THE IMPACTS OF LOCAL AND REGIONAL RAILROADS ON RAIL LABOR IN NORTH DAKOTA

by

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UGPTI Publication No. 72

November 1989

HIGHLIGHTS

The organizational structure of railroads in the Upper Great Plains region is rapidly changing. Class I carriers such as the Burlington Northern are selling their branch lines to new rail operators. The transactions are affecting the number and types of railroad jobs in North Dakota, as well as the average railroad wage. The purpose of this study is to quantify the long-run impacts of line sales on rail labor in North Dakota.

In certain instances, the sale of light-density lines to local and regional operators may be an alternative to abandonment. So, some rail jobs may be lost even if no lines are sold. This possibility is taken into account in the study by analyzing two scenarios or "cases" over time: (1) a "base case" in which light-density lines remain under Class I carrier ownership and operation, and (2) an impact scenario in which approximately 2,000 miles of light-density branch lines in North Dakota are sold to new operators.

A set of models is formulated in the study which project: (1) the miles of Class I line in North Dakota that will be abandoned if not sold, (2) the number of Class I carrier employees affected by the abandonments, (3) the number of Class I carrier employees impacted by the sale of 2,000 miles of branch line, (4) the number of new regional or local railroad jobs created by the sales, and (5) the net change in rail income over time. All income streams, regardless of their timing, are translated into present dollars by discounting each flow.

The major findings of the study are: (1) railroad employment is North Dakota is likely to stay the same or even increase marginally if light-density lines are sold prior to abandonment, and (2) total rail income is likely to decline by $13 million during the period 1987-1996. The reason for the net loss of income is that higher-paying BN and Soo Line jobs will be replaced with new rail jobs based on comparable local or regional wage scales. The economic effects of the loss of rail income on North Dakota communities is addressed in a companion study of the Rail Services Planning Series -- "The Benefits and Costs of Local and Regional Railroads."

TABLE OF CONTENTS

FOREWORD

This report is a part of the North Dakota Rail Services Planning (RSP) Study, an integrated series of research projects designed to evaluate the impacts of local and regional carriers on rail transportation in North Dakota. The project is funded by the North Dakota Highway Department with money provided by the Federal Railroad Administration of the U.S. Department of Transportation, under the Local Rail Services Assistance Act.

The primary objective of Phase I of the project is to assess the benefits and costs of short-line railroads in North Dakota. The projected statewide impacts of line sales are summarized in the overall Phase I report: "The Benefits and Costs of Local and Regional Railroads." In addition to the Phase I report, there are several component studies which focus on certain aspects of short-line development in depth. This report is one of those components. It is concerned exclusively with the **distributional** impacts of local and regional railroads on rail labor.

Since the paper addresses only one aspect of the problem, it is very important for the reader to consider its scope and limitations when evaluating the findings. The focus of the report is solely on distributional effects. Overall societal benefits are not addressed. Consequently, the conclusions of the study should be interpreted in this light, and not taken out of context.

In addition to the labor component, there are several other Phase I components in the RSP series. Three of the reports detail the impacts of local and regional railroads on:

1. The economics of light-density operations
2. The level and quality of services to shippers
3. Intramodal and intermodal competition.

A fourth report analyzes the differences between short-line and Class I carrier labor costs. It includes material complementary to this study.

INTRODUCTION

The American railroad industry is in a state of transition. Since the passage of the Staggers Rail Act in 1980, over 200 new short-line and regional railroads have been formed, most as a result of Class I carrier line sales to independent operators. Many of the new local and regional railroads operate light-density branch lines which Class I carriers cannot operate profitability.

Most of the early line sales occurred in the East, with carriers such as Conrail and CSX selling off much of their branch-line trackage. However, the movement quickly spread to the West, where carriers such as the Dakota, Minnesota and Eastern and the Red River Valley and Western were formed from parts of Class I carrier systems.

The sale of rail lines to short-line operators is shrouded in controversy. The Interstate Commerce Commission has elected not to require typical labor protection provisions on line sales to non-rail operators[1]. Many observers feel that if labor protection is required, the sale of branch lines by Class I carriers will be restricted. As a result, more abandonments will occur in the future.

Rail labor unions are generally opposed to the sale of rail lines without labor protection. Union spokespersons contend that such transactions displace union workers and have a detrimental effect on local communities (through the loss of jobs). On the other hand, rail management contends that high labor costs are one of the primary reasons that carriers are trying to sell light-density branch lines[2].

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[1]When lines are sold to existing carriers, or mergers and consolidations occur, affected railroad employees are typically granted lump sum payments equivalent to so many years of salary (e.g. six), plus the selling carrier must contribute to the employees railroad retirement fund during that period of time.

[2]This is illustrated by recent abandonment applications. For example, the Burlington Northern projected that over 49 percent of the avoidable on-branch costs on the Edgeley-to-Streeter branch line consisted of labor expenses.

The purpose of this report is not to analyze the laws and regulations that govern railway labor, or which affect ICC exemption procedures. These are quasi-legal issues which will be settled in the courts, or remanded to the ICC for clarification. The goal of the study is more fundamental in nature: to evaluate the effects of line sales on rail labor in North Dakota. Until the nature and extent of these impacts are known, it is difficult for state and local governments to formulate policy in this area.

The primary research objectives are:

1. To formulate an approach for estimating the net long-run effects of line sales;
2. To project changes in rail jobs and workers' income streams in North Dakota, over time;
3. To interpret the findings in light of the overall benefits and costs of short-line railroads.

FRAMEWORK

The sale of light-density lines to short-line operators can generate a wide range of impacts, affecting shippers, carriers, workers, communities, and governments. A set of techniques for projecting the impacts of line sales on rail labor will be detailed later in the report. But first, an important distinction must be drawn between societal benefits and distributional effects. Societal benefits (or disbenefits) are the sum of the benefits and costs experienced by all groups in society. If the net benefits of a change are positive, it will enhance the welfare of society as a whole. But even a positive change may affect different groups in different ways. So, the **distribution** of benefits and costs is an important question in economic impact assessment -- that is, who wins and who loses in the transaction.

Economic effects are evaluated in the RSP study at a statewide level. The state of North Dakota is the "society" for which all benefits and costs are computed. Groups within this society are delineated on the basis of economic and social functions. Rail labor is defined as the total pool of railroad workers employed in the state during a given period of time.

On the surface, rail labor is the one group which stands to be negatively impacted by line sales. So, it is only fitting that the distributional effects on this group be analyzed in depth[3]. But there are other compelling reasons for a separate labor component as well. First, the human side of economic issues is frequently given little exposure in impact studies. Although emotional issues have no place in economic analysis, at least the study should try to explain (as best as possible) the effects of a change to those people who will feel it most directly. Second, there is a great deal of conjecture and probable misconception about the true long-run impacts of line sales. Many people focus solely on the short-run, localized impacts at the time of sale. But the short-run impacts may be completely different than the net long-run effects.

Short-run time-of-sale impacts are considered in this study. However, the basic research strategy is to identify and quantify net long-run effects. This approach is explained in greater detail in the following discussion on research design.

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[3]The distribution of benefits and costs among all groups in society is not analyzed in the study. Only labor effects are considered.

