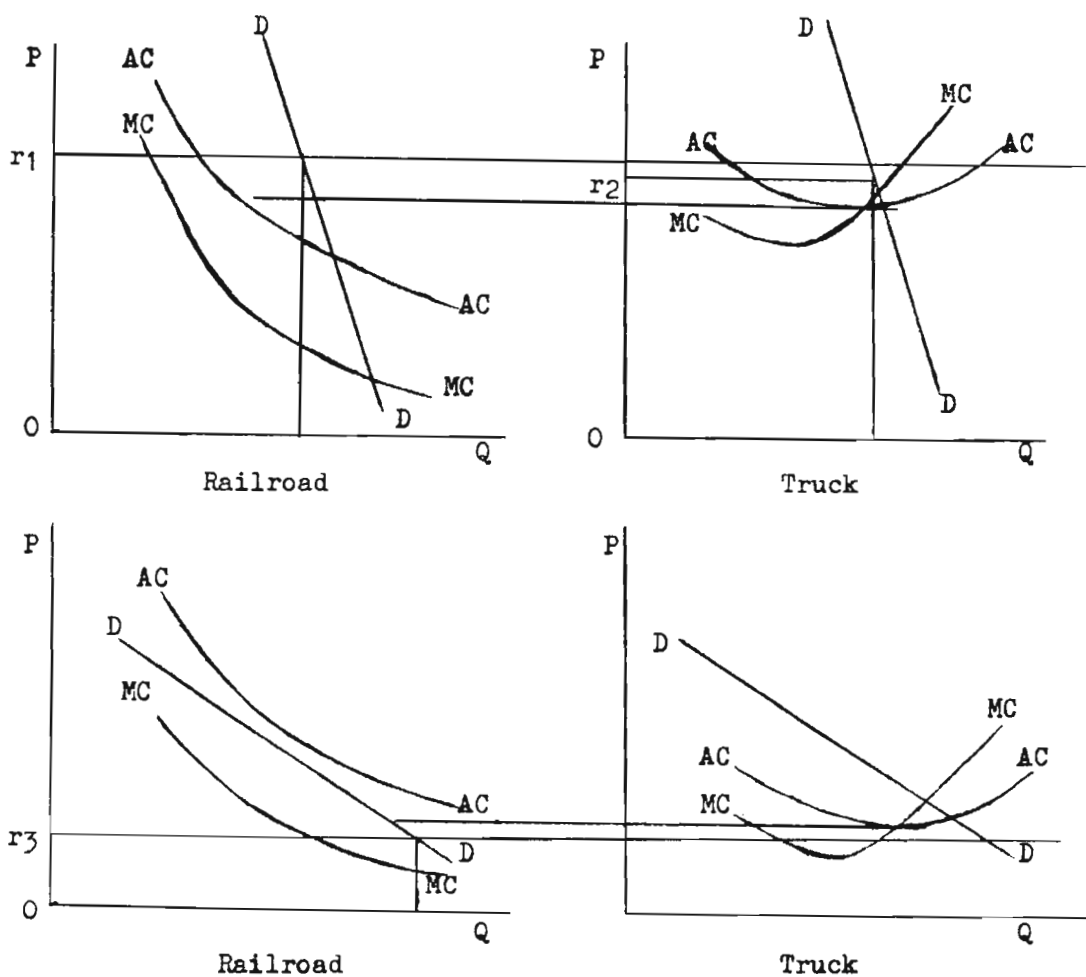


Figure 11. Causes of Freight Maldistribution
Between Railroads and Trucks

The two pairs of graphs above show the relative efficiency of railroads and trucks in carrying two particular goods. In the first pair, the good's demand for transportation is fairly inelastic, and the railroad charges it a rate (r_1) far above the average cost of moving the good. The truck can charge a rate (r_2) somewhat below that of the railroad, and still earn excess profits. Therefore, the truck can capture traffic that could be carried at a lower average cost by the railroad, because

the railroad's lower cost is not expressed in the market through its rate.

