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**ECONOMIC  
IMPACT  
ANALYSIS**

**An Extension  
Community  
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# **The Economic Contribution of the Minnesota Valley Regional Rail Authority Rail Line**



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# The Economic Contribution of the Minnesota Valley Regional Rail Authority Rail Line

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This report is the result of collaboration between University of Minnesota Extension and the Minnesota Valley Regional Rail Authority (MVRRA) with funding from the MVRRA, the Minnesota Prairie Line, the Minnesota Valley Regional Rail Coalition, and the MNRail, Inc (the shippers' association). Primary researchers and authors of the report were Brigid Tuck and Neil Linscheid of University of Minnesota Extension. Tim Dolan and David Nelson also provided research assistance. The report was peer reviewed by Bruce Sorte, Visiting Associate Extension Professor and William Lazarus, Professor, in the Department of Applied Economics. The researchers also wish to thank the Minnesota Prairie Line, the Minnesota Valley Regional Rail Authority and the shippers of MNRail, Inc. for their participation in the research.

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## Introduction

“Our country’s future prosperity depends on its having an efficient and well-maintained rail system.” Warren Buffet

The Minnesota Valley Regional Rail Authority (MVRRA) owns 94 miles of Class III rail stretching from Norwood-Young America in the east to Hanley Falls in the west. The rail crosses some of the most productive agricultural land in Minnesota and is primarily used to ship agricultural commodities. Products shipped on the line include: corn, soybeans, ethanol, tallow, butter, fertilizer, canned vegetables, salt, biodiesel, numerous quarried aggregates, and wood products. The Minnesota Prairie Line (MPL), a subsidiary of the Twin Cities and Western Railroad, operates the line.

In 2002, the line underwent restoration. As a result of restoration, trains now move dependably on the line at a rate of 10-miles per hour. Efforts are underway to upgrade the line and bridges to 25-miles per hour operation. Upgrading the rail line to 25-mile per hour operation would allow the MPL to move heavier freight cars on the rail and link more efficiently with the Class I rail lines. Funds are currently being sought to make these upgrades.

The MVRRA is working to collect funds to cover the expected cost of the rail upgrade. As part of this process, the MVRRA commissioned University of Minnesota Extension to answer the question “What is the economic contribution of the Minnesota Valley Regional Rail Authority Rail Line”?

Economic contribution studies quantify the overall economic importance of an activity or project.<sup>1</sup> The MVRRA Rail Line contributes to economic activity via its daily operations and via the activity of the shippers on the line. The Minnesota Prairie Line itself makes purchases with suppliers and provides a number of jobs. The rail also enables or attracts other businesses to the region, which require rail service to ship the goods they produce. This study, therefore, will quantify the economic contribution of the MVRRA Rail Line’s daily operations and the contribution of those businesses for which the MVRRA Rail Line is a critical component of their distribution system.

The primary study area for this report is the counties through which the MVRRA Rail Line passes. They are: Carver, Redwood, Renville, Sibley, and Yellow Medicine counties. The economic contribution to the State of Minnesota will also be presented.

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<sup>1</sup> Economic contribution studies examine the overall economic influence an industry or activity has on an economy. Economic impact studies examine a marginal change – such as the loss or gain of jobs. For further explanation, see the methodology section of this report.

