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**Evaluation of Shipper  
Requirements and Rail  
Service for Northern  
Wisconsin and the Upper  
Peninsula of Michigan**

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Wisconsin's Public Liberal Arts College

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## 1. Research Team

**Research Team:** The University of Wisconsin-Superior's Transportation & Logistics Research Center (T&L Center) functioned as the lead University in the study. The T&L Center has engaged in shipper surveys, rail, truck and marine freight flow analysis, and transportation education at many levels. The study was greatly enhanced by the formation of a partnership with Michigan Technological University and Prime Focus LLP. The active participation and support of the railroad industry and relevant government agencies in the study was essential. The research project had an oversight committee composed of regional representatives from the regions' business community, carriers, and relevant government agencies.

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### **3. Executive Summary: Evaluation of Shipper Requirements and Rail Service for Northern Wisconsin and the Upper Peninsula of Michigan**

#### **3.1. Stakeholder Meeting and Shipper Interview - Section 5 - Key Findings**

Stakeholder meetings were held throughout the region and individual representative shippers interviewed. The stakeholder meetings included railroad representatives, rail shippers, non-rail shippers, and government agencies. During this process, non-rail shippers were introduced to the option of rail services and the problems facing (potential) rail shippers were highlighted from both the shippers' and railroads' perspective. Lack of adequate services in Northeast Wisconsin and the Upper Peninsula is identified as a serious problem. The Class 1 railroad stated that they cannot economically provide the same level of service that the prior regional carrier made available. Rail car availability and rail car ownership were a primary issue in discussions. Shippers felt that rates had been raised significantly with little justification and that fuel surcharges did not correspond to actual price increases in fuel.

The Class 1 railroad wants to maintain and provide quality service to the region and is willing to work with shippers. Because of the rail issues in the region shippers suggested exploring a model of having Shortlines operating in the area, which may demand legislative actions. Among many findings, participants feel a need to enhance the communication between the stakeholders.

#### **3.2. Regional Shippers' Survey - Section 6 Key Findings**

An analysis of Reebie data was done on truck and rail shipments to and from the region. However, the Reebie data does not address supply chain issues such as who controls transportation mode selection or economic order quantities so a decision was made to survey regional shippers. The data from the survey allowed a better assessment of cargo that has the potential to shift to rail.

Rail shipments in the region are primarily dominated by bulk raw materials such as wood, paper, and pulp. These low value goods depend on rail transportation. However, only 50% of them are shipped currently by rail. This split of mode confirms to a degree the shippers concerns about rail service availability and quality. However, shippers also split shipments between modes because of a lack of rail access, order quantity, receiver requirements, and maintaining price and service competition between modes. In addition, the origin of inbound traffic and destination of outbound traffic are analyzed based on the survey results.

#### **3.3. Evaluation of the Capabilities of the Current Regional Rail System - Section 7 - Key Findings**

A preliminary analysis indicates that the current rail service network in the area of study has sufficient line and terminal capacity to satisfy the regional needs of shippers. However, a significant portion of the trackage has a weight limit of 263,000 pounds and the region may be at an economic disadvantage if the average rail car size continues to grow to 286,000 or even 315,000 pounds in the future. The region's need for particular car types such as log cars, creates problems unless the cars have a high utilization rate by shippers. Literature of other relevant key features is tabled for reference in the Rail User Took Kit.

### **3.4. Shippers' Tool Kit - Section 8 - Key Findings**

Many regional shippers and local and regional economic development agencies are not familiar with the use and facilitation of rail services. A Rail User Tool Kit was assembled to provide prospective users with a reference document. The Tool Kit includes a 'how to get started' section which describes rail economics, rail carriers, equipment, and contact information for a variety of transportation questions and a case study of successful rail usage by a new shipper. A resource section provides contacts for trade associations, trade publications, and economic development contacts. The Tool Kit is available in PDF format online at <http://www2.uwsuper.edu/trans/> under the 'Rail Study 2005' link.