In the second pair of graphs in Figure 11, the good's demand for transportation is elastic, and the railroad charges it a rate (r_3) below the average cost but above the marginal cost of moving the good. At no point does the demand curve cross the average cost curve, so there is no rate which the railroad could charge that would both cover the average cost of carrying the good and retain the freight for transport. Still, since the railroad can charge a rate in excess of the marginal cost of carrying the good, it will reduce its fixed costs by carrying the good. Therefore, if the railroad has excess capacity, it will be better off if it carries the freight. The truck incurs a lower average cost carrying the good, but this cost is above the rate set by the railroad. Since the truck cannot profit by underpricing the railroad, it will not compete for the carriage of this particular good even though the truck is the more efficient mode of transport.

Both railroads and trucks have lost traffic to one another because of rate distortions, but railroads have been the bigger loser of the two modes. Although some classes of truck transportation are regulated, the bulk of truck traffic is unregulated. "The principal competitors of the railroads are the unregulated truck carriers, many of them owner-operated, which handle 60 percent of all trucking traffic."²⁴ In 1965, it was estimated that if railroads were deregulated, they could capture

²⁴ John F. Due, "A Comment on Recent Contributions to the Economics of the Railway Industry," Journal of Economic Literature, December, 1975, p. 1319.

10 percent of truck revenues.²⁵ In 1969, it was estimated that 26 percent of truck ton-miles would be moved more economically by railroads. This estimate includes costs to the shipper as well as costs to the transportation sector.²⁶ The large difference between the two estimates may be due in part to the different units used. That is, the ton-miles of freight which should be diverted from trucks may account for somewhat less than 26 percent of truck revenues. The proportion of truck traffic which should be shifted to railroads today is probably higher than in the 1960's since rising fuel prices have caused truck costs to increase faster than railroad costs. Therefore, the overcapacity in the railroad industry may be, to a large extent, a result of rate distortions rather than relative cost-effectiveness in freight carriage.

Another problem in judging the real costs of different modes is the use by trucks, barges, and airplanes of public facilities. Although these modes pay user-fees, it is not clear that the fees cover the marginal costs incurred through utilization. Few estimates of costs have been made regarding the increased highway maintenance expenditures that will be necessary as trucks take over some of the abandoned traffic of the Milwaukee. The Idaho Transportation Department studied the probable effects of the projected increases in truck traffic between

²⁵ Thomas Gale Moore, "Deregulating Surface Freight Transportation," in Almarin Phillips, ed., Promoting Competition in Regulated Markets, Wash., D. C.: The Brookings Institution, 1975, p. 69 (from Merton J. Peck, "Competitive Policy for Transportation?", in Almarin Phillips, ed., Perspectives on Antitrust Policy, Princeton: Princeton Univ. Press, 1965).

²⁶ Moore, p. 69 (from Charles River Associates, "Competition between Rail and Truck in Intercity Freight Transportation," Charles River Associates, Inc., December 1969, p. 45).

Bovill and St. Maries, Idaho, and estimated that the cost of decreased pavement life will be \$120,000 annually. The highway user revenues from the new traffic will be \$15,000 annually, only 7.5 percent of the marginal costs.²⁷ The costs of providing highway facilities to trucks involves more than just the additional maintenance required. Highways must be built wider, with thicker pavement and sub-bases. Bridges and tunnels must have greater width and height clearances, and must be able to withstand the greater weight and vibrations of heavy vehicles. There are also administrative costs of collecting user fees and enforcing weight limits.²⁸ The portion of these costs which is not covered by user-fees is paid by the public, and is not reflected in the market cost of truck transportation.

Trucks have other external diseconomies as well. First, since they use much more fuel than railroads, they pollute more, and this extra cost is borne by everyone. Second, trucks are a hazard to other motorists. Railroads pose a danger to cars only at crossings, but trucks are a constant danger to cars, as well as a contributor to highway congestion. Bellingham, Washington, is already suffering from the problems of increased truck traffic. The Columbia Cement Company shifted to trucks last year because the Milwaukee service was so poor. "This truck traffic traverses residential areas sixteen hours per day and

²⁷ Idaho Transportation Department, "Supplement to the Idaho Rail Plan Draft," June, 1979, p. 6.