## Highlights of the 2009 Minnesota Valley Regional Rail Authority Rail Line Economic Contribution Study

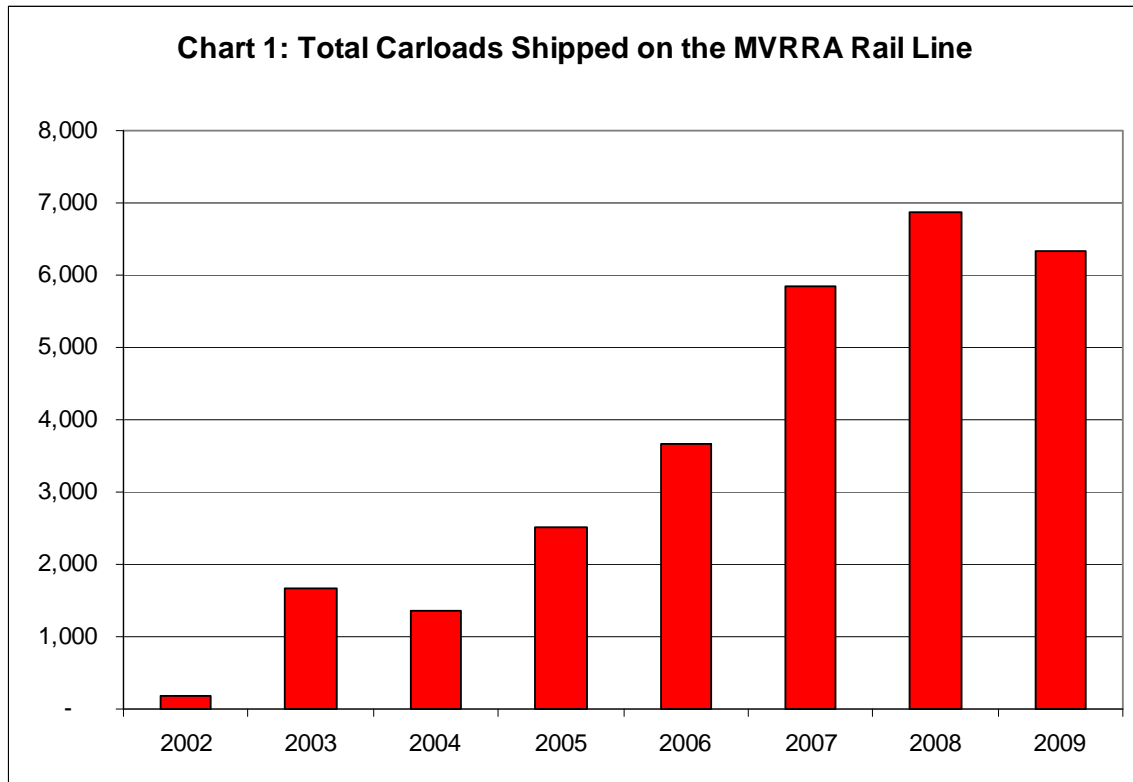
In a 2009 study conducted by University of Minnesota Extension examining the economic contribution of the Minnesota Valley Regional Rail Authority Rail Line, it was found that:

- Operation of the MVRRA Rail Line *contributed* \$3.2 million in output, 21 full- and part-time jobs, and \$1.4 million in labor income in the study area economy in 2008.
- Together, shippers on the railroad produced, transported, and/or wholesaled \$1.3 billion worth of goods and services in 2008.
- Goods shipped on the railroad *contributed* \$302 million in output, 671 full- and part-time jobs, and \$28 million in labor income to the study area economy in 2008.
- Without the railroad, shipper revenues and profits would decline. Shipper revenues would decrease by at least \$4.9 million. A conservative estimate indicates shipper profits would decline by \$3.5 million per year.
- Increased speed on the rail would lead to increased profitability and competitiveness of the current shippers. At least one shipper would consider expanding and/or acquiring another business.



## Background and History

The Minnesota Valley Regional Rail Authority Rail Line is a Class III railroad owned by the Minnesota Valley Regional Rail Authority, a public entity, governed by County Commissioners from Yellow Medicine, Redwood, Renville, Sibley, and Carver counties. The Minnesota Prairie Line operates the rail. The line is currently used to transport corn, soybeans, ethanol, tallow, butter, fertilizer, canned vegetables, salt, biodiesel, quarried aggregates, and wood products. Overall, the number of carloads of freight shipped on the line has been increasing, as shown in Chart 1. One could argue this may be a response to upgrades in the quality of the rail. Carloads shipped were down slightly in 2009, perhaps because of the delayed harvest season and slower markets.



The most succinct and complete summary of the history of this line comes from the Southwest Minnesota Regional Freight Study Final Report 2007:<sup>2</sup>

*“The MPL was originally a Minneapolis and St. Louis Railroad and later a Chicago and North Western Railroad branch from Norwood, just southwest of the Twin Cities, to Hanley Falls, MN. It covers a distance of*

<sup>2</sup> Minnesota Department of Transportation. *Southwest Minnesota Regional Freight Study Final Report*. 2007. <http://www.dot.state.mn.us/ofrw/PDF/D7FinalReport101707.pdf>

*94 miles and cuts across the northern section of District 7. The line is owned by the Minnesota Valley Regional Railroad Authority (MVRRA), a public sub-division of the state which entails five counties where the railroad transpires through. The five counties include Carver, Sibley, Renville, Redwood, and Yellow Medicine Counties. MVRRA acquired the line in 1983 when the Chicago and North Western Railroad decided to abandon the line. In 2000, after several failed attempts by short lines to operate the branch line, MVRRA sought to bring the line back into operation on behalf of the towns and businesses along the line, which included quarries, food processors, feed mills, and several grain elevators. Prior to this time, the railroad line had been embargoed, or blocked from moving traffic for safety and engineering reasons.*

