RATIONALE FOR REGIONAL RAILROADS IN THE NORTHERN UNITED STATES

Ken Casavant
Gene Griffin
Jerry Lenzi

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BY

KEN CASAVANT, PROFESSOR
Department of Agricultural Economics
Washington State University
Pullman, Washington 99164-6210
(509) 335-1608

GENE GRIFFIN, DIRECTOR
Upper Great Plains Transportation Institute
North Dakota State University
Fargo, North Dakota 58105
(701) 237-8343

JERRY LENZI, MANAGER
Transportation Planning Department
Washington Department of Transportation
Olympia, Washington 98504-5201
(509) 456-3030

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SUMMARY ABSTRACT

Nationwide about 185 shortlines have begun operation in the U.S. since 1980 (with about half being 25 miles or less in length). This formation of a railroad involves the purchase of lines by a private individual or firm. Much controversy of need for, efficiencies attained, and jobs lost has surrounded this developing modal structure. This paper reviews an in-depth study of eastern Washington railroad needs, examines the characteristics of regional railroads from Washington to North Dakota and, finally, develops some benefits associated with use of regional railroads.

The study area in eastern Washington lost 285 (or 35 percent) of its 825 miles of track since 1970. These abandonments raised concerns about the availability of transportation services. The study examined the remaining Union Pacific, Burlington Northern, and Camas Prairie Railroad rail lines in the region, using Class I URCS costs. It was found that major carrier operation of the existing or restructured system is unprofitable and most lines will, in the long term, become candidates for abandonment. A perceived opportunity for successful private operation of a regional railroad was identified.

Simultaneously four major regional railroads (over 300 miles) have been developed in Washington, Montana, and North Dakota. The latter part of the paper reviews the economic environment by studying these railroads. Finally, a conceptual rationale for regional/shortline operation is developed.

RATIONALE FOR REGIONAL RAILROADS IN THE NORTHERN UNITED STATES

INTRODUCTION

The development and productivity of the general economy in the northern United States is highly interrelated with the transportation network in that region. The access to resources for growth, country expansion, and consolidation depended heavily on transportation linkages. Railroads have been a major factor in the development of this region's dominant industries: agriculture, forest products, and industrial products.

But, the very railroad system that contributed so much to the development of that region is now undergoing continued and substantial rationalization. Rationalization is commonly referred to as abandonment by those shippers who are faced with losing their rail alternative to reaching their markets. This region, and the country, is still dependent on the railroad for the movement of their products as well as providing competition to other transportation modes. Almost 80 percent of the movement out of this region still goes by rail; usage of rail containers continues to increase; and the road system continues to deteriorate because of some of these changes. The major contributing factors to this rail rationalization are economic conditions in the agricultural and forest products industries, transportation technological changes, railroad deregulation (Staggers Rail Act of 1980), the Interstate System, and competition from truck-barge service.

A significant alternative to the abandonment of some of these marginal or nonprofitable lines is the purchase of lines by a private individual or firm and subsequent operation as a shortline or regional railroad. Nationwide, 175 shortlines have begun operation since 1980 (with about half being 25 miles or less in length). The quick sale of branchlines became legal in 1980 under the Staggers Act, which substantially lessened

regulation of the railroads. Now, railroads are able to sell "marginal" rail lines, which otherwise may have been abandoned, to parties not currently in the railroad business. The Act allows almost immediate action; the sale can take place within 7 days of notification. It would be remiss if we did not point out that the sale of branchlines, allowed since 1980, had not occurred in any significant magnitude until about 1986, just two years prior to the negotiations between railroads and unions on a 3 year labor contract.

The overall purpose of this paper is to evaluate the rationale for shortline railroads, examining the need and performance of this fairly recent technology. Specific objectives of the paper are to: 1) examine a case study of how the need for a shortline has been determined; 2) briefly review some existing shortline railroads operating in the northern United States; and 3) determine potential benefits and costs that may be associated with shortline operation.

A REGIONAL CASE STUDY OF NEED

Nowhere is the abandonment activity more readily apparent than in the Palouse region of southeast Washington. In 1970 this area had 825 miles of rail line trackage. Since then, 285 miles, or 35 percent, have been lost through abandonment. Such abandonments raise concerns about the availability of transport services, the ability to move bulk commodities efficiently in the future, impacts on the roads system, and increased need for funds to maintain such roadways. Because of this need, the economics of the existing railroad system in the Palouse region was evaluated, paying attention to

those alternatives having the potential to retain essential rail service prior to piece meal abandonment. The study included an estimate of the existing carrier's costs and revenues. Additionally, an evaluation of more efficient alternative configurations of the existing system was made to test for financial viability.