²⁸ James C. Nelson, "The Pricing of Highway, Waterway, and Airway Facilities," American Economic Review, Vol. LII, No. 2, May, 1962, p. 430.

averages 96 vehicle trips per day as opposed to two unit trains of 55 cars."²⁹

So far, we have treated railroads and trucks as perfect substitutes. Actually, railway transport is disadvantageous to shippers in several respects. Railroads have longer transit times, so inventory costs are higher, and freight which is very time-sensitive must be shipped by a faster mode. Railroads also lose or damage relatively more freight than trucks, and they have unreliable departure times and infrequent schedules. Finally, since there are more roads than rail tracks, trucks have greater route flexibility.³⁰ Most of these disadvantages may be a result of the present structure of the transportation market, rather than an inherent characteristic of railroads. Under regulation, there is little incentive to innovate.³¹ A major policy of the I.C.C. has been to maintain the present shares of freight among the various modes,³² so there is little to be gained by changing transportation practices. The major category of goods which trains have lost due to high rates is manufactured goods. These are also the goods which would suffer the most from slow and irregular transit time, loss and damage. Since the railroads cannot capture manufactured goods under the present

²⁹ I.C.C., 1980, Appendix A, Seattle hearings, p. 3 (from testimony of Charles A. Shaw, Assistant City Attorney, Bellingham, Washington).

³⁰ Theodore E. Keeler, "On the Economic Impact of Railroad Freight Regulation," St. Louis: Center for the Study of American Business, Washington Univ., Working Paper No. 17, November, 1976, p. 30.

³¹ Moore, p. 57.

³² Harbeson, p. 337.

rate structure, there is little reason to devote resources to raise the service quality so that these external costs will be reduced. If railroads had a better chance of gaining this freight, perhaps they would improve their service.

As we noted in Chapter II, most American railroads have deferred maintenance for a long period because of poor profits. This condition has certainly decreased the quality of their service and contributed to their low traffic levels. The railroads are in a double bind--they do not have the funds to improve their tracks and equipment because their traffic levels are too low, and they cannot gain extra traffic and revenue until they improve their tracks and equipment. An increase in freight volume would also lead to more frequent service and more prompt departure times, as the volume necessary to form a full train would be generated in shorter periods of time. Although trains will never be as flexible as trucks in their choices of routes, they could probably overcome this disadvantage in many cases if their rates reflected their cost advantage in the long-haul market, and their service improved. "The conclusion from a collection of major surveys (of shippers) was that freight rates, transit time, and reliability of transit time are critical, if not over-riding considerations in the choice of transport mode."³³

There is one other source of freight that railroads would capture in part if the rate structure was rationalized: goods which are not

³³ Clifford Winston, "Mode Choice in Freight Transportation," Workshop in Transportation Economics, Berkeley: Univ. of Calif., Nov., 1978, p. 9 (from Gellman Research Associates, "An Annotated Bibliography of Shipper Attitude Studies," prepared for the Association of American Railroads, June, 1977).

carried by anyone today, but which would be shipped if the transportation sector were efficient. Figure 12 represents the supply and demand functions for the entire transportation sector:

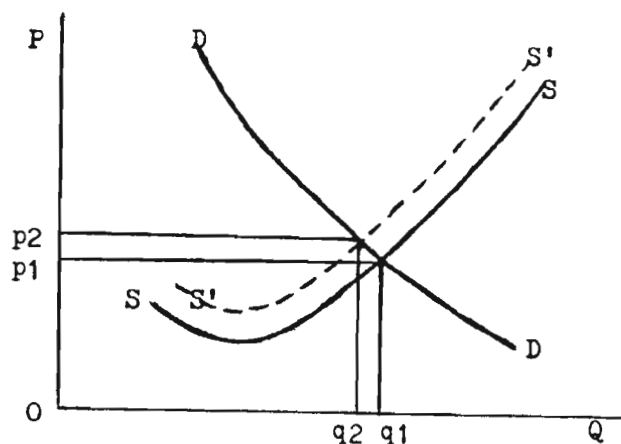


Figure 12. Potential Freight

The solid SS curve shows the supply of transportation services that would be provided at each price if the market were free from the inefficiencies created by rate distortions. The hatched S'S' curve is the present supply function for transportation. Less service is provided at each price because the inefficiencies of the present system increase the total bill for transportation. "Of national income generated in rail, truck, and water transportation, between 10 and 20 percent is unnecessary to provide the services."³⁴ As a result, the average price of transportation is higher in the economy as a whole. Those goods which would be shipped if the price were p_1 rather than p_2 are not carried by anyone in today's market. These goods are very price-sensitive, so their mode of transport will be chosen more on the basis