RESEARCH DESIGN

Any impact study must consider what will happen over time if the potential change being analyzed does not materialize. This "base case" provides a frame of reference for evaluating the impacts of a change on society and individual groups.

Consideration of the base case is very important in this instance. Over time, the rail network in North Dakota will be subject to further rationalization by Class I carriers. This is the stated intent of the Burlington Northern Railroad[4]. A recent study by Grimm (1988) explains the underlying economic rationale. In his study, Grimm determined that the rationalization of rail networks through the abandonment of light-density branch lines will not significantly reduce mainline traffic densities. Since mainline operating costs are considerably lower than branch-line costs, a strong incentive exists for future Class I disinvestment. In short, changes will occur over time that will affect the rail network, rail services, and rail workers in North Dakota regardless of whether short-line railroads are formed[5].

In essence, North Dakota is faced with two alternative futures: (1) a "no-sale" or base-case scenario, and (2) a "sale" or impact scenario. Either scenario will impact rail labor. So both must be analyzed over time. The differences in jobs and income streams between the impact scenario and the base case constitute the long-run net effects of short-line railroads on rail labor. This simple concept undergirds the method of long-run impact assessment detailed later in the report.

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[4]Mr. Greenwood, Executive Vice-President of the BN railroad, stated at the 1987 annual meeting of the North Dakota PSC and the Burlington Northern in Bismarck, that many of the branch lines in the state would be abandoned in future years if they could not be sold. This a fairly common policy among Class I carriers.

[5]There are two basic approaches to rail rationalization. The first is the "traditional" strategy of deferring maintenance and curtailing services on marginally-profitable and unprofitable lines until such time as an abandonment application can be successfully filed. The second is the sale of lines to local or regional operators. If rail management cannot follow one rationalization strategy, then they will pursue the other.

The scope or perspective of the study is another important concept in research design. Impacts may be local (point-of-sale), statewide, railroad, regional, or national. Eventually, if one extends the scope enough, the impacts are likely to be negligible. Conversely, if one restricts the scope sufficiently, the impacts are likely to loom large.

One may take the point of view that only the global (or national) perspective is important, and that what are perceived to be impacts locally may actually be "transfers" within the economy. For example, labor which is displaced by a line sale may be transferred (absorbed) elsewhere within the Class I carrier's system, or reemployed in another sector of the economy. An analyst with a global perspective would not consider this an impact, but merely a transfer or redeployment of a factor input (labor) within the overall economy. Conversely, an analyst with a microscopic (local) perspective would consider any worker displacement or transfer out of the immediate geographic vicinity to be an impact.

As stated earlier, impacts are evaluated in this study at a statewide level.

RESEARCH PROPOSITIONS

A set of propositions concerning the impacts of line sales on rail labor is outlined in this section of the report. The propositions create an essential link between the research design and the methods discussed later. They are stated here without proof or refutation. Where appropriate, they will be proved or disproved later.

PROPOSITION 1: Line sales will result in the loss of Class I carrier jobs in North Dakota.

This proposition is somewhat of a prima facie statement. There can be little contention that Class I carrier jobs will be lost as a result of line sales in the state. The important question from a public policy perspective is would these jobs have been lost anyway (during some future interval in time) due to railroad rationalization. When viewed from this perspective, the true magnitude of the impacts may be less than the ostensible effects.

PROPOSITION 2: New employees will be gained in North Dakota from line sales.

This is a frequently overlooked element in the long-run equation. Many lines may be eliminated through continued rationalization by Class I carriers. Thus, total railroad employment could be reduced even if line sales are halted. On the other hand, short-line and regional railroads may create new jobs serving lines which might otherwise be abandoned.

There is another important concept involved here. Rail jobs are not just related to miles of track. They are partly a function of traffic. As traffic grows, so do the number of jobs required. Thus, if a local or regional railroad is able to increase aggregate rail traffic, then local employment (as well as perhaps some Class I carrier jobs) will grow over time.

PROPOSITION 3: The average railroad wage rate will decline in North Dakota as a result of line sales.

Again, this is a prima facie proposition. However, the long-run differential may be different than the short-run gap. Local railroads may hire and train new entrants, and pay them a wage comparable to alternative employment opportunities in the local area. But over time, the wages of the new employees will rise with experience and seniority. Furthermore, some local rail wages are tied to profit-sharing plans. If the local or regional carriers are able to increase traffic, then the true income differential may be less than that which is generally perceived.

PROPOSITION 4: The aggregate number of railroad jobs in North Dakota and the aggregate income stream of workers will change over time, however the direction and magnitude of the change cannot be ascertained by focusing on time-of-sale impacts.

This is one of the major themes of the study, and underscores much of the research design.

PROPOSITION 5: Class I line sales in North Dakota and elsewhere will impact individual job classifications and crafts differently.

The long-run impacts of line sales will not be the same for all job crafts or classifications. Personnel engaged in train operations, maintenance of way and structures, and related administrative or clerical positions will be the most heavily impacted. Conversely, general administrative and support services, professionals, executives, and division or central office clerical staff may be largely unaffected by a **given** line sale[6].

BASIC IMPACT EQUATIONS

There are two quantifiable labor impacts addressed in this study: (1) income effects, and (2) job effects. Although related, the two are different. It is possible that the number of railroad jobs in North Dakota could remain the same or even increase while the total income of rail workers declines (or vice-versa). Income effects can be stated in dollars, which can be readily translated into a scale or context by the reader; jobs cannot.

[6] A sixth proposition could also be stated--that Class I carrier or union jobs will be lost systemwide as a result of line sales. This is a frequent contention of rail labor. Line sales will unquestionably reduce the number of local Class I carrier jobs in certain crafts. Whether this results in a reduction in numbers on the selling carrier's system depends on the demand for the craft elsewhere. If the functions are in demand, the displaced employees may transfer out-of-state. If such is the case, the railroad or system effects may be minimal. Although carrierwide impacts are not a concern of this study, an important point should be made here regarding impact assessment. The process is concerned only with existing Class I carrier jobs. The argument has been made that the displacement of Class I workers prevents the hiring of new workers elsewhere on the system (because the displaced workers will occupy positions that new hirees would otherwise fill). While perhaps true, this is irrelevant to public policy. New or potential entrants into railway labor have many options available concerning prospective careers and job choices. The fact that one possible avenue may be foreclosed because a position is occupied by a displaced Class I worker does not constitute an impact. At this stage, labor may be reoriented into other productive pursuits within the economy. Thus, the only relevant labor-related impacts of Class I line sales are: (1) reductions in the existing Class I work force, (2) changes in jobs caused by new short-line or regional employees, and (3) changes in the wage rate (which results in changes in the income stream over time).

Nevertheless, there are clearly societal and economic benefits from railroad employment in North Dakota (just in sheer numbers) irrespective of the aggregate income stream. So each effect is analyzed separately.

Labor impacts are evaluated over a 10-year period. This time-frame should be sufficient for most rationalization and restructuring forces to play themselves out. The objective of the base-case analysis is to estimate what will happen if no lines are sold. But one regional carrier (the RRV&W) has already been established in the state. So, 1987 is the base year by default (the year in which the RRV&W was formed).