### **3.5. A Rail Economic Development Model - Section 9 - Key Findings**

One of the primary goals of this study was to assess the means to increase rail usage in the region. An evaluation was made of a Geographic Information System (GIS) which also incorporates the regional economic activities. The proposed Rail GIS Model could serve as a center point of information, but could also capture the dynamics between various key elements of transportation and economic activities. Particularly, it could be used to analyze the potential of switching from trucking to railroad in various (hypothetical) portfolios. In this section, a research team field surveyed rail GIS maps for the Ashland Division of the CN rail network. Key attributes of the rail services and elementary economic activities were identified for inclusion and a prototype of Rail GIS interface was developed. The prototype has potential to mirror a highway GIS system but full implementation will require thorough analysis of the sustainability of such system and active participation and funding by the railroads and government agencies. The initial assessment is that the cost to maintain such a system may outweigh benefits unless all parties use it extensively. A full cost-benefit analysis should be done before spending additional funds in this area.

### **3.6. General Conclusions and Recommendations**

The rail study unveiled significant issues in utilizing the rail services in the interest region. Identified through stakeholder forums and shipper surveys, the typical problems include inadequacy of rail services in terms of both quantity and quality, lack of adequate communication of current and future plans between shippers and rail carriers, lack of in-time modal planning of the transportation system and lack of education about rail usage.

#### **Recommendations**

For all recommendations a single party such as Rail Carriers, Shippers, or Government Agencies will take the lead, but these actions will have the greatest chance of success with proactive collaboration. The CN railroad was active and supportive in the study process and is committed to serving the region with an economically sustainable model. Eight recommendations are proposed and discussed in detail in section 10.

1. Improve communications of long and short term plans for carriers and shippers
2. Rail carriers need to expand their outreach to seek customer input
3. Expand available tools to support supply chain management
4. Support the interaction of shippers and rail carriers with regional communities
5. Formally recognize the external costs of transportation
6. Explore the feasibility of adding transload centers

7. Consider Shortline or Regional Railroad Operator Options
8. Promote economic development by enhancing information about rail options

## **4. Introduction and Methodology**

### **4.1. Background**

In September of 2004 the Transportation & Logistics Research Center at the University of Wisconsin-Superior was asked by representatives of the Wisconsin Economic Development Agency (WEDA) to propose a study of how rail usage and service could be improved in the region. A research proposal was submitted in October 2004. With the support of Congressman David Obey and WEDA members, federal funds were appropriated for the study which started in May 2005. Additional support was provided by Wisconsin and Michigan Departments of Transportation (WisDOT and MDOT), CN Railroad, WEDA, University of Wisconsin-Superior, Michigan Technological University, and Wisconsin University Extension Offices. The geographic region designated for the study included all of Northern Wisconsin north of Highway 29 and the Upper Peninsula of Michigan (NW/UP); a map of the study area is shown in **Figure 2 of Appendix 11.5**. This study region has a history of rail transportation dependence, a low population density, a largely natural resource based economy, and limited highway access. The regions of these two states are closely linked economically and by a common rail network. The northwest corner of Wisconsin, where the City of Superior in Douglas County is located was not part of the study. The reasons for excluding this area was: 1) Four Class 1 railroads provide services, Superior's principal rail routes are linked through CN networks to the rest of the northern part of the state, 2) Superior has a very high volume of rail traffic compared to the rest of the region and 3) rail traffic patterns are unlike the rest of the study region.

The factors that precipitated this study are not unique to the region. As rail carrier capacity becomes more constrained in certain areas due to growing demand, a national debate is looming as small to medium size communities are feeling squeezed out. These discussions nationwide provide perspective on why decisions about transportation operation in other regions impact NW/UP.

### **Railroads in Transition**

In the golden age of railroad construction from 1880-1920 when growth was expected and the service unchallenged by trucking, rail companies built redundancy into the network – double track, parallel routes, and intensively developed single track with sidings as frequent as every six miles. The existing rail network in Northern Wisconsin and the Upper Peninsula of Michigan was largely built during this time period and reflects the use of the railroad network for the numerous, but small by today's standards, freight trains of the late 1800s and early 1900s.

The development of the highway systems in the 1950s and 60s resulted in significant diversions of high value, high-revenue freight from the railroads. In a free market, resources could be reallocated over time in order to adjust to changes, but in the regulated railroad industry, the ability of firms to exit net-loss functions was greatly impeded by the political system (Conant, 2004). During the years of deterioration, railroads' share of intercity freight ton-miles decreased from 75% in 1920s to 35% in 1978 (AAR, 2005). As a result, in the early 1980s the railroad networks had an excess of capacity in track and personnel, which was true for the region in the study as well. After the Staggers Act removed most of the economic regulation of railroads in 1980, they increased productivity by eliminating redundancy in personnel and administration.