³⁴ Moore, p. 68.

of rates rather than on some particular quality of service. Pipelines are a relatively inexpensive mode,³⁵ but the range of products they can carry is so narrow that they would probably capture little of the freight between q_2 and q_1 . Barges may compete for these goods, but since the river system is operating at capacity, they cannot share in the growth of freight. Of the three other modes--railroads, trucks, and airplanes--railroads have the lowest costs and, therefore, the highest probability of capturing this marginal traffic.

If transportation rates were rationalized, there would be greater utilization of the present railroad capacity. Certainly, some lines would still warrant abandonment, but there would also be lines which would become economically efficient under a more rational system. Since deregulation is an increasingly recurrent theme in Congress today, the advocacy of such a major abandonment as the Milwaukee's western lines seems a bit rash in the absence of an analysis of the effects which deregulation will have on the transportation market in the area. There is a good possibility that deregulation would greatly increase the demand for railroad transportation in the Northwest.

If the transportation sector is partially or fully deregulated, it will operate most efficiently in those areas where there is a relatively large degree of both inter- and intra-modal competition. "With the availability of water competition in a number of markets and with the ubiquity of trucks, an unregulated railroad industry would probably

³⁵ Meyer, et. al., p. 149

be workably competitive."³⁶ The following two maps show the railway system for most of the United States. It is clear that the western states enjoy little intra-modal competition from railroads. Furthermore, it is logical that the western states would also have less inter-modal competition for two reasons: First, the western river system is less extensive and less suited for barge travel than the rivers of the midwest and east. Second, the average distance between the original and terminal points of freight is relatively large, so trucks will be at a greater disadvantage than in other areas. This is because the benefit of the convenience of trucks will be overcome as the cost differential between the two modes is multiplied by the greater distance of the haul.

It does not seem reasonable to allow the abandonment of a railroad system in an area which is served by essentially only one other railroad, and which lacks, to a great extent, alternative modes of transportation. It is especially unreasonable when one considers the possibility that the present energy crisis and deregulation in the near future will bring dramatic shifts in the transportation sector, of which the magnitude and character are not entirely predictable. An abandonment as large as that proposed by the Milwaukee Road is, in many respects, irreversible. Many of the Milwaukee customers may go out of business, and those which can shift to the Burlington Northern may not shift back to the Milwaukee or to a new railroad if the opportunity exists unless there are clear advantages to such a move. If some of

³⁶ Moore, p. 80.



Figure 13. Map of Northeast Railroad System

Source: U. S. Dept. of Transportation, "Final Standards, Classification, and Designation of Lines of Class I Railroads in the United States," Vol. II, 30 June 1977, national network map, back cover fold out.