Study Area

The Palouse region includes southeastern Washington and north central Idaho. While the lines of the Camas Prairie Railroad east of Lewiston are not in the Palouse region, they were included because they provide an alternative connecting outlet for the Palouse lines.

Agriculture is the main economic activity in the Washington portion of the study area. In the Idaho portion, forest products industries are dominant, although agriculture is significant. Both the agricultural and forest product industries have rebounded somewhat from the economic slump of the early 1980s. Grain production and forest product movement has significantly increased, reaching a volume of the early 1975-80s. Significant increases in production in either industry within the study area are not foreseen. Therefore, the commodities available for shipment in the future were estimated to be at or slightly above the current level.

Rail Lines Use and Operation

The 540 miles of rail lines still in operation include lines operated separately by the Burlington Northern Railroad (BN), the Union Pacific Railroad (UP), and the Camas Prairie Railroad (CSP), a regional shortline jointly owned by Burlington Northern and Union Pacific. Approximately 25 percent of the mileage is operated by Burlington Northern, 31 percent by the Union Pacific, and 44 percent by Camas Prairie Railroad. Of

the eight branchlines evaluated, all were capable of accommodating the weight of fully loaded 100-ton hopper cars, but five branchline operations had speed restrictions, some as low as 10 miles per hour.

The Burlington Northern lines averaged 3,297 carloads per year during the 1983-85 period, and the Union Pacific lines 3,282 carloads, generating estimated annual revenues of $6.1 million (including the abandoned Moscow to Arrow line in the estimate) and $3.9 million, respectively. The disparity in revenues is primarily attributed to the high value wood product movement and the low value grain product movement. The 1983-85 average revenue per carload for the study area traffic was $800 for grain, $3,500 for lumber and other wood products, and $200 for logs, chips, and other primary forest products. Several factors interact to cause the significant rate differences between these two major commodities. Grain traffic rates from the Palouse are kept down due to intermodal competition and a relatively short haul to deep water ports on the lower Columbia River. Nationally, grain is the very bottom commodity group in terms of revenue per-ton-mile carried. Lumber and wood products, on the other hand, can command higher rates, as a result of less intermodal competition, and typically have longer hauls to market resulting in higher revenues.

Proximity to the Columbia or Snake Rivers is an important determinant as to whether grain is shipped by truck to the river-barge or by rail. The average distance to the river from grain elevators using truck-barge is 40 miles. The development of rail multiple carloading facilities (MCLF) in recent years has enabled the railroads to compete more effectively with water carriers. This new technology allows the rapid loading of 25 or 26 car multiple-trains and has lowered rail operating cost, resulting in lower rates for wheat of over $2.00 per ton between 1981 and the present.

Line Evaluations

The analysis for this study are based on estimates of existing carrier costs and revenues generated from the area's traffic. These costs and revenues for the branchlines under study were developed using standard industry methods. The analysis of these rail lines were made with a computer network simulation model. Total revenues for line segments were available for the Burlington Northern portions, and estimated station totals were calibrated to these totals for Burlington Northern lines. Estimated Rail Form A system haul variable expenses for each group was deducted from this revenue, leaving a "branch available" revenue totally attributable to each station. This revenue was then compared to the branchline costs. For an in-depth discussion of this methodology please see the **Palouse Empire Regional Rail Study**, done by the Departments of Transportation in the states of Idaho and Washington, April 1987.

Existing System Situation

The concept of this alternative assumed that the existing system will continue to be operated by the existing major carrier's without significant changes in operation. Overall, the Burlington Northern lines lost an estimated $.9 million on revenue of $5.6 million (minus 15 percent); Union Pacific lines lost $1.9 million on revenues of $3.9 million (minus 50 percent); and Camas Prairie Railroad lines had a surplus of $1.2 million on revenues of $20.5 million (plus 6 percent). On a line-by-line basis, the analysis showed that only two lines had significant operating surpluses. This was because of the high volume forest products movement off of those two line segments.

System Restructuring

Because the base system reflected such a large operating cost, an analysis of various restructuring options of existing lines was undertaken. Again, existing Burlington Northern and Union Pacific estimated costs and revenues were assumed.