Mergers reduced the number of Class 1 railroads from 40 in 1975 to 7 in 2006. As carriers merged, competitive access for many users disappeared. Underutilized lines were sold, often to Shortline railroads, but sometimes even to the local communities or towns, who seek for heavier forms of industry or agriculture and consider corridor preservation of utmost importance. Other rail lines which had little use were abandoned or banked in rail preservation programs for potential future use.

Concurrently, the railroads were gaining greater efficiency from new improved diesel locomotives, running longer trains, developing automated systems and central traffic control. As a result more freight is carried by fewer freight trains. A modern locomotive has triple the pulling power of its 1950's predecessor. Today, one unit grain train equals four grain trains used during the 1950's. Rail cars have increased capacity with new 315,000 pound rail cars carrying almost twice the tonnage of the average rail car in the 1940s. Ton-miles carried by the railroads have increased by 64% since 1980 and ton-miles transported per employee have grown 500% from 2 million ton-miles to 10 million ton-miles (Richards, 2005).

The cost savings during the past 20 years have largely been passed on to the shippers so that the railroads could compete with trucking companies. Until recently, rail freight rates have been cut by up to 2% per year on average since 1980. Shippers have enjoyed a competitive transportation environment created by the Staggers Act and a highway financing system that provides infrastructure at a relatively low cost for the trucking industry. The Surface Transportation Board describes this development in their statement: "The fact that neither railroads nor their customers have captured the majority of these savings suggests that rail customers – because they tend to operate in highly competitive markets for widely available commodities such as coal, grain, or chemicals – have been forced to pass along the bulk of these saving to their own customers. Thus the ultimate beneficiaries of increases in railroad productivity appear to have been consumers." (Conant, 2004).

The Congressional Budget Office (CBO) compared a number of analysis on railroad rates (prices) that, when adjusted for inflation show a downward trend from 1980 to 2003 (CBO, 2006). The increased demand for transportation coupled with capacity and cost issues in trucking create a situation where railroads can raise rates. Rates can be raised to cover rising costs, provide funds for infrastructure improvements, and increase profitability. A negative side effect of the rising rates may be the loss or customers who cannot afford the increased price of rail service. The CBO also found that the railroads return on equity has been less than manufacturing. Standard business practice would indicate that the railroads will channel funds to more productive and profitable areas of the business and spin off less profitable lines.

As a train's unit productivity increased, the network's flexibility to process trains appears to have decreased as parallel track, sidings, and spurs were abandoned. Network capacity is a function of many other factors such as axle weight, block signaling, electronic control, as well as terminal capacities.

The Association of State Highway and Transportation Officials (AASHTO), along with government agencies, predict that trade will double in the next 20 years or less (AASHTO, 2002). The rail productivity gains of the past two decades cannot continue at the same rate because of limits on rail track weight capacity, overhead clearance, and functional train lengths. On some rail networks the system is currently at or near capacity

and railroads must make considerable capital expenditures to improve and increase infrastructure. In order to handle the future demand, the U.S. rail system needs to upgrade and expand.

During the past 20 years railroad's capital expenditures have been in the billions of dollars but have provided only incremental improvements, because the vast majority of the funding, approximately 85%, goes to the maintenance and upgrading of existing infrastructure and equipment, not for new rail infrastructure (Ritchie, 2004). Recently, railroads have increased the level of investment to address the problem and on March 16, 2006, the Association of American Railroads (AAR) announced that U.S. Class 1 freight railroads will spend more than \$8 billion in 2006 laying new tracks, buying new equipment, and improving infrastructure. The industry's capital expenditure budget is 21% greater than last year's and shatters the previous record for infrastructure spending in one year. Even this level of increased expenditure is not expected to provide sufficient improvement to meet the demand. It also does little to address the challenges faced by the Shortline railroads, which are often operating on the old and poorly maintained infrastructure obtained from Class 1 railroads. Their capital funds are extremely limited and do not provide sufficient resources to upgrade their 50,000 miles of track infrastructure to accommodate the new and heavier cars they have interchanged with Class 1 carriers. Recently, the federal government has stepped up to assist with a new law that provides Shortlines with a tax credit of 50% for eligible track improvement expenditures up to \$3,500 per mile (Timmons, 2005).