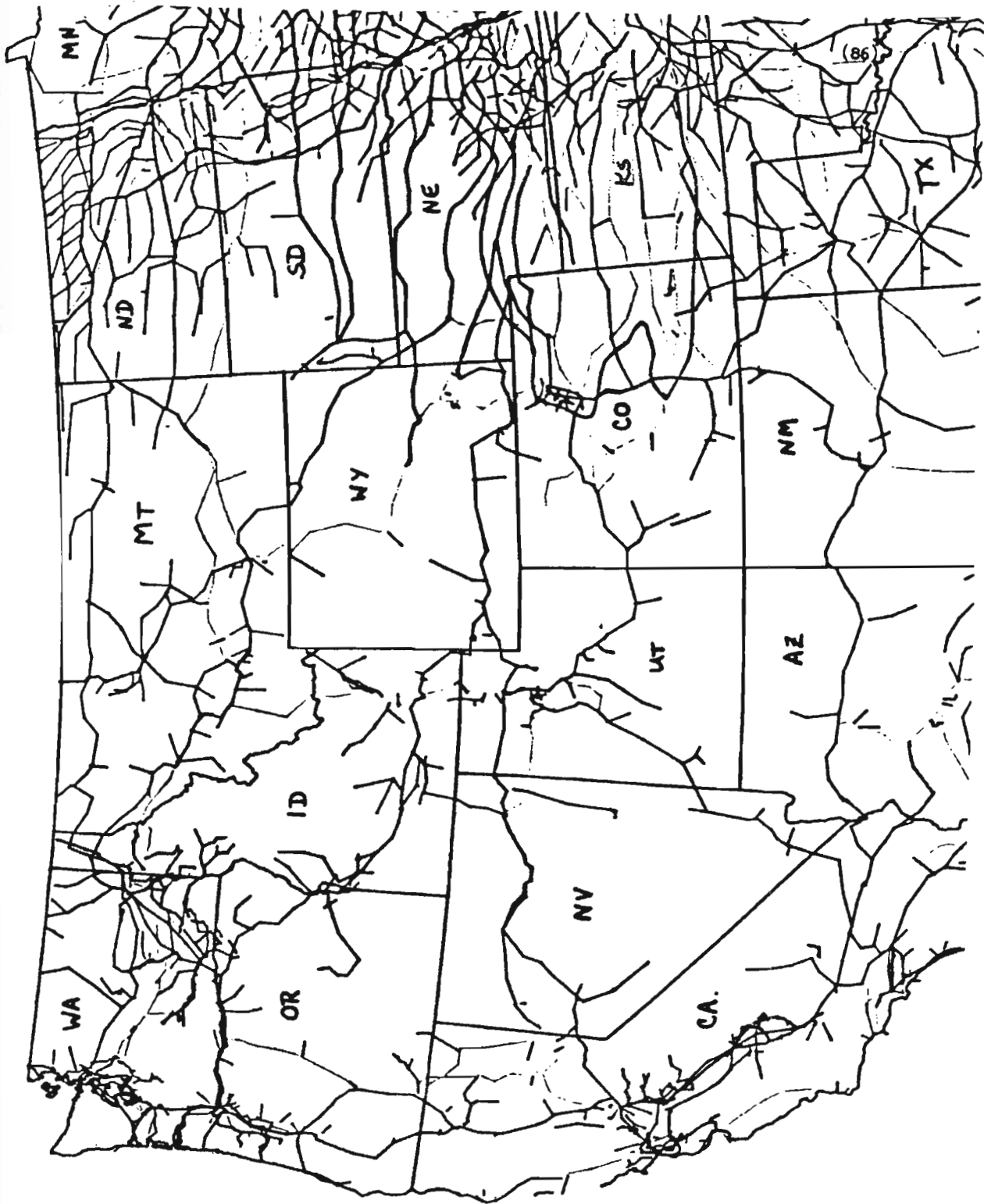


Figure 14. Map of Northwest Railroad System

Source: U. S. Dept. of Transportation, "Final Standards, Classification, and Designation of Lines of Class I Railroads in the United States," Vol. II, 30 June 1977, national network map, back cover fold out.

the mainline is sold, it will be difficult to re-establish a second independent transcontinental system in the area. "Without the power of eminent domain, it is inconceivable that a new company would be able to put together the right-of-way for new tracks."³⁷

We should also briefly consider where the Trustee proposes to move the Milwaukee's capital and rolling stock. Other than the line to Miles City, Montana, the railroad will be concentrated in the Midwest around Chicago. The following map shows the rail lines which the U. S. Department of Transportation has identified as excessive. The entire central Midwest is considered an area of "consolidation potential."³⁸ That is, there are too many railroads for the present demand, and the aggregate demand for transportation is not expected to grow as much as in other areas of the country. "The midwest rate structure is depressed because of intense competition. The hauls in the core region are short; highways and barge lines are well-developed, and competition is severe."³⁹ Meanwhile, other railroads are trying to expand their single-haul distances through acquisitions or end-to-end mergers. For example, the Union Pacific and the Southern Pacific are making plans to acquire lines in the Midwest so that they can offer single-line service between the

³⁷ Moore, p. 80.

³⁸ U. S. Dept. of Transportation, "Final Standards, Classification, and Designation of Lines of Class I Railroads in the United States," Vol. II, 30 June, 1977, national network map, back cover fold-out.