Rail jobs in the base case are defined as the sum of all Class I carrier jobs in North Dakota during each year of the analysis period (as depicted in equation 1).

$$BJ_n = CIJ_n \tag{1}$$

where: BJ_n = Base-case rail jobs in year "n"
CIJ_n = Class I carrier jobs, year "n"

In the base year, there were 2,043 Class I carrier employees in North Dakota (AAR, 1987). However, as noted previously, this level may change over time due to abandonment. So, base-case employment in the 10th year may be quite different than in the base year.[7]

Rail jobs under the impact scenario include both Class I carrier and local jobs. Aggregate railroad employment under the impact case is calculated as:

$$IJ_n = CIJ_n + LJ_n \tag{2}$$

where: IJ_n = Impact-case rail jobs during year "n"
LJ_n = Local and regional railroad jobs during year "n"

[7]It is possible that total rail employment will decrease during the analysis period due to factors other than branch-line abandonment, such as: the consolidation of station, yard, and clerical services, the introduction of robotics into repair shops, and other substitutions of capital for labor. Although plausible, these effects are not modeled in the study.

Suppose that a line sale occurs in the fifth year. Both terms on the right-hand side of equation (2) may change. Thus, each year could have a unique value.

The change in jobs during any year of the analysis period is given by:

$$\Delta J_n = IJ_n - BJ_n \tag{3}$$

where: ΔJ_n = Difference in rail jobs between the base-case and impact scenario, year "n"

When evaluated at the end of the analysis period (n = 10), ΔJ_n represents the net long-run change in rail jobs due to line sales.

Net statewide income effects are measured in a similar manner. For any given year, the base-case income stream is given by:

$$BI_n = CIJ_n * CIW_n \tag{4}$$

where: BI_n = Rail employees' income in year "n" of the base case

CIW_n = The weighted-mean annual income of Class I employees in North Dakota during year "n"

The annual income streams under the impact scenario reflect the wages generated from both local and Class I carrier jobs (equation 5).

$$II_n = CIJ_n * CIW_n + LJ_n * LW_n \tag{5}$$

where: II_n = Rail employees' income stream during year "n" of the analysis period

LW_n = The weighted-mean annual income of local or regional employees during year "n"

Money has a different value to rail management, labor, and taxpayers over time. If given a free choice, everyone would prefer to receive a dollar today rather than five years from now; ceteris paribus. Thus, a dollar's impact in the base year is different from its impact in the nineth year of the analysis period. Differences in the value of money over time are accounted for by expressing all future outflows (or inflows) in present dollars. If the time value of money is considered, equation (4) becomes:

$$BI_n = CIJ_n * CIW_n * PFW_n \qquad (6)$$

where: PFW_n = Present worth factor, or:

$$\frac{1}{(1 + r)^n} \qquad (7)$$

r = The discount rate

Similarly, equation (8) may be transformed as follows:

$$II_n = (CIJ_n * CIW_n + LJ_n * LW_n) * PFW_n \qquad (8)$$

The discount rate (r) represents a composite of the expected rates of the affected parties.[8] Ideally, the discount rate should reflect both the opportunity cost to the State of foregone tax revenues and the missed investment opportunities of workers because of changes in the income stream[9].

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[8]Discounting gives greater weight to impacts in the early years of the analysis period, and lesser weight to those which accrue in latter years. This should be reflective of the perceived impacts on rail labor. The loss of income (from a line sale) is valued more highly than the future loss of income through abandonment. Similarly, the loss of potential tax revenues to the state, and the economic spending effects from higher Class I carrier incomes, will be felt more in the early years of the analysis. The loss of multiplier-generated income and tax revenues in 2006 is clearly valued less by State officials than the same dollar loss in 1990.

[9] As a compromise, the current short-term Treasury Bill rate has been used. This should represent a common interest rate somewhat applicable to both parties.

Once income effects are properly adjusted for the time value of money, the discounted yearly values are summed to obtain totals for the analysis period. The net present value (NPV) of the base-case income stream is computed as:

$$NPV_B = \sum_n BI_n * PFW_n \tag{9}$$

Similarly, the net present value of the impact-scenario stream is:

$$NPV_I = \sum_n II_n * PFW_n \tag{10}$$

The difference in net present value between the impact and the base cases represents the projected net income effects of line sales in North Dakota.

The purpose of the preceding discussion has been to outline the basic impact equations and describe how long-run income effects are computed. This section of the report concludes with a more comprehensive overview of the analytic process.

OVERVIEW OF IMPACT ASSESSMENT PROCESS

The impact assessment process consists of a set of sequential, interrelated steps (listed below).

1. The lines (and miles of branch-line road) available for sale are estimated.
2. The lines (and miles of branch-line road) which might potentially be abandoned are estimated.
3. The number of Class I carrier employees affected by the potential line sales is determined.
4. The number of Class I carrier employees affected by the projected abandonments is computed.
5. The number of Class I carrier employees during each year of the analysis period is calculated for the base case and the impact scenario.
6. The statewide income stream of Class I carrier employees is computed for each year in the analysis period under both scenarios.

7. The number of new local or regional railroad employees is projected for each year in the analysis period.

8. The income stream of regional railroad employees is computed for each year in the analysis period.

9. The total stream of North Dakota railroad employees is computed each year under each scenario (as the sum of the Class I and regional streams).

10. The income stream under each scenario over time is discounted to present value.

11. The difference in the net present value (NPV) of the income stream under the impact scenario and the base case is computed.

This list will hopefully provide the reader with a frame of reference for the detailed description of research methods which follows.

RESEARCH METHODS

The purpose of this section of the report is to fill-in the outline presented above. The discussion begins with an overview of procedures for projecting potential abandonments in North Dakota.

PROJECTING FUTURE ABANDONMENTS

Forecasting future abandonments is an important part of the base-case analysis. Abandonments typically occur because the density of traffic on branch lines is insufficient; in other words, diseconomies of utilization are present. There is no hard and fast number of gross ton-miles per mile (GTMM) or carloads per mile which will make a line viable. Most abandonment applications in North Dakota have been filed on lines with 10 cars per mile or less. For example, both the York-to-Dunseith and Streeter-to-Edgeley lines, which the Burlington Northern filed abandonment applications on in the early 1980's, generated only five cars per mile. But abandonment applications have been filed at higher densities.

For example, a recent Union Pacific abandonment application was for a line with a density of 12 cars per mile.

Ideally, the viability of each line should be evaluated individually under the base-case. But it would be difficult (if not impossible) to develop detailed revenues and costs for each branch line in the state[10]. So, an alternative method of forecasting has been devised, one which considers the traffic density and the characteristics of the line. This approach is based on a minimum viable traffic density (MVTD) for North Dakota branch lines.

The MVTD is the lowest traffic density which will make a light-density line profitable to a Class I carrier in the long-run. The MVTD is an abstract concept, based on a typical grain branch line. The idea is not a radical departure from traditional analytic techniques. Measures such as the "34-car per-mile rule" have been used by federal and state agencies in the past to forecast line viabilities. Although the MVTD is similar in concept to the 34-car rule, it is much more specific in nature. It is based on the actual attributes of North Dakota branch lines, and is computed from detailed line operating and cost data. The methods and computations involved are detailed in Appendix A and supporting documentation.