According to a recent report entitled "Transportation - Invest in America: Freight - Rail Bottom Line Report," prepared by the Association of State Highway and Transportation Officials (AASHTO, 2002):

- 40% of intercity freight ton-miles are handled by rail
- Rail freight moves over 600 miles on an average trip, while the average truck trip is about 245 miles
- 92 billion truck-vehicle miles of travel would be added to the nation's highway system without our rail freight system
- This additional truck traffic would cost federal, state, and local transportation agencies an additional \$64 billion over the next 20 years
- If all rail freight were shifted to trucks, it would cost shippers an additional \$69 billion per year - or \$1.4 trillion over the next 20 years
- Rail freight is more fuel-efficient and generates less air pollution per ton-mile than trucking
- The rail industry today is stable, productive and competitive, with enough revenue and profit to operate, but not enough to replenish its infrastructure quickly or grow rapidly

A report "How America's Freight Railroads Can Relieve Traffic Congestion" (Cox, 2005), investigates the potential of freight rail to reduce gridlock by taking trucks off the road. They conclude that if by 2025, 25% of truck traffic moved by freight trains, the following benefits could be achieved:

- By 2025, the average person traveling during peak periods would save 44 hours per year (equal to more than to five 8-hour days) during peak travel periods as the reduced truck volume eases traffic congestion. In the most congested urban areas, this delay savings could exceed 100 annual hours. The overall hours of delay would be 3.2 billion hours less in 2025.
- The savings in travel time would also mean lower costs (congestion costs and fuel cost savings) for the economy. It is estimated that the annual economic cost per household during peak periods would be \$620 in 2025. This represents a savings in major urban areas of \$44 billion in 2025.
- Fuel consumption would be reduced as a result of less truck traffic and faster automobile speeds on the less congested roadways. It is estimated that more than 17 billion gallons of gasoline and diesel fuel would be saved in 2025. This is more than 250 gallons of fuel annually per commuter.
- Fewer trucks and higher average vehicle speeds would improve air quality. The transfer of freight volumes from truck to rail is estimated to result in a reduction of nearly 900,000 tons of air pollution in 2025 (Carbon Monoxide, Volatile Organic Compounds, and Nitrogen Oxide).

Several factors in rail expansion adversely impact regions with marginal rail traffic. The return on equity for railroads averaged 7% in 2004. The rail industry has lagged behind other industries increasing the cost of borrowing in the competitive marketplace (Mercer, 2005). This forces railroads to concentrate their available capital on corridors that will generate the more profitable return on investment. With the recent growth trend of international intermodal traffic and the growth of unit trains moving out of Wyoming (Powder River Coal), investment has been focused on only a few routes and limited capital for infrastructure investment will go to those corridors of high revenue freight, high speed trains, high volume unit trains, with recognized growth potential, balanced loads and a large customer base. As Burlington Northern Santa Fe (BNSF) President and CEO Matthew Rose recently stated in a congressional hearing: “70 percent of investments go into 40 percent of our lines. We want to be able to put long-term investments in sustainable lines.” (Gallagher, 2006)

Concentrating in fewer corridors with large volumes is shifting railroads back toward their earlier existence, when they operated on few major corridors instead of the spider web of rail lines. An editorial in *Trains* magazine (Hemphill, 2004) explains reasons for this trend by comparing United Parcel Service (UPS) to railroading. UPS is willing to accept losing money on some of its routes, because it’s a network business and it can tolerate money-losing packages because it spreads the loss over the 1.2 million packages it delivers every day. Railroading can not be a network business that serves marginal revenue sources, because they ship large quantities to a handful of locations for thousands of dollars and own and maintain their own extremely expensive fixed in place right-of-way while UPS uses virtually free government-owned right-of-way. Railroads became wide spread networks by accident, when there was no real competition from other modes, and strong rail lines could support low income rail lines. As the current rail network continues consolidating, big shippers will gain and small ones will either merge with big shippers, relocate to key routes, or quit shipping by rail. Railroading is returning to its classic and most profitable network of point-to-point service on major corridors (Hemphill, 2004).