³⁹ I.C.C., 1980, Appendix A, Great Falls, Montana, hearing, p. 28 (from testimony of Allen Kolstad, State Senator, Ledger, Montana).



FIGURE 15. MAP OF EXCESSIVE RAIL LINES

Source: U. S. Dept. of Transportation, "Final Standards, Classification, and Designation of Lines of Class I Railroads in the United States," Vol. II, 30 June 1977, national network map, back cover fold out.

Midwest and the West Coast.⁴⁰ The Burlington Northern already has lines into most of the Milwaukee's service area, and it has opposed the Milwaukee's application to merge with it, so there is little chance of cooperation between these two railroads. The Milwaukee will be at a disadvantage since it will be dependent on other railroads for traffic from the West Coast, and it will not be able to offer its midwestern shippers single-haul service to the West Coast.

The Midwest would not suffer very much if Milwaukee service were greatly reduced in that area. For example, the Chicago to Omaha route is served by five railroads, and the Milwaukee Road ties for last place with the Illinois Central Gulf in terms of ton-miles carried in this market. The Chicago to Kansas City line is served by six railroads, and the Milwaukee shares last place with the Chicago, Rock Island & Pacific.⁴¹ A witness for the Office of the Rail Public Counsel testified that, "As Chief Traffic Officer of Illinois Central Gulf in the early 1970's, I never considered the Milwaukee a significant competitive factor at the Kansas City or Louisville gateways."⁴²

In the past, the I.C.C. has identified the Milwaukee as an important competitive factor in the west:

⁴⁰ David Pauly, William J. Cook, and Pamela E. Simons, "Green Light on the Rails," Newsweek magazine, 25 February 1980, p. 65.

⁴¹ David Young, "Milwaukee Road: A Once-Proud Railroad Runs Out of Time," Chicago Tribune newspaper, 3 December 1978.

⁴² Paul H. Reistrup, verified statement before the I.C.C., Docket No. AB-7 (Sub-No. 86F), Exhibit 107, 19 October 1979, p. 22.

In fact, the Commission's rationale for approval of the Northern Lines merger [Burlington Northern] was "the continued presence of a 'substantially strengthened Milwaukee' as the sole remaining competitive rail carrier in the northern corridor."⁴³

This position was reiterated by the I.C.C. when it denied the Milwaukee's petition to merge with the Burlington Northern in 1977.⁴⁴ The increasing demand for rail transportation in the Northwest would seem to lend support to this position, rather than to the Commission's present negative view of the Milwaukee's western lines.

In conclusion, the proposed abandonment will entail a large amount of external costs, and may involve substantial opportunity costs. The external costs will be borne primarily by the people in the Northwest region who will suffer from disruptions in the economy, increased production and consumption costs due to higher transportation costs, and increased costs of road maintenance, truck pollution and highway congestion. The whole economy will suffer from higher costs if goods which would be produced under competitive transportation conditions are not produced as a result of increased distortions in the price structure of the Northwest transportation market. If it is economically rational to have a second railroad across the northern tier states, the elimination of the Milwaukee Road from this area will be accompanied by the costs of constructing a new railroad to serve the region. Considering

⁴³ Reistrup, p. 15 (from 311 ICC at 371-6; 348 ICC at 380).

⁴⁴ Milton J. Grossman, Acting Director, Office of the Rail Public Counsel, Brief before the I.C.C., Docket No. AB-7 (Sub-No. 86), 14 December 1979, p. 110 (from 348 ICC at 821, 830).

the problems involved in obtaining a new right-of-way and in generating economic development in the areas where present firms have gone bankrupt in the absence of rail service, the costs of building a new railroad may exceed the costs of maintaining the Milwaukee Road.

CONCLUSION

The Milwaukee Road has often suffered from poor timing, bad judgment, and bad luck during its century of existence. It expanded its plant into the Northwest just as economic growth in the area was leveling off, and shortly before the Panama Canal provided an alternative route for transcontinental freight. Just after it reorganized its bankrupt operations in the 1920's, the country went into a deep depression, and the railroad went bankrupt for a second time. After World War II, increased trucking eroded the Milwaukee's traffic base, and the railroad deferred maintenance as a means of cutting costs. This policy led to the deterioration of the plant, and further losses of traffic to both trucks and stronger railroads.