*In 2002, the State funded a \$4.8 million rehabilitation of the line with the MVRRA providing \$600,000 and the MNRail, Inc (the shipper's association) providing another \$600,000. MVRRA also succeeded in securing federally assisted funding of \$1 million from the federal government. This project brought service back to the line at Class I track standards, allowing 10 mile per hour service on the line. Prior to receiving the funding, MVRRA arranged a lease to the Twin Cities and Western Railroad, a regional railroad operator, to operate the line beginning in the fall of 2002. Since the initial rehabilitation in 2002, MVRRA has succeeded in receiving an additional \$1.987 million and \$2.0 million from the Federal Government to continue further upgrades to the line." (Southwest Minnesota Freight Study. Page 101)*

In August 2009, the MVRRA received a \$2.5 million American Recovery and Reinvestment Act (ARRA) grant to continue its rehabilitation activities. The funds will be used for rail, safety, and other track improvements. The funds appropriated by the ARRA do not require repayment.

The investments in the MVRRA Rail Line are all intended to upgrade the line to a 25-mile per hour speed limit and 286,000 pound maximum per car capacity line for the length of the 94 miles. The schedule for upgrading the line has and will continue to move from east to west. The most recent upgrades have been made to track conditions that reach from Norwood Young America to Green Isle. Table 1 contains a list of completed and planned upgrades:

Rehab	Description	Amount
#1 (2005)	<ul style="list-style-type: none"> <li>▪ Replaced 3 miles of 70 pound rail between Morton and Redwood Falls</li> <li>▪ Replaced 4 miles of 80 pound rail between Norwood Young America (milepost 51) to just before the City of Hamburg (milepost 54.5).</li> </ul>	\$1,987,000
#2 (2006)	Replace ties, added ballast and surfacing from Redwood Falls to Hanley Falls.	\$2,000,000
#3 (2007-2008)	Replaced 80 pound rail from just before the City of Hamburg (milepost 54.6) to between Hamburg and Green Isle (milepost 57.6).	\$1,500,000 (State and Federal)
#4 (Planned for 2010)	Replace 80 pound rail from Green Isle (milepost 57.6) to between Arlington and Gaylord.	\$7,000,000 (Federal ARRA and State)

### Current Weight Capacity

The current maximum gross weight capacity for four axle freight cars on the MVRRA Rail Line is 263,000 pounds gross weight per car. A major driving force behind many of the upgrades to the railroad revolves around increasing this maximum gross weight to 286,000 pounds per car. Upgrading the MVRRA Rail Line to a level that allows these larger cars is not an easy task. The Southwest Minnesota Regional Freight study, released in 2007, offers an excellent summary of the potential for this type of upgrade as well as the difficulties. According to that study, changes by main line rail companies to maximum weight limits have been "...a concern for lines such as the Minnesota Prairie Line and the Minnesota Southern, already operating with marginal track and bridge structures and 10-mile per hour speed limits" (Southwest Minnesota Regional Freight Study, Final Report, 2007, pp. 66-67). The same study also discusses the cost that upgrading to higher weight capacities will impose on railroad owners as well as shippers, noting that the required improvements will likely exceed the latent financial ability of those stakeholders. Beyond the costs to upgrading the line to the 286,000 pound per car maximum, the future may require additional upgrades to 315,000 per car maximum weight limits, which would mean significant investments beyond track and roadbed, but also to other basic operating features of the railroad. The future situation related to weight capacity is best summarized by the following from the Southwest Minnesota Freight Study:

*The actual track structure may even survive at very low operating speeds and marginal conditions, but bridges in particular may be prone to catastrophic failure under the bigger cars, effectively embargoing the line*



*and shutting down the entire rail operation for all users on that route or branch. (Southwest Minnesota Regional Freight Study, Final Report, 2007, pp. 67)*

The reasoning behind increasing the maximum weight of rail cars is simple. The ability to transport more goods on each car translates to a decrease in costs to the shippers. Any decreases in costs can lead to a more competitive operating environment for each of the shippers and also allow them to compete in markets that were previously uncompetitive. As other rail lines in the geographic vicinity with better track conditions move to higher weight capacities, the MVRRA Rail Line must also in order to remain competitive.