Unfortunately, the region covered in this study, Northeast Wisconsin and the Upper Peninsula of Michigan (NW/UP), currently has few of those desirable attributes of high revenue freight, high speed trains, high volume of goods, recognized growth potential, directional balances of loads, and a large customer base. In addition, the area is not located along the major domestic transportation corridors, which leaves some branch lines susceptible to discontinuation of service. The geography, economics, and service needs of this region are not well aligned with the Class 1 railroads' new business models. The Class 1 carriers today prefer to build large trains which move end to end across their networks, reducing switching or special handling to its possible minimum. Rail lanes with less density face service declines and an increasing possibility of freight diversion to other modes. However, the possibility of shifting rail freight to truck has several current and future barriers to overcome.

### **Truck Companies in Transition**

The trucking industry has experienced continuous growth since the 1950s by capturing rail traffic, including most of the new high value traffic in the United States. The growth has occurred because of several factors: the growth and improvements in the interstate highway system, the availability of truck capacity along with the trucks ability to economically haul small loads, provide door to door service, flexibility, and high velocity. These factors have been enhanced by a customer focused management style predominant in the trucking industry.

The desirable attributes of trucking that appeal to shippers come at a higher freight rate than rail. Up until 2004 the higher freight rates of trucks were offset by higher reliability and lower inventory costs for the shipper. Since 2004 the escalating costs of labor, fuel, congestion, taxes, regulations, and insurance have impacted truckers to a higher degree and at a more rapid pace than these costs have impacted the rail industry. Trucking companies have had difficulties in attracting sufficient numbers of truck drivers and recently "truck driver" was included by U.S. News & World Report in their list for "hot jobs" in the current market (Kingsbury, 2006). In late 2004 the dry van trucking industry experienced demand exceeding supply of drivers.

Trucking expenses are predicted to continue to rise at a higher rate than rail cost resulting in the total cost differential increasing between the modes, provided the rail industry can improve the velocity and reliability of their networks. The increasing costs of operations have compelled the trucking industry to seek out the highest freight revenue (usually the highest value) cargo and/or large shipment volumes moving in well defined networks with driver friendly, no touch, freight handling characteristics. This market movement has opened new opportunities for the high performance segments of the rail industry to recapture freight from the trucking industry. Enormous increases in intermodal transportation have been another source for volume increases and have started a shift in the relationship between trucking and rail industry from being rivals to becoming partners. In a recent article, Bill Graves, the CEO and President of American Trucking Association (ATA) stated: "Given the challenges the railroad industry faces as well, there is a great opportunity for us to be partners like we have never been before or never anticipated we could be before." (Carey, 2006).

Responses by state governments to the rising costs of trucking and decline in rail service has been to actively consider raising Gross Vehicle Weight Limits for the trucking

industry, especially for wood and agricultural products. Minnesota is actively considering a 90,000 pound Gross Vehicle Weight (GVW), and on the 22<sup>nd</sup> of March 2006 Wisconsin signed into law a 98,000 pound GVW for certain products. Wisconsin AB 678 covers raw forest products trucks with weights up to 98,000 pounds on non-interstate highways. ATA is also calling for increasing the truck weight limit to 97,000 pounds (Carey, 2006). Trucking companies who elect to use the higher GVW will be confined to designated routes, and will have to purchase new five axle equipment. This equipment and the heavier load will increase fuel consumption and possibly increase maintenance costs on highways. However, capacity will be increased and on certain routes truckers may take freight market share from rail. Shortline railroads are particularly vulnerable to this diversion of short haul business.

Nationwide, shippers expect truckload (TL) capacity to increase compared to the 2004-2005 shipping season and price increases to be about 2.8%. The nationwide survey also indicated that shippers were diverting freight from rail to truck due to poor service or coverage by railroads (Bear-Sterns, 2006).