A MVTD of eleven cars per mile has been estimated for North Dakota branch lines, under single-car parameters (see Figure 1). The projected threshold drops to around eight cars per mile under trainload operations. Both of these figures, it should be noted, are conservative in nature. There are several reasons for this:

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[10]This would require, among other things, that: each line in the state be surveyed; a physical inventory be compiled; shipments, rates, distances, and routes to and from each individual market be determined for each commodity; and a host of other resource-intensive tasks be undertaken. Even if these tasks could be accomplished, the resource costs would be extremely high.

1. They do not reflect the efficiency losses of deferred maintenance, or the speed restrictions and limitations that exist on individual lines.

2. The off-branch expenses reflect only variable costs, at embedded interest rates.

3. Fixed system costs are not allocated to the traffic.

4. The replacement cost of roadway and locomotive capital are not accounted for.

If fully allocated off-branch costs and the current cost of capital for roadway investment are used, then the break-even density increases to roughly 14 cars per mile.

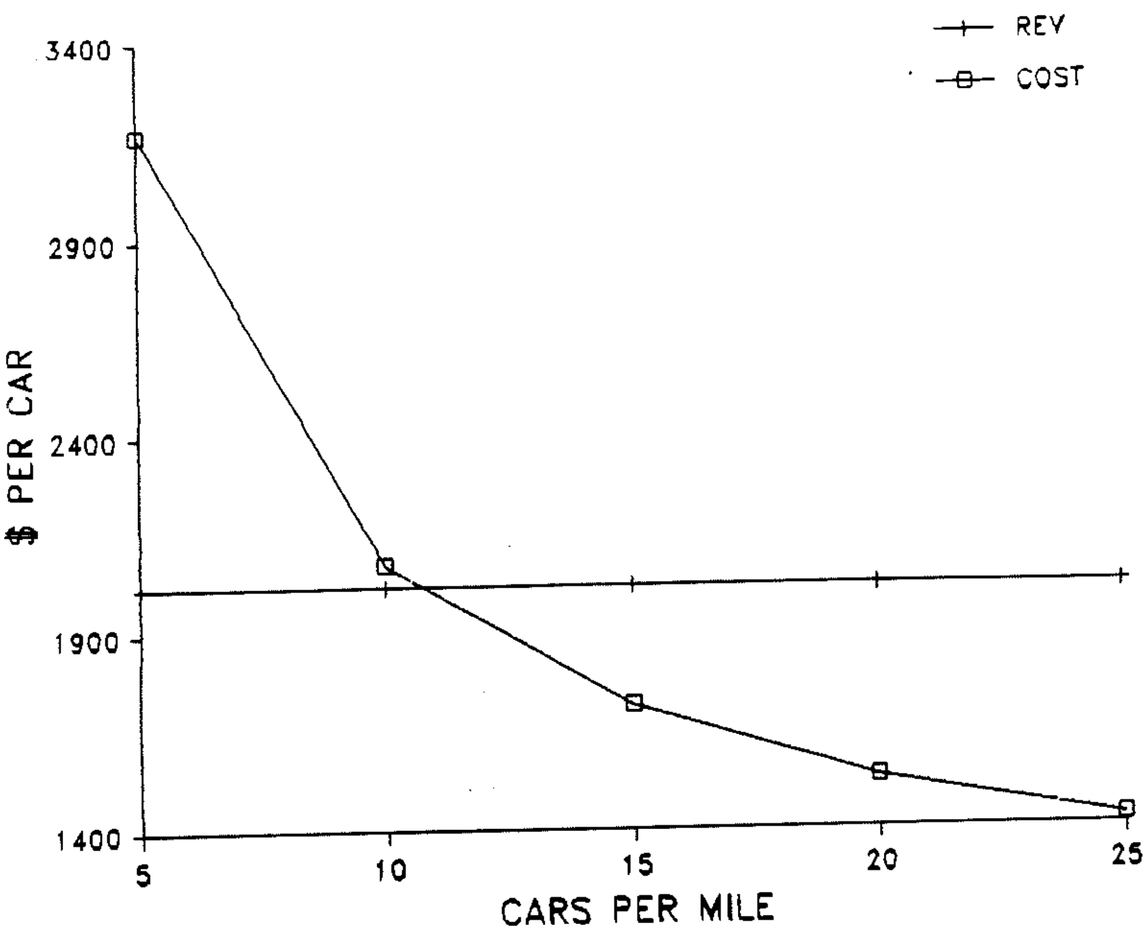

Figure 1

Minimum Viable Traffic Density

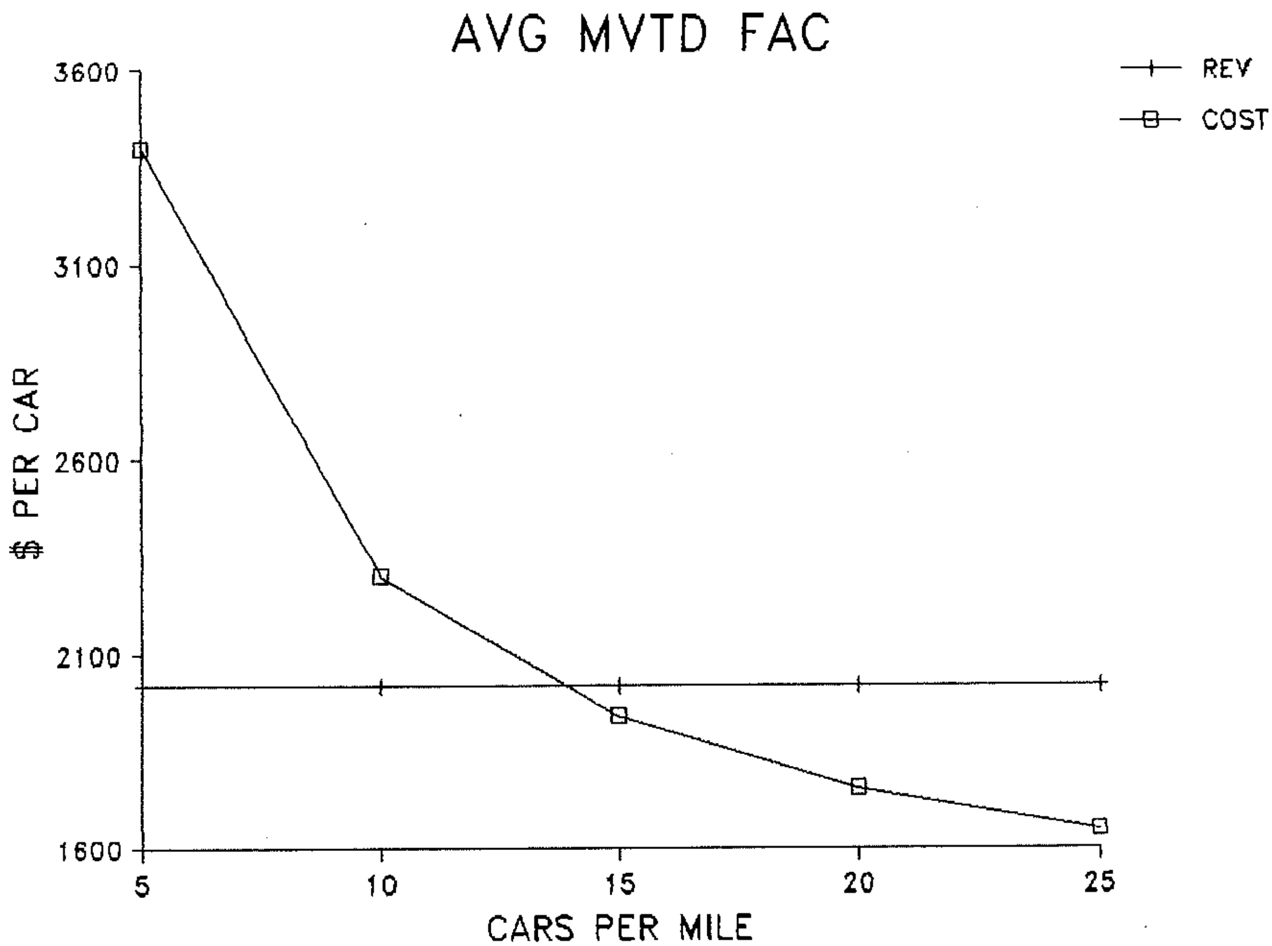

Figure 2

Minimum Viable Traffic Density At Fully Allocated Cost Levels

Previous estimates have placed the threshold of viability much higher than the estimates given here. However, recent line abandonments by the BN in North Dakota clearly reflect densities below the break-even threshold (roughly five cars per mile). Perhaps the best way to interpret the eleven-car threshold is as a lower boundary of a viability range. It is doubtful that the upper boundary of the range is as high as the 34 cars per mile predicted by R. L. Banks. Instead, it is probably in the neighborhood of 25 cars per mile.

Column (b) of Table 1 shows the miles of road in North Dakota which fall into each of five density categories. Column (c) shows the probability of abandonment attached to each subgroup.

TABLE 1. MILES OF TRACK AND PROJECTED ABANDONMENTS BY DENSITY CATEGORY

(a) Cars Per Mile	(b) Miles of Track	(c) Probability of Abandonment	(d) Projected Miles Abandoned
0-5	111	1.00	111
6-10	323	.90	291
11-20	359	.50	180
21-30	354	.25	89
Total	1167	.58	672

Experience suggests that any line which cannot sustain a density of at least five cars per mile will be abandoned. Furthermore, the MVTD analysis suggests that any line with less than ten cars per mile is inviable unless it has substantial trainload traffic. Most branch-line traffic consists of single-car shipments. So, there is a rather high probability (say 90%) that lines in this class will be abandoned. The remaining probabilities in column (c) are more subjective in nature. As noted earlier, Class I carriers in North Dakota are usually not covering fixed off-line expenses or earning a return equal to the replacement cost of capital until the density has reached 14 cars per mile. If the traffic on lines in category 4 (10-to-20 cars per mile) declines even marginally over time, the lines will be prime candidates for abandonment. So, a probability of 50% has been assigned to this group. Lines with 20-to-30 cars per mile are generally viable in the long-run. However, problems may be present (or develop) on specific lines which could lead to some abandonments in the base case. So, a probability of 25% has been attached to this group. Altogether, as column (d) depicts, 672 miles of line are projected to be abandoned if no action is taken and things continue as before.

FORECASTING FUTURE LINE SALES

Projecting the miles of track that might be sold in the future is also a difficult process. Both the BN and the Soo Line have suggested that any line with a traffic density of less than 3 million GTMM is a potential candidate for sale or rationalization. But this subgroup includes some main and feeder lines which are not likely to be sold.

Altogether, over 2,200 miles of track in North Dakota fall into the light-density or branch-line category (less than 3 million GTMM). Approximately 607 miles of this track have already been sold to the RRV&W.