In the 1960's the Milwaukee, acting on the mistaken assumption that it would be allowed to merge with the Chicago & North Western, withdrew its opposition to the formation of the Burlington Northern, a railroad which has become a strong and direct competitor in most of the Milwaukee's service area. The merger negotiations with the C & NW went on for years, and proved to be unsuccessful. Today, the I.C.C. is required to take final action on all merger petitions within 31 months after they are filed.¹ If the Milwaukee had been able to seek a merger partner under these new conditions, it would not have been left pursuing false hopes for so long, and it would have been able to adjust its management strategy appropriately. But the Milwaukee was too late to

¹ David Pauly, William J. Cook and Pamela E. Simons, "Green Light on the Rails," Newsweek magazine, 25 February 1980, p. 65.

profit from this more rational regulatory policy. Similarly, it appears that the Milwaukee is too late to reap the benefits of the coming rationalization of the transportation rate structure or the comparative advantage provided railroads by increasing fuel prices.

Throughout the reorganization period, the railroad has been adamant in its pursuit of the abandonment of the western lines. If the prospects for the future of railroads in the northern tier states are as promising as we have asserted in Chapters III and IV, why has the Milwaukee made no effort to secure the necessary financing to maintain its western lines? The answer may be found in the federal government's negative view of the western lines. The I.C.C. noted in its final report that, "Although the Milwaukee has never applied for federal rehabilitation loans for work on western lines, FRA has indicated (and apparently the Milwaukee understood) that such funds would not be available for track-age west of Miles City."² If the Federal Railroad Administration will not risk its funds, it is highly unlikely that a private lending institution will provide funds. The government, with its reputation for providing funds to marginally remunerative enterprises and for having extensive studies on which to base its lending decisions, has created a climate of high risk around the western lines by consistently denying support to these lines.

If it would be more efficient in the long-run to maintain the western lines rather than to try in the future to fill the void which

² I.C.C., Report on Docket No. AB-7 (Sub-No. 86), p. 24, footnote 12 (from testimony of Robert E. Gallamore, PR-Tr. 768-69, 907).

will be created by abandonment in the transportation market of the Northwest, then the government would be acting to promote efficiency in the economy if it provided funds for plant rehabilitation. No analysis has been performed to estimate the long-run costs and benefits of either abandonment or the maintenance of the lines. In the absence of such an analysis, the government has no basis for its opposition to the lines.

Even if the Milwaukee had gone bankrupt in an unregulated market environment, it would not necessarily warrant a major paring down of its plant. In the railroad industry, there is an unusual economic problem introduced by the magnitude and longevity of investments in the plant. Since such a tremendous amount of capital and land is necessary to set up a railroad of significant size, railroad firms do not crop up when demand for their services increases, and then liquidate when the demand decreases. If demand were to rise a great deal, a particular railroad company might build a second line on its roadway, but it seems unlikely that a new railroad would open in the area, unless long-run profit potential were obviously very high.

Given this great barrier to entry in the industry, the government's usual hesitance with regard to approving abandonments is reasonable in a certain respect. A railroad might lose money on a line for some time, but in the long-run, the benefits of the line may exceed the costs. The problem here is a "time-horizon" market externality. A railroad might be forced to abandon some lines in order to remain solvent, when it may actually be more efficient, for the economy as a whole, to have those lines maintained. But who should pay the cost of maintaining the lines in the interim period when there is a shortfall in revenues? There is

a limit to how much the present shippers are willing and able to pay for service on a line. Obviously, there is also a limit to how much of a deficit the railroads can support, or should support. It is not the responsibility of the stockholders of a railroad to bear the financial burden and risk of maintaining lines so that in the future, the general population will be able to enjoy lower commodity prices as a result of the presence of a railroad system that is able to meet the shifting and growing demand for transportation services. The public should pay the costs of short- or medium-run railroad overcapacity since the public is the recipient of the benefits of that overcapacity when it is utilized in the future.