#### **4.2. Northern Wisconsin/Upper Peninsula of Michigan Rail Issues**

In the 1980s, Wisconsin Central Railroad (WC) linked almost all the railroads in the area of study into one network. WC operated as a regional railroad with an average length-of-haul of 300 miles or less. In 2001 WC was purchased by the Canadian National Railway (CN), which is a Class 1 railroad. A history of WC and its merger with CN can be found at: [www.cn.ca/about/company\\_information/history/en\\_AboutWisconsinCentral.shtml](http://www.cn.ca/about/company_information/history/en_AboutWisconsinCentral.shtml)

The business model of a Class 1 railroad is different than a regional railroad. Higher labor, administrative and infrastructure costs drive Class 1 railroads to seek economies of scale, increased productivity levels, and a return on investment (ROI) that is sufficient to attract capital. A Class 1 railroad may need a higher return on investment to sustain operations than a regional railroad requires because of the regional railroads lower average operating costs. Average lengths of haul for CN are over 600 miles or twice the distance WC averaged. Train lengths (a measure of productivity) are longer for a Class 1 and this requires a high volume of traffic to provide frequent service. Because of the increased length of haul and financial demands, load balance is vital to a Class 1. One-way traffic does not maximize either freight revenues or asset utilization. Subdivisions that are not on the mainline often cause a circuitry problem because assets such as cars and locomotives may be underperforming if there is not round trip traffic and high volume. In order for a railroad to maintain velocity, track conditions have to allow running higher capacity rail cars at higher speeds. Light capacity track, tight geometry for curves, and poor track or rail bed conditions reduce the speeds at which a train can travel.

The NW/UP region has comparatively low volume rail traffic, significant portions of one-way traffic and has several subdivisions off the mainline with light gauge track and rail lines not capable of sustaining a high speed. Shortly after the 2001 merger CN started to apply the Class 1 business model to the NW/UP region. The goal of CN was to increase productivity, improve asset utilization, lower operating costs, and improve the rate of return on capital. When Class 1 railroad have acquired Shortline networks there are frequently cases where costs for services such as scaling are incurred but not charged back to the customer. The activity based cost accounting systems in use by Class 1 railroads capture these costs and charge them back to the shippers increasing over all costs to the shippers. Following standard railroad business practices, CN raised rates to cover higher operating

costs, decreased frequency of service to build longer trains, reduced the number of stops to increase velocity, and centralized customer support and services. The impacts to shippers were higher freight costs, longer shipping times, and a feeling of deteriorating relationship with their rail carrier. In such a business climate shippers will likely switch to another mode such as trucking or marine if they are available and can meet the supply chain needs of the shipper.

The changes in rail service could precipitate a chain reaction where shippers move even less cargo by rail and the railroads continue to reduce service in response to the economies created by diminished freight volumes to the point where rail service would no longer be sustainable for CN's operations. The preferred solution from the perspective of Class 1 railroads in such situations has traditionally been to sell the local operations to one or more Shortline railroads, while maintaining the long haul of the products. If there is no basis for sale or interest within local railroads, the lines in the region would join the 8,000 route-miles of rail lines that are at risk of abandonment over the next decade (Schwieterman, 2006) with potentially significant economic impact to the region.

In 2004 an economic impact analysis of rail service in northern Wisconsin was completed by the Wisconsin Department of Transportation (WisDOT) (Leong, Russell, Mohamud, 2004) The study examined rail service in parts of WisDOT's North West, North Central, and North East Regions. The study used a Reebie based commodity flow database to determine the types and volumes of freight in the seventeen counties in the region. A sample of thirteen large manufacturers and producers in the region were surveyed to determine how dependent their businesses were on rail service. The study determined that the two districts' rail service had an annual impact of over \$780,000,000 in the two districts. The study also found that in 2002 there were over 300,000 rail carloads in District 8 and over 1 million rail carloads in District 7. The data in this published study is under review by the Wisconsin DOT and there may be revisions in the future on the data in the DOT study. However the DOT study does provide valuable insight to the importance of rail service to the region. Note: Since the publication of the 2004 study these districts have been combined into larger regions under the WisDOT 2005 reorganization plan.

Superior, Wisconsin is part of the Northwest District, has the largest port on the Great Lakes and is served by four Class 1 railroads, the UP, CP, CN, and BNSF. The fact is that the 19 million plus tons of coal cited in the study for Midwest Energy Resources in Superior is carried by BNSF and UP trains that come from the Powder River Basin in Wyoming. These coal trains move only through a small Northwest corner of Douglas County, Wisconsin on BNSF and UP's routes and thus this cargo adds little to CN's or regional Shortline railroads revenue base. Some trains traveling to and from the study region are made up in CN's Pokegama yard and the UP's Itasca yard with cars switched from BNSF or CP. The switching costs (approximately \$1.00 per ton) tends to inhibit shippers from switching between rail lines.