Not all of the remaining lines are likely to be viable as local railroads. As depicted in Table 1, 111 miles of track have a density of five cars per mile or less. Another 291 miles fall into the six-to-ten car density range. Some of this track cannot be operated profitability even as part of a local railroad. So, it is assumed that a portion of the miles in this group (250) will not be sold (or bought). This leaves a total of 1,343 miles of potential track for sale, not including the 667 miles already sold to the RRV&W.

PROJECTING CLASS I CARRIER JOB IMPACTS

The number of jobs potentially impacted by a line sale or abandonment depends, in part, on the degree to which the functions are line-related. This fundamental concept is explored next.

Line-Related Versus Common Labor

Some types of jobs are primarily line-related; they are dependent upon the miles of road in a given area and the level of traffic on the lines. Consequently, the sale of track will reduce the number of employees in some prorata fashion. Other classes of jobs are "common" to the broader subsystem. Reducing the miles of Class I track through a line sale will have little or no effect on the number of employees. Rather, the impacts on this group will depend primarily on network effects.

Suppose that a set of branch lines is sold by a Class I carrier in an area. The regional classification yard(s) may experience a decline in annual throughput (the number of cars handled).[11] Fewer local trains may be dispatched because the short-line carrier consolidates and delivers shipments on the set of branch lines. Fewer work trains and maintenance of way (MOW) crews may be dispatched because the short line is now responsible for maintaining the track, roadbed, and structures on the lines. Yet, general administrative and support services (such as marketing, legal, or accounting) may be unaffected[12]. The same may be true for professional, executive, clerical, and general traffic

[11]A decline in throughput could occur because the new railroad may reorient traffic through a different interchange point, or because the level of traffic handled on the branch lines declined. On the other hand, the local railroad may increase throughput by enhancing the traffic base on the lines.

[12]Most of these functions are maintained at division or central headquarters. If the overall traffic base of the Class I carrier declines, some of these jobs will be eliminated. However, the sale of a given line or set of lines will have little negative effect on system traffic. In some instances, the level of traffic may actually increase as the result of a sale.

employees. These jobs are primarily common to the Class I carrier's system and depend upon the level of traffic over a multi-year period.

Impact Assessment Procedure

The major crafts or classifications impacted by light-density line sales are:

1. Train Operations[13]
2. Maintenance of Way and Structures
3. Maintenance Overhead

The reduction in income for each group due to line sales or abandonment is projected via a multi-step process. First, the change in annual expenses for a given expense cluster (such as running track maintenance) is estimated from regression models developed by Westbrook (1989). The models predict how railroad expenses change when activity levels (such as train miles) and capacity (miles of track) increase or decrease.

Railroad costs are a mixture of capital and labor. In the second part of the impact assessment process, the proportion of labor costs within each expense group is estimated. First, the percentage of labor costs (within each group) is computed from the carrier's R-1 schedules. Then, the proportion is applied to the predicted decremental expenses to derive the annual change in labor cost. Once the change in labor cost is predicted for each expense cluster, the annual change in jobs is projected. The basic impact assessment procedure is illustrated for maintenance of way activities in the following paragraphs.

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[13]Train operations includes those functions related to the running and dispatching of trains; the operations of signals, interlockers, drawbridges, and highway crossing protection; the servicing and fueling of locomotives; train inspection and lubrication; clearing wrecks; and the administration of train operations. These jobs are primarily a function of the annual trains or train-miles, although some are a function of track miles. That is, some costs are incurred as long as the track is a going concern. For example, a minimum level of MOW superintendence and vegetation control are required (for safety purposes) regardless of whether one or 1,000 trains are run over a line.