### Maximum Speed

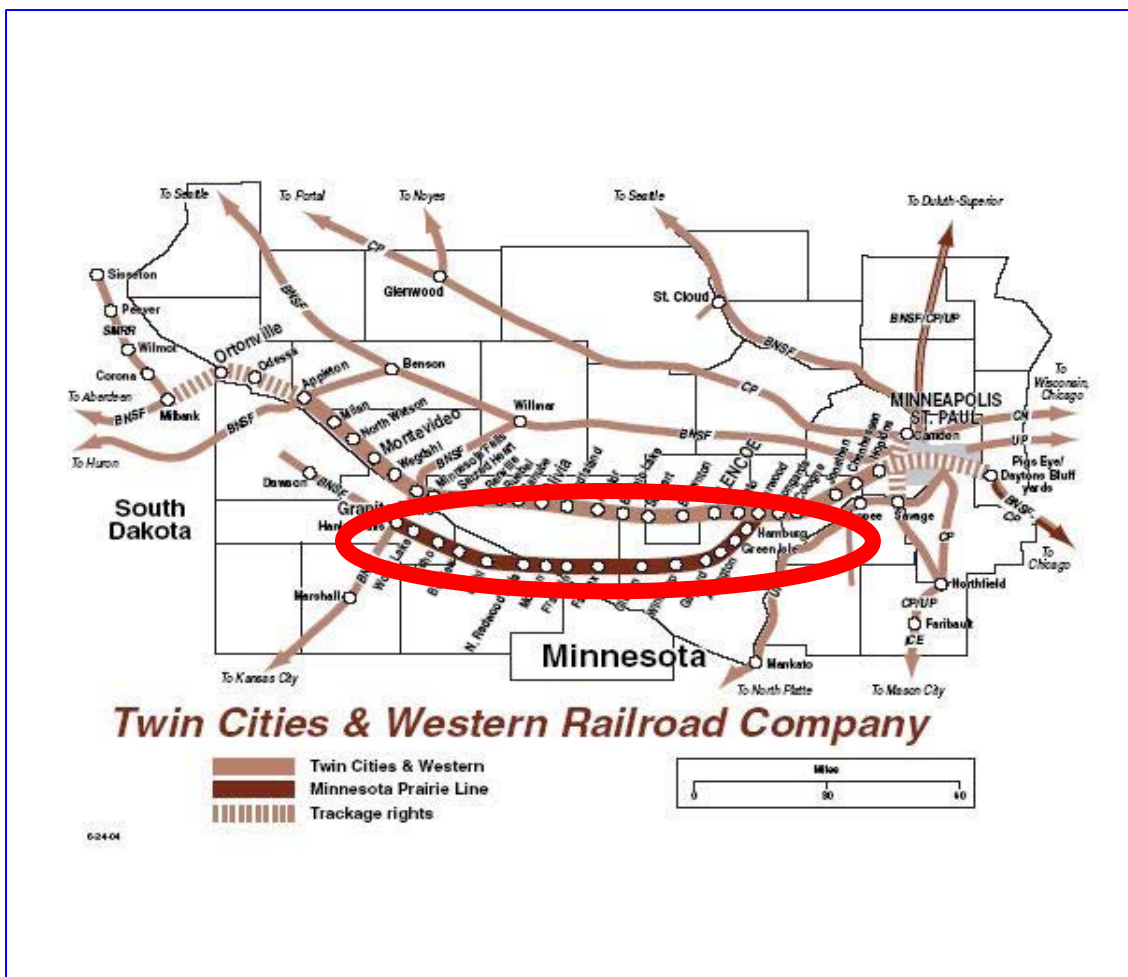
The MVRRA Rail Line has a 10-mile per hour speed limit. When transporting ethanol that limit decreases to 7-miles per hour. These limits are in place for safety purposes. The current condition of the track and roadbed is not reliable enough to allow faster travel. There have been incidents where cars have derailed due to the rail condition. Upgrades to track, roadbed, safety signals and bridges are all needed to improve the maximum speed to 25-mile per hour. The result of faster speed will mean that more cars can be moved in a shorter period of time. It also improves the ability of the operator to respond to engine breakdowns and other issues related to the trains. Increases in the maximum speed of the line will allow shipping on the line to realize greater efficiencies.

### Future Development

Current plans for the future development of the MVRRA Rail Line include upgrades to bridges, track, and safety equipment. These improvements are intended to increase the maximum single car gross weight and increase the line to 25-mile per hour speeds. These increases might make larger unit trains a possibility, however, that is unclear.

Passenger rail has also been mentioned as a possible use for the line should the required upgrades be made. The main use of such a service might be the transportation of people from the Twin Cities to Southwest Minnesota for tourism opportunities such as casinos and natural amenities. The possibilities for this type of future development are unclear, but within the realm of possibility. The impact of passenger rail development will not be addressed in this study.