Many of the products shipped in the region are bulk commodities with low unit cost that benefit from economies of scale provided by rail. Trucking will not be able to compensate for the reduction in rail transport without increasing the cost of transportation for inbound and outbound goods in the region. The elimination of rail service in the region would result in adverse impacts on manufacturing, agriculture, natural resources, tourism, and energy production. (WisDOT, 1994)

Rail abandonment in the U.S. has been regularly undertaken and since 1960 almost 50% of the trackage in the U.S. has been abandoned. In most cases those corridors are gone permanently, if no steps have been taken to preserve corridors at the time of abandonment. Restoring rail service in communities that have not preserved a right-of-way for this purpose is rarely feasible. In a recent article, it was estimated that roughly 750 U.S. cities with a population of over 3,000 have

US Rail Miles in Existence	
•	1960 – 207,334
•	1980 – 164,822
•	1990 - 119,758
•	2000 – 99,250
Net loss of 108,084 miles from 1960-2000 (Bureau of Transportation Statistics, 2003)	

permanently lost their rail service for this reason (Schwieterman, 2006). Wisconsin has a history of providing economic support for preserving rail service even to the extent of buying trackage and then leasing it to a Shortline operator (Leong, Dennis, Lichtman, Liat, Russell, Robert, 2004). The infrastructure costs remain but some are put into the state budget. The Wisconsin DOT does not operate the railroad; the operating certificate is held separately and transferred to the Shortline operator.

In 1994, WisDOT proposed strategies to retain and improve rail service in the state and has at least partially implemented the following strategies:

**“Alternative Strategy #1**

*Under this strategy, the Department could leave line, routing, investment, and service decisions to private rail operators following the dictates of the marketplace. So that those private decisions might accurately reflect true social costs and tradeoffs between different modes, the Department could take steps to ensure that all highway users pay their full share of the cost of the public highways that they use.*

**Alternative Strategy #2: Preserve existing rail infrastructure through WisDOT rail funding programs**

*Under this strategy, the Department could administer rail programs with a goal of preserving existing levels of service. These programs would allow the Department to loan funds directly to railroads, as well as to acquire and preserve rail lines that might otherwise be abandoned.*

**Alternative Strategy #3: Preserve and improve service through existing WisDOT rail funding programs**

*Under this strategy, the Department could administer current rail programs, the Freight Railroad Preservation Program, and the new Freight Railroad Infrastructure Improvement Program, with a goal of preserving existing levels of service and increasing the level of service on rail lines where warranted.*

**Alternative Strategy #4: Preserve and expand service through aggressive state acquisition of entire rail systems**

*Under this most active strategy, the Department could aggressively acquire all track and other fixed assets from freight railroads in the state, and enter into non-exclusive leases or franchises with multiple railroad companies to operate the systems.”*

The preferred alternative of Wisconsin and most states is the first listed. However, all of these strategies have been at least partially implemented in the state of Wisconsin. The State of Michigan uses the same methods, but at least so far, there are no state-owned rail lines in the Upper Peninsula. While state funded loan and grant programs can be extremely beneficial for Shortline railroads, many larger railroads have policies of not using public funds except as a last resort. They prefer to stay on their own or receive assistance in the form of tax credits for projects that expand track capacity, but to survive in competition railroads must be on a level playing field with other modes. Trucks cause the majority of pavement deterioration and have a high impact on increasing roadway congestion and environment pollution, but there is considerable debate on whether or not they are paying their full price of highway usage. If the trucking industry is in effect receiving a public subsidy it may place that industry at an economic advantage over the rail industry (FHWA, US DOT, 2000), (FHWA, US DOT, 1997). A recent study at Texas A&M attempted to evaluate the tradeoff between rail and truck traffic on lower density rail lines by estimating the needs to upgrade the infrastructure of Shortline railroads and comparing the cost to the estimated savings in pavement damages due to reductions in truck traffic. Based on the study, tracks with medium density traffic (40 to 200 carloads per mile) had a benefit-cost ratio of up to 4.4 making it economical to maintain them in operation (Warner, Solari, 2005).