Impacts of Line Sales on Running Track Maintenance Activities

Equation (11) shows the formula for predicting annual decrements in running track maintenance expenditures.

$$RMT = 3.2551 * MRT + .09594 * GTM \qquad (11)$$

where:

RMT = Annual running track maintenance expenses (in millions of dollars)

GTM = Gross ton miles of traffic on the affected lines (in billions)

MRT = Miles of running track sold or abandoned (in thousands)

The percentage of labor expenses in RMT activities is computed as follows:

$$LRMT = RMT * PCTL * LINDEX * 1E6 \qquad (12)$$

where:

LRMT = Labor running track maintenance cost[14]

PCTL = Percent labor

LINDEX = Labor cost update index

The number of impacted jobs is computed from equation (12) as:

$$JRMT = LRMT / WR \qquad (13)$$

where:

JRMT = Number of impacted MOW jobs

WR = Weighted-mean annual salary

[14]The PCTL is computed for the running track account group from the carrier's R-1 report. Since the equation predicts 1985 costs, the expenses must be updated. The cost update ratio (INDEX) is computed from the AAR's labor price indices. Again, the expenses are in millions of dollars per year. So they must be multiplied by $1E^6$.

Impacts of Line Sales on Train, Yard, and Other Maintenance Employees

Changes in employment for train and yard operations and maintenance overhead are predicted in a similar manner to RMT. So, only the expense equations are shown below.

$$TC = 1.7576 * MTR + .0063 * TM \quad (14)$$

where:

TC = Annual change in train crew expenses[15]

TM = Annual train miles[16]

$$YD = 12.9607 * YST + 4.7527 * THY \quad (15)$$

where:

YD = Change in yard operating expenses (in millions of dollars per year)

YST = Thousands of miles of yard track

THY = Yard train switching hours[17]

$$SWWAGE = 5.2355 * YST + 7.008 * THY \quad (16)$$

where:

SWWAGE = Switching wages (in millions)

$$SWMOH = 1.4930 * ST + .00046 * THS \quad (17)$$

where:

SWMOH = Annual change in switching and maintenance cost

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[15]Expenses are in millions of dollars.

[16]Train miles are expressed in thousands per year.

[17]Expressed in hundreds of thousands of train hours.

The impact assessment procedure described above has been used to project the number of employees affected by the 667 mile BN line sale in North Dakota. The predicted effects are shown for each major job class in Table 2.

TABLE 2. PREDICTED JOB EFFECTS FOR THE BN NORTH DAKOTA LINE SALE.

Type of Job	Jobs Impacts
Running Track Maintenance	41
Train and Engine Crew	28
Transportation Administration and Clerical	7
Yard Clerical	11
TOTAL	87

The projections in Table 2 are almost identical to projections made by the Burlington Northern at the time of sale[18]. Furthermore, the distribution of jobs impacts among classifications is also very similar to BN's forecasts. Both projections, it should be noted, are lower than those given by rail labor.

Two important points should be clarified here. First, the models are **not** projecting that 87 Class I carrier jobs will be lost as a result of the RRV&W line sale. The correct interpretation of Table 2 is that local demand for labor by Class I railroads is projected to decrease by roughly 87 jobs. Most of the affected employees will have the option to transfer laterally. So, while they may have to move out of the area, they will have the option of keeping their jobs.

[18]The BN projected that 84 jobs might be affected.

Data provided by the BN suggest that all trainmen affected by the sale have the option of transferring elsewhere in the system due to high demand. The same is true for track maintenance employees. The demand for both crafts is particularly high in the Twin Cities region. So, a distinction must be made between reductions in local job demand for the crafts and actual job losses.

Second, the 18 administrative and clerical jobs affected by the line sale are due partly to the inclusion of the yard at Breckenridge in the deal. Yard clerical jobs are partially a function of the traffic handled. When lines are sold (rather than abandoned), the traffic handled by the classification yards in the area will probably remain the same or even increase. So, without the sale of the yard, these positions would probably not have been impacted to the same extent.

The procedure described in this section of the report is useful for predicting the impacts of line sales on Class I rail labor. However, the equations have been calibrated with Class I carrier data. So, they cannot be used to project the number of local or regional jobs resulting from line sales. A procedure for estimating new rail jobs is discussed in the next section of the report.

ESTIMATING LOCAL RAIL JOBS

Data for estimating local and regional railroad job formation are sparse. The Association of American Railroads (AAR) compiles a data base of local and regional railroads. Unfortunately, many of the carriers in the sample operate very small lines and have few employees. Others are switching or terminal railroads, and bear little or no resemblance to the grain railroads formed in the Northern Plains.

The number of new jobs created by the RRV&W sale is known. The remaining task is to project the number of jobs created by the possible sale of 1,343 additional miles of road. This has been accomplished by analyzing a subset of railroads from the AAR data file. The central tendencies of the subgroup reflect the approximate size and density of potential railroads in North Dakota[19].

Table 3 shows the mean and dispersion of the subgroup of Class II and Class III carriers, all of which have less than 500 miles of track and fewer than 100 cars per mile. As the table depicts, the group has a mean density of 42 cars per mile and a mean employment level of 49. The variation within the group is fairly large as evidenced by the standard deviation and the range. However, it is felt to be the most representative data set available at present for estimating new job formation.

TABLE 3. AVERAGE EMPLOYEES FOR LOCAL RAILROAD SUBGROUP

	N	Mean	Standard Deviation	Minimum Value	Maximum Value
Cars per Mile	14	42	27	4	87
Employees	14	49	32	8	100

[19]It is assumed that the remaining 1343 miles of branch line will be sold as several local railroads. The sale of this much track would result in roughly two railroads the size of the RRV&W, or four networks of roughly 335 miles each. Of the two configurations, the latter is felt to be the most likely possibility.

Suppose that four new local railroads are formed from the remaining 1,343 miles of track; a likely configuration given the distribution of lines and traffic densities. Then each new carrier will own approximately 335 miles of track with a density of roughly 40 cars per mile. This is very close to the mean traffic density for the sample group. If the mean of the group is an accurate estimator, then 196 new jobs will be created as a result of additional line sales in North Dakota.

The purpose of this section of the report has been to describe the research methods and data sources. The results of the forecasts are presented in the next section, followed by a summary and conclusion.

RESULTS

As noted in Table 1, 672 miles of track may be lost through abandonment if branch lines in North Dakota are not sold to independent operators. Locally, this translates into 88 impacted Class I carrier jobs. The temporal distribution of the impacts is unknown. The projected abandonments are likely to be spread-out over the ten year period. So, a uniform distribution is assumed. This means that an average of nine Class I carrier jobs will be lost during each year of the analysis period.

As noted earlier, there are approximately 1,343 additional miles of suitable light-density road for sale in the state. If the lines are sold to local operators, an additional 169 Class I employees may be impacted (that is, the demand for local jobs on the BN and Soo Line may be reduced by this magnitude). Altogether, 257 Class I carrier jobs in North Dakota are projected to be lost through potential line sales. Again, this does not necessarily mean that the persons affected will lose their jobs. Some will transfer out of the area, but will remain employed by the carrier.