**Figure 1: Map of Twin Cities and Western Railroad Company, Including the Minnesota Prairie Line**



## Economic Contribution

As explained in the introduction, the economic contribution of a rail line is comprised of two components. First, the day-to-day operation of the railroad creates an impact in the local economy. Second, the local economy benefits from increased efficiencies of using the rail line to move goods. The rail line provides a low cost, efficient means for shippers to move goods, thus increasing the profitability and viability of the shippers.

The following section presents and explains the economic contribution generated by each of these components.

### Rail Operations

Two organizations jointly provide for the operation of this rail line. The Minnesota Valley Regional Rail Authority owns the rail and has a long-term contract with Minnesota Prairie Line Inc. to operate the line. Both organizations have budgets and employees for their activities. Spending by the organizations for goods, services, and labor generates economic activity in the study area. The Minnesota Prairie Line and the Minnesota Valley Regional Rail Authority each provided the researchers with their budgets and employment figures for 2008.

In 2008, rail operators directly spent \$2.5 million to operate the line, as shown in Table 2. This included expenditures for rail maintenance, office operations, and labor. Due to this direct spending, another \$664,000 of output was created in the economy. Thus, rail operations were responsible for \$3.2 million in economic activity. The rail operators, MPL and MVRRA, directly employed 15 individuals. Their spending generated 6 additional jobs in the study area. Finally, the rail operators paid \$1.3 million in labor payments. As a result, total labor income in the study area was increased by \$1.4 million.

	Direct	Indirect	Induced	Total
Output	\$2,521,075	\$91,458	\$572,306	\$3,184,839
Employment	15	1	5	21
Labor Income	\$1,252,721	\$27,288	\$153,754	\$1,433,763

In 2008, no capital improvement projects were undertaken. As highlighted in the Background and History section of this report, capital improvement projects have been completed in many recent years. In years of capital improvement projects, the economic impact of the railroad would be higher due to that spending.

<sup>3</sup> See Methodology section for definition of terms.

## Shippers

Shippers also provide contributions to the local economy. The direct economic contribution of the shippers, related to the rail line, is equal to the value of the goods they ship on the railroad. The shippers on the MVRRA Rail Line use the rail as one of many options to ship goods. Only goods that are shipped on the rail are part of the economic contribution of the railroad. This next section quantifies the economic contribution of the shippers.

To quantify the economic contribution of the shippers, University of Minnesota Extension researchers conducted a survey of the shippers on the MVRRA Rail Line. Fifteen current, past, and potential shippers were interviewed by phone during September and October of 2009. Of the fifteen surveys conducted, twelve shippers had utilized the rail line in the past year. Shippers that reported using the line were asked the following questions:

- What are the total sales of your business?
- How much of your business is dependent on the MVRRA Rail Line?
- What percent of your business would cease if the MVRRA Rail Line didn't exist?
- If the MVRRA Rail Line didn't exist, what percent of your sales would you transport by:
  - Truck?
- What changes would you be willing to make if MVRRA improves the rail line?

The responses to these questions can be used to estimate direct economic activity generated by the shippers as they move goods on the rail line. This direct economic activity can then be used to estimate the indirect and induced impacts.

Shippers on the MVRRA Rail Line reported total sales of nearly \$1.3 billion in 2008. Some shippers reported their entire product was moved on the rail line, while others responded that only a small percent of their goods were shipped via rail. Shippers used the rail to both bring in supplies and inputs for their production processes and to ship out final products. Shippers on the line can be broadly categorized into two groups: manufacturers and wholesalers. The wholesalers on the line are primarily grain elevators involved in the collection and resale of corn and soybeans.

While the shippers produced \$1.3 billion in output in 2008, only a fraction of that output was moved on the MVRRA Rail Line. The economic contribution of the railroad can only include the value of the goods that were dependent on the railroad for shipping. The shippers were asked to indicate the amount of their business that was dependent on the rail. This was used to estimate the value of

goods shipped on the rail. In total, the twelve shippers interviewed reported \$212 million in sales tied to goods shipped on the rail. <sup>4</sup>

Goods moved on the MVRRA Rail Line by the twelve shippers resulted in \$212 million of output by the shippers themselves. This is the direct contribution (see Table 3). As a result of those goods being manufactured or wholesaled in the region, an additional \$90 million in economic activity was generated in the study area. Therefore, the total economic *contribution* of goods being shipped on the rail line was \$302 million in 2008. To produce and move the goods shipped on the rail, the shippers directly employed 161 workers. This resulted in an additional 510 jobs being created in the region. Therefore, shippers contributed 671 jobs in the economy due to shipments on the rail. In order to produce \$212 million in sales, the shippers paid \$10 million in labor income. This resulted in an additional \$18 million in labor income being created, for a total of \$28 million in labor income.