The node-by-node (station-by-station) cost and revenue approach revealed a picture of the weak and strong components under existing ownership of the system, and permitted the selection of segments which appeared to have the best prospects of viability after restructuring. The process began by selecting and linking the points with the largest traffic generation potential, e.g., lumber mills, MCLFs and other major rail users. The restructured alternatives included both single and multiple railroad combinations. Adjustments were made in the unit cost to reflect changed conditions such as length of runs, required service frequency, etc., necessary for the restructured alternatives.

An examination of the costs and revenues associated with the restructured alternatives failed to identify an economic viable rail system that included a return on net liquidation value under the existing ownership. In certain circumstances, based on assumptions concerning traffic and connections not fully investigated in this study, it appeared two segment combinations may have had the potential to operate with a surplus. However, the majority of the lines failed to support the costs associated with their ownership and operation. In essence, the analysis revealed that neither the existing system nor a restructured system, based on existing cost conditions, could be operated profitably by a major railroad company. Even with restructuring, most of the lines met the qualifications for abandonment under existing statutes on a revenue-minus-cost basis when operations are provided by the existing major carriers.

Regional Implications

The expansion of this study to project expected operating results under shortline operations was not done. The scope of the investigation was to provide a snapshot in time that would provide interested parties with information to assist future transportation planning, disclose any existing problems or successes, and reflect the probable time constraints for action. The estimated operating surpluses or losses under the current ownership for the rail lines studied revealed ratios of expenses-to-revenues considerably over 100 for the majority of the existing lines and the restructured options, using Burlington Northern or Union Pacific average costs. The implication is that major carrier operation of the existing or restructured system is unprofitable and most lines will, in the long term, become candidates for abandonment.

In the analysis, the lines performing most favorably were those operating in Idaho and carrying forest and related wood products. This indicates the major problem for the lines in the study area may be the lack of revenues due to the low rated structure forced by competitive pressures. Without a doubt higher rates, and to some extent increased rail traffic, would make an important improvement in the rail service outlook for this area.

In summary, rail service under current ownership in the Palouse region is in jeopardy. One of the goals of this study was to identify and evaluate alternatives which would retain as much of the essential rail service in the region as possible. No simple solution such as system rationalization or restructuring was found adequate for the problem. The study revealed the future of the existing rail system appeared dubious, and immediate action and/or community action are required to preserve a minimum core of essential and viable lines in the area.

This study did not evaluate the specific cost savings of shortline operation. However, it did identify that many private and public shortline operations have been in operation. Some of those near the study area are the St. Maries River Railroad (STMA) in Idaho and the Washington Central Railroad Company (WCRC). These two lines have been functioning efficiently and profitably for their respective owners. The study did quickly evaluate the effect of public agency ownerships or participation in private line operation. Identifying some financial reductions available from public or shortline (non-union) ownership brought the deficits in the revenue cost structure down to levels that could be offset by some minor revenue increases such as the development of new shippers, a return to rail use by existing industries now using other modes, rates surcharges, or other operating efficiencies.

Again, the bottom line of this analysis was that rail service under current ownership in the Palouse region was in jeopardy. The study revealed that the future of the existing rail system appeared dubious; the rationale for investigation of shortline operation was apparent.

Shortline Railroads-Northern United States Case Studies

Just as the earlier case study revealed a potential need for a shortline railroad as an alternative to continued piecemeal abandonment, other areas in the northern United States have witnessed the same need. With the advent of the Staggers Rail Act, we have seen expedited sales of marginal lines by the Class I railroads. These shortline railroads are increasingly indicating an ability to sustain themselves in a profitable fashion. In some cases traffic has increased while costs of operation have been decreased. The examples below are a short indication of the pervasiveness and characteristics of these shortline railroads.

Since the summer of 1986, Burlington Northern Railroad has sold or leased nearly 3,000 miles of its 29,000 mile system. Another 1,600 miles of track has been earmarked for sale. Two hundred and sixty four miles of track were sold by the Union Pacific (out of 21,500 miles) to shortline operators in 1987. The Union Pacific shortlines are now on hold but discussions are proceeding on 476 miles of track in southwestern Idaho and southeastern Oregon.

- **Washington Central Railroad**: This railroad is a good example of a non-union, shortline railroad that has evidence of excellent management and productivity. This railroad was purchased in October of 1986 by Nick Temple. The Washington Central serves over 200 shippers between the Tri-Cities and CleElum, both in Washington. This railroad is presently negotiating access to the Seattle area in western Washington. Nick Temple has been quoted as saying that it would not be possible to make a profit with the existing work rules and costs for union employees. He suggests that is why the Burlington Northern sold the line in the first place. The Washington Central employs between 35 and 40 people, most of whom worked for the Milwaukee Railroad prior to 1980. The Washington Central runs its trains with two-and three-man crews instead of four or five people. The railroad hauls horticultural fruit and some construction traffic and has been very innovative in competing for truck traffic.