On the other side of the equation, the formation of 196 new rail jobs is expected if the remaining lines are sold as local railroads. This means that a total of 239 new local and regional jobs could be created during the analysis period.

The time distribution of local rail jobs is also unknown. The 43 regional carrier jobs were formed in the base year (1987). It is assumed that the remaining 196 jobs will be formed in 1993[20]. This means that the 169 Class I carrier jobs impacted by the projected line sales are also assumed to be lost (locally) in 1993. Altogether, 257 Class I carrier jobs may be lost. But, 239 new local and regional jobs will be gained. Job impacts are converted to income effects through the use of average annual salaries. A weighted-mean salary of impacted Class I carrier employees has been computed from ICC Wage Form B statistics, using the projected distribution of jobs among classifications[21]. This average (which reflects primarily MOW and train operating personnel) is approximately $41,600 per year[22]. In contrast, the mean annual salary for local and regional railroad employees is $22,600[23].

The projected job-related impacts are shown in Table 4. Column (b) of Table 4 shows the expected Class I carrier employee levels in the state under the base case[24].

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[20]If the lines are sold to local and regional carriers, this will probably occur early in the analysis period. Otherwise, they will deteriorate and become less attractive from a buyer's perspective.

[21]BN wage statistics have been used to compute the weighted mean. The rationale is that most of the light-density branch lines which have been sold, or on which sales are pending, are owned by the BN.

[22]Roughly 60 percent of the impacted workers will be train and engine crew or other transportation employees. The average annual compensation of train and engine crew members is $46,400. Most of the remaining impacted workers (40 percent) are maintenance of way employees. Their average annual compensation is $34,400.

[23]This figure has been computed from national survey data.

[24]As discussed previously, the base-case job stream reflects changes in employment over time due to projected abandonments.

Column (c) shows the expected Class I carrier employment levels under the impact scenario. The values for each year reflect changes in employment due to actual or anticipated line sales. Column (d) depicts the actual and projected number of local and regional railroad jobs in North Dakota, assuming that an additional 1,343 miles of track are sold to local operators. Column (e) shows the net level of projected railroad employment in the state, considering the effects of both line sales and abandonments.

TABLE 4. PROJECTED JOB IMPACTS

	BASE CASE	IMPACT CASE		
Year (a)	Class I Carrier Employment (b)	Class I Carrier Employment (c)	Local & Regional Jobs (d)	Total Railroad Employment (e)
1987	2043	1955	43	1998
1988	2028	1955	43	1998
1989	2019	1955	43	1998
1990	2010	1955	43	1998
1991	2001	1955	43	1998
1992	1992	1955	43	1998
1993	1983	1786	239	2025
1994	1974	1786	239	2025
1995	1965	1786	239	2025
1996	1955	1786	239	2025

As Table 4 reveals, when the results of potential abandonments are considered, a net gain of 27 railroad employees is expected.

Table 5 shows the projected income effects of changes in employment levels (in thousands of dollars). Column (b) of Table 5 reflects the base-case income stream. Column (c) lists Class I carrier income levels over time under the impact scenario. Column (d) contains the projected income stream of new local and regional railroad employees. Column (e) depicts the aggregate expected income of railroad workers in North Dakota under the impact scenario. Column (f) represents the change in income from the base case to the impact scenario. The discounted changes are shown in Column (g), and the cumulative discounted effects in Column (h).

As Table 5 shows, railroad income in North Dakota is expected to decrease by $12,824,000 over a ten year period as a result of line sales.

TABLE 5. PROJECTED INCOME EFFECTS

Year (a)	Base-Case Income (b)	Impact Scenario Class I Income Stream (c)	Local & Regional Income Stream (d)	Total Impact-Case Income (e)	Change in Income (f)	Discounted Values (g)	Cumulative Discounted Income Effects (h)
1987	84989	81328	972	82300	-2689	-2689	-2689
1988	84365	81328	972	82300	-2065	-1894	-4583
1989	83990	81328	972	82300	-1691	-1423	-6006
1990	83616	81328	972	82300	-1316	-1016	-7023
1991	83242	81328	972	82300	-942	-667	-7690
1992	82867	81328	972	82300	-567	-369	-8059
1993	82493	74298	5401	79699	-2794	-1666	-9725
1994	82118	74298	5401	79699	-2419	-1323	-11048
1995	81744	74298	5401	79699	-2045	-1026	-12074
1996	81328	74298	5401	79699	-1629	-750	-12824

CONCLUSIONS

The sale of branch lines in North Dakota to local and regional operators will change employment levels and income streams over time. The extent of the impacts will depend on a variety of factors:

1. The miles of line sold,
2. The density of traffic on the lines,
3. The miles of line that will be abandoned if not sold,
4. The size and density of the new railroads formed,
5. Differences in wage rates between railroads.

In this study, the level of branch-line traffic is assumed to remain the same under local and regional railroad ownership. This may not be a realistic assumption. Local and regional carriers may increase rail market share[25]. If this occurs, the projected impacts will be overstated.

In summary, the findings of this study are: (1) when the effects of abandonment are considered, rail employment is expected to increase by 27 jobs if Class I branch lines are sold to local operators, and (2) aggregate railroad income is expected to decrease by roughly 1.2 million dollars per year. These findings are specific to North Dakota and to the lines analyzed. Therefore, the conclusions should not be transferred to other settings, or otherwise taken out of context.

The study has focused solely on the distributional impacts of line sales on rail labor. The objective has been to quantify, as best as possible, the long-run net impacts. But, since labor impacts represent only one element of the overall benefit-cost equation, the projected impacts cannot be considered in isolation. Previous research has shown that local and regional carriers can reduce the long-run cost of handling branch-line traffic by 23 percent or more[26]. In fact, in the Phase I report referenced earlier, the author projects that the net benefits of line sales will significantly exceed the costs.[27]

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[25]In fact, preliminary analysis of grain shipment data for RRV&W elevators indicates that rail traffic may increase by roughly eight percent after a sale.

[26]See: "The Cost and Profitability of Light-Density Branch-Line Operations", UGPTI Staff Paper 85, July, 1987.

[27]See: Tolliver, Denver. The Benefits and Costs of Local and Regional Railroads, UGPTI Publication 78, November 1989.

APPENDIX A

MINIMUM VIABLE TRAFFIC DENSITIES FOR NORTH DAKOTA BRANCH LINES

Forecasting potential abandonments is one of the major tasks involved in the base-case analysis. This task requires an assessment of the long-term viability of North Dakota branch lines. The purpose of this appendix is twofold: (1) to describe a procedure for evaluating future viability, and (2) to present the general results of the forecast.

The forecasting methods entail the concept of a minimum viable traffic density (MVTD) for grain branch lines. The MVTD is the lowest density at which the line will be profitable to the owning Class I carrier in the long-run.

It is impossible to compute detailed revenues and costs in this study for each branch line in the State. Some degree of abstraction is necessary. The MVTD is based on an abstract line which is representative of light-density grain branch lines in North Dakota. This concept is particularly relevant to grain-dependent branch lines-- those lines on which grains, oilseeds, beans, and other field crops constitute the lion's share of the traffic, and without which the line would be promptly abandoned.