	Direct	Indirect	Induced	Total
Output	\$212,391,874	\$78,638,301	\$11,429,063	\$302,459,238
Employment	161	408	102	671
Labor Income	\$10,203,691	\$14,968,926	\$3,070,094	\$28,242,711

The indirect effects associated with employment and evidenced in Table 3 are higher than typically seen in an economic contribution study. This is due largely to the method that IMPLAN uses to measure employment. Full- and part-time jobs are each measured as one employment unit in IMPLAN. Several of the major shippers on the rail use or handle grain. Grain tends to have a large indirect employment multiplier because each producer that provides grain to the shipper can be counted as one in terms of employment. That producer is not employed full-time providing grain to the elevator or ethanol plant. The producer may sell grain to other buyers, may also produce livestock, and may also have a part-time job off the farm. There is also a seasonality factor in grain handling. The trucking involved in bringing grain from the farm to the elevator is higher during harvest season and may be virtually non-existent in other seasons. The indirect effects may account for the employment of the truckers who truck other products during non-peak season. In fact, the number of indirect jobs generated may even be an underestimate. Because of the methods IMPLAN uses to classify grain elevators, not all the grain farmers are included in this figure.

The above analysis quantifies the economic *contribution* by the shippers for the goods that were shipped on the railroad. An additional question in the shippers'

<sup>4</sup> Both goods shipped in and out via the rail were accounted for in this analysis. Goods shipped out were valued at their sale price. Goods shipped in were considered as an eventual sale for the shipper and were valued at their shipped in price.

<sup>5</sup> See Methodology section for explanation of terms.

survey asked shippers to explain how they would react if the rail failed to exist. Only one shipper indicated that the business would completely cease in the absence of the rail. One additional shipper reported that an important market would become inaccessible and revenues would decline. Together, these businesses would lose \$4.9 million in revenue. The balance of the shippers indicated that they would continue operations and move their shipments to trucking routes. Presumably, they could move their product by truck, ultimately connecting with another rail line. Those shippers all indicated the movement to truck would result in a decline in profits. Conservative estimates from information provided by the shippers and the Minnesota Prairie Line indicate that profits for the twelve current shippers would decline by \$3.5 million per year.

Thus far, the analysis has focused on the current economic contribution of shippers. It has also examined how shippers would react if the line were to cease its existence. There is a third scenario: "How would shippers react if the line were to be upgraded?"

Ten of the twelve shippers indicated that rail improvements would impact their business. One shipper indicated that faster rail would allow for the business to consider acquiring another business and expanding their current business. The balance of the shippers indicated that rail improvements would decrease costs, increase profitability, and make them more competitive.

A rail expansion would arguably have both short-term and long-term effects on the local economy. In the near term, as the survey reveals, shippers would most likely increase the amount of goods they ship on the rail and experience an increase in profits (as a result of decreased costs). The economic impact on the economy from this action is unclear. If the shippers move more product on rail, then the railroad would increase its economic contribution to the area. However, the trucking industry would also see a decline in its activity and profits. A decline in trucking would have consequences for road conditions (and thus maintenance costs) and related gasoline taxes. Several outside economic factors could also affect shippers' reactions to the upgraded rail line. These include changes in the market price for their goods and changes in the cost to ship via rail versus via truck. These uncertainties make predictions of the short-term economic effect difficult.

In the longer term, an upgraded rail line could affect the local economy in two ways. First, higher profits to the shippers over an extended time period could lead to greater financial stability among the shippers. This could lead to future expansions of business operations. Further, an upgraded rail could lead to new shippers being added onto the line. There is even a proposal for passenger rail, both commuter and tourist, to be added in the future.

The MVRRA has a vested interest in examining both the potential short-term and long-term changes an upgraded rail would provide. In general, economic theory

would find that the short-term changes would not have much of an economic impact, given that gains for the rail industry and shippers would likely be wholly offset by losses to the trucking industry and to the shippers' markets. Long-term effects could be more substantial. In order to properly quantify the long-term effects, a full feasibility study would need to be conducted.

### Statewide Economic Contribution

The analysis to this point has focused on the economic contribution of the Minnesota Valley Regional Rail Authority Rail Line to the five counties traversed by the rail. The MVRRA Rail Line also contributes to economic activity in Minnesota. The following section highlights the economic contribution of the MVRRA Rail Line in Minnesota.