- **Pending O'Reille Railroad**: This 61 mile line was operated by the Milwaukee Road until October of 1979. The line serves a large cement plant and several forest product related firms. The line was purchased by a local port district, formed for that express purpose, with an Economic Development Administration grant. The grant was matched by the proceeds of bonds issued by the port and purchased by the two major shippers on the line. Port districts in Washington are allowed by law to own and run

railroads, delve into economic development activities, and have substantial authority including taxation and bonding. The port is governed by three elected commissioners and has a full-time staff. This railroad received $2.6 million in Federal and Local Rail Service Assistance funding for rehabilitation, matched by additional bond proceeds and cash provided by a private operator who had leased the line from the port. Ostensibly, this is a railroad which a port acquired, rehabilitated, and operated through a lease without any contributing funds from the port being invested. After a shaky start-up, due to management and physical terrain problems, this port is now meeting all debt payments and, in fact, has a positive cash flow.

- **Montana Rail Link**: This shortline operates on 900 miles of Burlington Northern track from Billings, Montana to Sandpoint, Idaho. This is a very controversial shortline, one which has precipitated a wildcat strike against the Burlington Northern by about 900 members of the United Transportation Union. These members charged the transition was a farce because Burlington Northern still owns and controls the equipment and track. Since that controversial time, the carrier has agreed to maintain its union crews, but the union had to agree to wage reductions and the changing of work rules and job classifications. This railroad is also heavily agricultural in orientation and operates many through-trains on its tracks.

- **The Red River Valley and Western Railroad Company**: This is a new railroad in North Dakota operating on 650 miles of track acquired from the Burlington Northern Railroad. Headquarters for the new line is Wahpeton, North Dakota where the president and vice-president are located. Both of these officers are former Burlington Northern employees, having a total of 55 years of railroad experience between them. When fully operational, the line will have approximately 45 employees and 667 miles of track,

including 12 miles of rights over Soo Line tracks. When Burlington Northern sold this trackage it represented 21 percent of their 3,150 miles of track in North Dakota. The railroad is presently in operation and indications are that marketing activities are resulting in stable and increasing volume on the line. In this railroad, rail traffic can connect with either the Burlington Northern or Soo Line.

This brief description of the railroads presented above, shows the diversity in characteristics and variance in structure of these railroads. Some are unionized, some non-unionized. Some are agricultural in orientation moving shortline movements while others are dependent on long haul movement. Some are publicly owned, some are privately owned, and some have a combination of both. The common thread throughout is a combination of lack of alternatives, as far as maintaining the line under Class I status, and the availability of potential cost efficiencies when operated as a shortline railroad.

A CONCEPTUAL RATIONALE FOR SHORTLINE FEASIBILITY

There appears to be a strong conceptual basis for the feasibility of shortline and regional railroads. This is not to say that such firms do not fail. They do. However, what such a model suggests is that if the right conditions exist there are some fundamental reasons why shortline railroads can successfully exist as business firms along side Class I carriers or as partners in movements. In this section we will look at a conceptual model, which supports shortline railroad success. It is composed of six different but related elements, some of which are concrete and can be empirically measured and others which are more subjective. These six elements evolve around: 1) wage scales, 2) work rules, 3) operational flexibility, 4) decentralized decision making, 5) motivation and incentive, and 6) worker morale and satisfaction.

Differences in wage scale between national carriers and smaller regional and shortline railroads obviously works in favor of the shortline. Large and even small Class I railroads pay relatively higher wages than shortlines. Class I railroads pay on the basis of a labor union negotiated national scale of wages developed from a position of labor power over the past 70 years. Local railroads usually pay on the basis of local labor rates, often times rural, which are typically lower. As an example, the Red River Valley and Western Railroad, discussed earlier, pays wages comparable to $8.50 per hour as compared to a rate of $20.72 per hour formerly paid by the Burlington Northern on the same system. Such a difference dramatically improves the economic feasibility of any given rail network.