BASIC CONCEPTS

Grain Dependent Branch Lines

North Dakota branch lines generally fall into three categories: (1) grain-dependent, (2) coal, and (3) other. Coal branch lines are typically not candidates for abandonment. So, they are analyzed under the base case only if they appear on the current Systems Diagram Map of the carrier. "Other lines" are those which serve major manufacturing, distribution, or other non-agricultural shippers (in addition to grain shippers). These branch lines are relatively scarce, and are evaluated on an individual basis in the study. Most of the lines that are "up for sale" in North Dakota are grain-dependent branch lines.

Grain-dependent branch lines have several common characteristics:

1. Most of the originated traffic consists of grain and other field crops;
2. Most of the terminated traffic consists of fertilizers, chemicals, and other farm inputs;
3. The size of way trains is generally small;
4. The frequency of service is typically low;
5. The average cutsize (the mean number of cars switched per station) is relatively low;
6. Running speeds are typically low (25 MPH or less);
7. Originated traffic is handled almost exclusively in covered hopper cars;
8. Terminated traffic is handled primarily in covered hopper and tank cars, with a limited number of flatcars being used to handle farm machinery and other relatively-indivisible loads;
9. A few major markets receive most of the originated traffic;
10. A few major supply points are the source of most inbound shipments.

This homogeneity makes abstraction both feasible and insightful.

Traffic density on grain branch-lines may be measured in several ways. Traditionally, line density has been measured in gross ton-miles per mile (GTMM). This value includes three separate measures or elements: (1) the net weight of the shipments, (2) the tare weight of the freight cars, and (3) the weight of the locomotives. Sometimes, locomotive gross ton-miles are dropped from the measurement, leaving just the weight of the freight cars and their loads. This latter measure is referred to as the gross-ton miles of cars and contents per mile (GTMCM).

Both GTMM and GTMCM include the empty and loaded tare ton-miles. Although tare ton-miles describe freight-car activity on a line, they are not direct revenue-generating units of output. In fact, they bear only an oblique relationship to viability. So, instead of GTMM or GTMCM, density has been measured in carloads per mile[28].

Grain cars per mile have been computed from UGPTI grain and oilseed shipment statistics. In addition, grain gross ton miles per mile can also be computed from the same data base. The process is described below.

1. The bushels of each commodity are converted to hundred pounds (cwt).
2. The annual cwt shipped are divided by the average load factor for each commodity to determine an equivalent number of covered hopper cars[29].
3. The annual cwt originated at each station on the line is multiplied by the "on-branch" mileage to determine the number of net ton-miles attributable to each station.
4. The number of equivalent covered hopper cars is multiplied by the average tare weight to obtain the annual tare tons per station.
5. The annual tare tons are multiplied by twice the on-branch distance to compute the annual tare ton-miles attributable to each station.
6. The annual net and tare ton-miles are accumulated for each station on the line.
7. The values for each station are summed to obtain the total gross ton-miles of cars and contents (GTMC) on the line.
8. The gross ton-miles of cars and contents are then divided by the miles of road to determine the grain density per mile.

Gross ton-miles are necessary for estimating normalized maintenance of way and other fixed line-segment costs.

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[28]Carloads originated and terminated per mile capture both the revenue and cost sides of the viability equation. Branch-line revenues are usually computed on a carload-basis, and may be only indirectly related to locomotive and freight car tare ton-miles. Branch-line costs are reflected in the CLOTM in two major ways. First, the CLOTM reflect underlying freight car activity levels and related train operating activities. More cars originated or terminated per mile generally means more efficient way train operations. The trains are usually larger and have to cover fewer miles to gather the same number of shipments than on lighter-density lines. Furthermore, switching expenses-- a big ticket item on branch lines-- are a function of the number of cars switched, not the gross or net tons-miles.

[29]The average load factor on North Dakota branch lines is computed from the ND Waybill Sample.

Abstract Branch Lines Characteristics

MVTD's have been computed for the BN and the Soo Line for an abstract branch lines. The branch line is based on average or typical attributes. These values are summarized n Table A1.

TABLE A1 ATTRIBUTES OF ABSTRACT GRAIN BRANCH LINE: Class I Carriers

Attribute	Value
Length	43 Miles
Operating speed	25 MPH
Off-branch way train miles	35 Miles
Off-branch through train miles	800 Miles
Grain revenue per car (single-car)	$2,000
Net liquidation value per mile	$9,443
Normalized maintenance of way per mile	$ 8,800
Property taxes per mile	366
Service Frequency (per week)	1 or 2
Average locomotives per train	1.5
Crew size	4

A NMOW cost of $7,100 per mile and an average property tax of $111 per mile have been used for local and regional carriers.

APPENDIX B

ANALYSIS OF SURVEY RESULTS

A nationwide survey of short-line railroads was undertaken as part of the Rail Services Planning Study. Altogether, over 50 railroads resonded to the survey.

Part of the survey was designed to determine the number of employees within each functional class. The results of the survey were analyzed to determine the variability and central tendencies of the employment data. The railroads were stratified into three size classes based on miles of track:

1. less than 300 miles of track
2. between 300 and 800 miles
3. more than 800 miles of track

The responses were then cross-tabulated against density classes. Three density classes were used in this analysis: (1) less than 20 cars per mile, (2) between 21 and 40 cars per mile, and (3) over 40.

Table B.1 summarizes the survey results for the density and size groups. As the table depicts, there is considerable variation within and between classes. For example, in the regional railroad class (300 to 800 miles of track), for a moderate traffic density of 20 to 40 cars per mile, the predicted mean is 117 employees. But, there are only two carriers in this subgroup. One carrier has 43 employees, the other 190.

Because of the extreme variation within subgroups, the survey means are not useful predictors of employment levels. In light of this fact, the approach which has been taken in this study is to assume that each new regional railroad will require 40 employees, while each local railroad will require 20.

TABLE B.1. NUMBER OF EMPLOYEES BY SIZE AND DENSITY CLASSES

Less Than 300 Miles of Track and Less Than 20 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	16	7.7500000	7.0569115	0.00000000	20.000000	1.7642279
Miles	16	44.4375000	43.5935297	3.00000000	150.000000	10.8983824

300 to 800 Miles of Track and Less Than 20 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	8	20.6250000	18.8826262	0.0000000	51.000000	6.6760165
Miles	8	76.7500000	62.4699928	11.0000000	152.000000	22.0864778

300 to 800 Miles of Track and 20 to 40 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	2	116.500000	103.944697	43.000000	190.000000	73.5000000
Miles	2	633.500000	47.376154	600.000000	667.000000	33.5000000

Over 800 Miles of Track and 20 to 40 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	1	182.000000	.	182.000000	182.000000	.
Miles	1	965.000000	.	965.000000	965.000000	.

Less Than 300 Miles of Track and More Than 40 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	16	13.6875000	13.0216166	0.00000000	45.000000	3.2554042
Miles	16	77.8437500	53.2389953	1.50000000	160.000000	13.3097488

300 to 800 Miles of Track and More Than 40 Cars per Mile

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN
Employees	1	210.000000	.	210.000000	210.000000	.
Miles	1	713.000000	.	713.000000	713.000000	.