As shown in Table 4, the MVRRA Rail Line's daily operations directly contributed \$2.5 million in economic activity to the State of Minnesota in 2008. This level of output was associated with 15 jobs and \$1.3 million in labor income. In total, the economic contribution of the daily operations of the rail to Minnesota was \$3.5 million in output, 24 full- and part-time jobs and \$1.6 million in labor income in 2008.

<b>Table 4: Economic Contribution of Minnesota Valley Regional Rail Authority Rail Line Operations to the Minnesota State Economy<sup>6</sup></b>				
	Direct	Indirect	Induced	Total
Output	\$2,521,075	\$122,017	\$902,182	\$3,545,274
Employment	15	1	8	24
Labor Income	\$1,252,721	\$42,275	\$286,201	\$1,581,197

As shown in Table 5, Shippers on the MVRRA Rail Line shipped \$212 million dollars of goods in 2008. In order to accomplish this, they hired 161 full- and part-time workers and paid \$10.2 million in labor income. As a result of this activity, the shippers contributed a total of \$359 million in output, 1,031 full- and part-time jobs, and \$45.6 million in labor income to Minnesota in 2008.

<b>Table 5: Economic Contribution of Minnesota Valley Regional Rail Authority Rail Line Shippers to the Minnesota State Economy<sup>7</sup></b>				
	Direct	Indirect	Induced	Total
Output	\$212,391,874	\$120,266,350	\$26,286,311	\$358,944,535
Employment	161	645	225	1,031
Labor Income	\$10,203,691	\$27,072,848	\$8,337,901	\$45,614,440

<sup>6</sup> See Methodology section for definition of terms.

<sup>7</sup> See Methodology section for explanation of terms.

## Methodology

This study was completed using economic contribution analysis methodology. Economic contribution analysis quantifies the amount of economic activity generated by a project or industry. An example of an economic contribution study would be “The Economic Contribution of Grape Growers and Wineries to the State of Minnesota”.<sup>8</sup> Economic contribution studies differ slightly from the methodological viewpoint of economic impact studies. Economic impact studies look at marginal changes that occur due to a change in the economy. In economic impact studies a comparison is being made between two situations and the marginal difference is being quantified. An example here would be “The Economic Impact of Railroad Abandonment: Carrington-to-Turtle Lake Rail Line”.<sup>9</sup> This study, rather than looking at how much the railroad contributes to the local economy, quantifies what would happen in the local economy if the rail was abandoned.

Special economic models, called input-output models, have been developed to conduct economic contribution analysis. There are several input-output models available. One particular input-output model is called IMPLAN (IMPact Analysis for PLANning, Minnesota IMPLAN Group). IMPLAN is widely used by economists for economic contribution analysis because it: can measure output and employment impacts; is available on a county-by-county basis; and it is flexible for the user. Due to these reasons, the IMPLAN model was used for this analysis. IMPLAN has some limitations and qualifications, but it is one of the best tools available to economists for input-output modeling. Understanding the IMPLAN tool, its definitions, and its limitations will help ensure the best results from the model.

One of the most critical aspects of understanding contribution analysis is the distinction between the “local” and “non-local” economy. The local economy is defined as part of the model building process. The local economy, also known as the study area, can be defined by either the group requesting the study or by the analyst. Typically, the study area is a county or a group of counties that share economic linkages.

There are a few definitions that are essential to understand in order to properly read the results of an IMPLAN analysis. The terms and their definitions are provided below.

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<sup>8</sup> Gartner, William and Brigid Tuck. *The Economic Contribution of Grape Growers and Wineries to the State of Minnesota*. Department of Applied Economics. University of Minnesota. August 2008.

<sup>9</sup> Honeyman, Joel, Dean Bangsund, and F. Larry Leistritz. *Economic Impact of Railroad Abandonment: Carrington-to-Turtle Lake Rail Line*. Department of Agricultural Economics and The Upper Great Plains Transportation Institute. North Dakota State University. August 1996.



### Output

Output is measured in dollars and is equivalent to total sales. The output measure can include significant double counting. For example, think of corn. The value of the corn is counted when it is sold to the mill, again when it is sold to the dairy farmer, again as part of the price of fluid milk, and then yet again when it is sold as cheese. The value of the corn is built into the price of each of these items and then the sales of each of these items are added up to get total sales (or output).

### Employment

Employment includes full- and part-time workers and is measured in annual average jobs. Total wage and salaried employees as well as the self-employed are included in employment estimates in IMPLAN. Because employment is measured in jobs and not in dollar values, it tends to be a very stable metric.