The second item, work rules, magnifies the impact of reduced labor costs. Work rules for Class I carriers in the United States are very restrictive and archaic and can be characterized as mechanisms for feather bedding. Examples of such rules are the requirement for three crafts to change a head light in a locomotive, the 100 mile day and the need for a caboose. Some shortlines are not unionized and thus do not automatically operate with excess labor capacity. Those shortlines that are unionized often operate without work rules or have work rules which are not as restrictive. The elimination of restrictive work rules can reduce labor requirements significantly, while getting the same job done.

A third element which contributes to the success of a shortline/regional railroad is operational flexibility. This is partially a result of elimination of work rules but is also due to the difference in scope and size between Class I carriers and shortlines. Large firms lack the same opportunities and flexibility in train scheduling that a small firm has. A small firm can fulfill an extemporaneous service requirement of a customer on short

notice. With a large firm this is more difficult, simply because of the size and the complexity of coordination that is inherent in a large system. For instance, if a customer notifies a shortline on Saturday that a train is needed on Sunday it is probably within the scheduling possibilities of a shortline to do so. However, it would be unlikely that a large Class I carrier could do so.

Decentralized decision making is also a factor in the feasibility of a shortline when comparing the same system with a larger Class I rail network. Decisions made by large organizations are often centralized at head or regional corporate offices. Such decisions sometimes reflect a lack of understanding of the business needs at the local level and most always reflect system considerations rather than the needs of the smaller components of the system. Decision making at the local level, inherent in regional and shortline railroads, eliminates this problem. In short, local managers are more aware of customer needs and will make management decisions which reflect those needs if given the ability to do so.

A fifth area enhancing the feasibility of a shortline is the difference in motivation and incentive between Class I and the smaller firms. The marginal traffic which can be generated on a Class I line may pale in comparison to the overall gross revenue receipts by so much, that it is difficult to motivate management to aggressively capture such traffic. For example, Burlington Northern Railroad is a $4 billion plus annually company in terms of gross income. Now assume for instance that there is an additional five cars of traffic that could be generated by some effort on the part of the marketing and sales department. Assume further that each car would generate an additional $3,000 of revenue. Assuming that marketing and sales even knew of the opportunity, this would only result in a 0.00037 percent increase in revenue. However, a small regional railroad

that only generates, for example, $5 million in gross revenue might look at this opportunity in a much different light. For a small operator of this size the additional five cars would result in a 0.3 percent increase in gross revenue. Furthermore, it would probably be much easier to provide pay incentives for the marketing and sales people for developing marginal traffic than it would be for the larger Class I carriers.

Finally, there is the issue of worker morale and satisfaction. It has been noted that people are happier when busy and productive. The productivity of labor and management alike is much higher on a shortline than a larger railroad. This ultimately could lead to a more satisfied work force with higher morale.

This discussion thus far has only noted some positive points for shortlines in comparison with larger Class I carriers. It does not identify negatives such as higher insurance and administrative costs, lack of working capital, low traffic densities, deferred maintenance problems, etc. However, if minimal conditions in these other areas can be met, the other factors may just make the difference between survival as a shortline or regional railroad or failure as part of a rail network of a large Class I carrier.

FUTURE RATIONALE

In our paper today we have tried to show that there is some continuing rationale for the existence of shortline railroads in the northern United States. A case study of the Palouse region in southeastern Washington and northern Idaho indicates the concern of the region about potential loss of the entire rail system. The cost analysis done indicates that the future of the existing system is doubtful while also indicating that a regional or shortline railroad may find this system a profitable possibility. Also, our discussion reviewed very briefly some existing shortline railroads in the northern United States. These railroads have been successful, and in most cases were generated by the possibility

of rail line abandonment. The existence of these roads and the expressed satisfaction of shippers with these lines does indeed suggest some rationale for their continued growth may exist. Finally, our conceptual discussion of the economics of shortline railroads did reveal many benefits associated, at least on a potential level, with shortline operation. These benefits further strengthen the rationale for the existence of shortline railroads.

We would be remiss in this discussion if we did not caution our statements regarding rationale for shortline railroads. Several of these railroads are built on lines that were "marginal" to the Burlington Northern or Union Pacific system. In such a case, the Class I railroad has found it beneficial, including potential negotiating power with the labor unions, to establish a working relationship with a shortline carrier. As the labor issues are negotiated and settled in the coming year, it will be interesting to see whether the incentive for the Burlington Northern to divest themselves of these lines continues to exist. It should be obvious if a shortline railroad can make a line profitable, because of decreased labor costs and improved work rules, the same profitability may be available to the Class I railroad upon successful labor negotiations. That may determine the rationale in the future for shortline railroad existence.

DISCLAIMER

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