A major problem introduced by public subsidization of any firm or industry is determining in which cases subsidization is warranted. Even if the government were able to make reliable predictions regarding the future demand for transportation services, it would still be faced with many problems in determining whether a line that will be needed in the future is inherently unprofitable in the short-run. It will be in the interests of railroads to maximize apparent losses in order to maximize the funds they receive from the government. Whenever the government intervenes in the market, its actions are given due consideration by economic actors as each one attempts to choose a course of action that will maximize his private net gain. For example, since the government decides which railroad lines may be abandoned, a railroad that wants to abandon a line will go to extraordinary lengths to maximize the apparent costs of maintaining the line, just as the Milwaukee Road has done with its western lines. This is a rational response to the conditions

created through regulation of abandonments. Still, if there are time-horizon externalities, it is economically efficient for the government to regulate abandonments. Perhaps some means exists for determining a reasonable range of costs for maintaining a line, and the government could then refuse to cover costs that are above that range. If the railroad acts to raise costs above an acceptable level, whether consciously or because of poor management, the government will be in a bind. Without **more** subsidization, the railroad may go bankrupt. The constitutional legality of forcing a railroad to maintain lines at the expense of the firm's solvency is highly questionable, as this act is tantamount to depriving the stockholders of property without due process of law.³

Another problem involved in the subsidization of railroad is brought about by the corporate structure of many railroads. Half the railroad assets in the U. S. are owned by holding companies. As was discussed in Chapter II, holding companies use the resources and personnel of railroads to expand into non-transportation areas. If the government is going to provide funds to railroads, it has to ensure that the money is not simply passed on to the holding company in one form or another. Perhaps funds should not be given to railroads until they are separated from the parent companies. Once again, the government may end up in a bind because the holding company may refuse to divest itself of the railroad, and the lines that the government believes should be maintained

³ Donald E. Scott, "Takings and the Public Interest in Railroad Reorganization," Yale Law Journal, Vol. 83, No. 5, April, 1973, pp. 1004-1022.

may be run into the ground.

Theoretically, holding companies are promoting efficiency by directing resources to the most profitable activities. Therefore, if the railroad rate structure is rationalized, railroads may become relatively profitable, and the "milking" of them might stop. Still, the diversion of resources from railroads to other areas may be partially a reflection of the particular investors' preference for profits today rather than profits in the future, even if the present discounted value of the future profits were equal to or greater than today's profits. If this is the case, then the long-run stability of the railroads would still be in jeopardy, even if they were relatively profitable. There may also be a feeling among the investors that the government will come to the aid of a bankrupt railroad, whereas it would not assist the other industries owned by the holding company. Therefore, funds would continue to be channeled to the subsidiary companies that have no chance of receiving public funds.

Clearly, if efficiency and stability are to be maintained in the railroad industry, the present holding company structure must be modified. Tax-savings which are generated by railroads should be returned to the railroads. Perhaps all of the business activities of the parent company should be included in the bankruptcy case of a railroad. Then the holding company would be forced to bear the risks of diverting important resources from its railroad, since the conglomerate could potentially lose all of its assets in the settlement of the railroad bankruptcy. Under the present system, the holding company has nothing to lose by abusing railroads. Therefore, even if deregulation occurs,

many railroads will continue to decline since they are owned by corporate bodies that profit by diverting their resources to non-railroad subsidiaries.

Deregulation of railroads now seems to be only a matter of time. The manner in which deregulation is effected may determine, to a large degree, the size and character of the railroad industry. If railroads are allowed to merge and to abandon lines before the rate structure is rationalized, the mergers and abandonments will be carried out before the industry and the government have an opportunity to see how the distribution of freight among modes is affected by a more accurate reflection of relative costs in the rate structure. The present railroad system should be maintained, even if it requires substantial public subsidization, until the rate structure is rationalized. This is especially true in the case of the Milwaukee's western lines because the proposed abandonment is huge, possibly irreversible, and the affected service area will be left with so little inter- and intra-modal competition that the feasibility of deregulation may be very limited. In addition, there is **strong evidence** that the area will generate more than enough freight for two railroads in the near future, so the government will not need to subsidize the lines for a long period.

The government has the opportunity to beneficially intervene to ensure the survival of the Milwaukee so that it can meet the large and growing demand for transportation in the Northwest. So far, the government seems committed to maintaining only its poor record in transportation regulation.

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