### Labor Income

Labor income measures the value that is added to the product by the labor component. For example, in the corn example, when the corn is sold, a certain percentage of the sale goes to the farmer for his/her labor. Then when the mill sells the corn as feed to the dairy farmer it includes in the price some markup for its labor costs. When the dairy farmer sells the milk to the cheese manufacturer, he/she includes a value for his/her labor. These individual value increments for labor can be measured. This is labor income. Labor income does not include double counting.

### Direct Impact

The direct impact is equivalent to the initial activity in the economy. In this study, it will be spending by the railroad or by the shippers.

### Indirect Impact

The indirect impact is the summation of changes in the local economy that occur due to **spending for inputs** (goods and services) by the industry or industries directly impacted. For instance, if employment in a manufacturing plant increases by 100 jobs, this implies a corresponding increase in output by the plant. As the plant increases output, it must also purchase more of its inputs, such as electricity, steel, and equipment. As it increases its purchase of these items, its suppliers must also increase production, and so forth. As these ripples move through the economy, they can be captured and measured. Ripples related to the purchase of goods and services are indirect impacts.

### Induced Impact

The induced impact is the summation of changes in the local economy that occur due to **spending by labor** in the industry or industries directly impacted. For instance, if employment in a manufacturing plant increases by 100 jobs, the new employees will have more money to spend to purchase housing, buy groceries, go out to dinner and so forth. As they spend their new income, more activity

occurs in the local economy. This can be quantified and is called the induced impact.

Total Impact

The total impact is the summation of the direct, indirect and induced impacts.

## **Conclusion**

The Minnesota Valley Regional Rail Authority Rail Line is 94 miles of rail stretching from Norwood-Young America to Hanley Falls. Products currently moved on the rail are primarily related to agriculture and manufacturing. The current maximum speed on the railroad is 10 miles per hour. Efforts are being made to upgrade the track to allow for 25 mile per hour operation. These upgrades would allow both the MPL itself and the shippers located on the line to be more efficient and competitive.

Rail operations generated \$3.2 million in output in the study area economy in 2008. Rail operations also created 21 full- or part-time jobs and \$1.4 million in labor income. If the rail were to cease to exist, output, employment, and labor income in the study area economy would decline by these amounts.

Shippers who rely on the railroad contributed \$302 million in output (sales) to the study area economy from goods shipped on the rail line in 2008. The creation of this output led to 671 full- or part-time jobs and \$28 million in labor income in the economy. If the rail were to cease to exist, these goods may continue to be produced, but at a lower profit margin. The resulting lower profit margins could jeopardize the long-term viability of those businesses or affect their decisions related to expansion.

Estimates indicate that the loss of the rail line would lead to a drop in revenues of \$4.9 million and a decline in profits of at least \$3.5 million per year in the study area. Further, upgrades to the rail would allow for increased profitability of the shippers.

## Appendix 1: Notes from Facilitated Discussion

Minnesota Valley Regional Rail Authority  
Economic Contribution of the Minnesota Valley Regional Rail Authority Rail Line  
Facilitated Discussion  
December 16, 2009

Surprising thoughts or facts from the Analysis:

- 510 indirect/induced employment impact from the shipments on the rail, that's a large number!
- On the other hand, it is estimated that approximately 3,000 farmers contribute commodities.
- \$359 million in total state economic impact of shipments on rail at this time. Just think where this could go in the future?
- What if.....
  - Aggregate, granite nice, and construction recovered....post recession
  - Kaolin extraction and paper grade refining developed
  - Passenger rail for tourism, history education, and employment commuting was established \*
  - Existing shippers doubled their activity or diversified into other products
  - Twice as many NEW shippers (at the same-average volume) located on the line
  - ??????

\* Loran Kaardal, Chairman of the Tatanka Bluffs Corridor, provided the following overview of the Vintage Passenger Line and the History Learning Center to be located on the MVRRA line:

- 400 person resident-accommodation for the Minnesota History Learning Center at Morton. The Learning Center is a collaborative project of the University of Minnesota – Bell Museum and the Minnesota Historical Society
- Nine month commitment for adult-student and teacher passenger requirement
- Three summer months of tourism visitor passengers for scenic trails, history trails, Jackpot Junction entertainment, and Minnesota Valley vacations
- Year-round commuter passengers for employment positions BOTH from rural to metro and vice-versa
- Year-round “Green train” opportunity for all Learning Center students, visitors, and commuters to be auto-void and 100% public transit for transportation needs.