The changes in economy and in our lifestyles have increased the need for a safe and efficient transportation system. In 2001, surface transportation comprised 8% of the gross domestic product and about 18% of average U.S. household expenditures, second only to housing (TRB, 2003). If rail service were abandoned in the NW/UP region the situation would be likely to lead to situations where the region's businesses are unable to compete in other markets and the costs of production and living could increase faster than the national average. These economic factors would drive away existing businesses, discourage future development, lead to unemployment, and other negative economic outcomes for the area. The issue of retaining viable rail service for the region and also providing a reasonable return on investment for railroads is essential for the economic health of Northern Wisconsin and the Upper Peninsula of Michigan.

#### **4.3. Research Proposal and Objectives**

In order to assist in addressing the looming rail service problem a study was proposed to find methods of increasing the regional shippers' use of rail service that would assist the business community to competitively reach other markets. A healthy business climate would improve region's economy and facilitate potential growth.

The outcome of the study is the publication of relevant data and information along with a series of action plans for use by regional economic development agencies, government agencies, shippers, and carriers. At the start of the study four objectives were set forth with the understanding that there would be modifications as stakeholder input was collected.

1. Assess the current rail service and condition of the rail lines.
  - a. Assessment will be based on input from railroads and government agencies.

- b. Provide a resource link to the current schedule of service, rail terminals, sidings, rail car options, and velocity of service in the region.
  - c. Where feasible, update Wisconsin DOT-GIS rail map for use by economic development agencies as well as state agencies. Data in item (b) will be embedded into the GIS map as a model for future use.
- 2. Survey regional shippers to determine cargo flow and transportation requirements.
  - a. The survey will assess a representative volume of current inbound and outbound cargoes by mode: rail, truck, and marine.
  - b. The survey tool will gather data on current and future shipper transportation requirements and levels of rail services including backhaul opportunities, supply chain management, and warehousing.
  - c. Assist in developing a plan for a Northern Wisconsin Shippers' Freight Advisory Committee modeled after similar programs in Minnesota and Pennsylvania.
- 3. An evaluation will be made on the ability of the current regional rail network system to meet the future (potential) needs of shippers.
- 4. Action Items:
  - a. Publish and disseminate to interested parties a report that also includes a GIS system outlining the current rail network capabilities for the region, cargo flow data based on shipper input along with shipper requirements and future needs.
  - b. Hold Stakeholder informational meetings to educate and encourage direct discussions between carriers, shippers, and government agencies.
  - c. Establish the framework for a regional transportation education process to inform shippers about using rail service.
    - i. Opportunities to improve and expand rail shipments
    - ii. Improve supply chain management

## **5. Stakeholder Meetings and Shipper Interviews**

A series of regional meetings were organized to determine the issues confronting stakeholders, to investigate potential solutions, and to enhance communications. During these meetings the researchers worked to achieve five goals:

1. Inform listeners about current and future logistics problems and transportation trends.
2. Explain and gain feedback on the goals and methodology of the research.
3. Foster an open dialog between parties including shippers, carriers, and government agencies.
4. Through open forums explore regional issues and successes with rail transportation.
5. Introduce non-rail shippers to the option of transporting freight by rail.

The meetings were advertised on the UW-Superior Web site, through governmental and non-governmental agencies, organizations, and by direct e-mail. Chamber of Commerce leaders forwarded the announcements to their members. Economic Development Agencies and Workforce Development Agencies were involved in identifying users to be involved. Trade associations and transportation advocacy groups across the state aided in getting meeting announcements to stakeholders. Over 900 individuals were invited to attend through e-mail and organizational outreach. Locations were coordinated through UW-Extension offices, Universities, and respective State Departments of Transportation. The meetings were attended by a mix of shippers, government agencies, and carriers (truck and rail). CN railroad sent representatives to many of the meetings and the Shortline railroads: Progressive, Tomahawk, Escanaba and Lake Superior, and Lake Superior and Ishpeming also attended. Representatives from small and Fortune 500 companies participated in the meetings, resulting in a significant portion of the region's rail shippers providing insight at the forums.

## Public Forums

<b>City</b>	<b>Location</b>	<b>Date/time</b>	<b>Attendees</b>
Rhineland, WI	UW-Extension Meeting Room Rhineland/Oneida County Airport	February 4, 2005 10:00 AM	24
Ashland, WI	UW Extension 422 Third Street West Suite 101	August 11, 2005 9 AM	8
Rice Lake, WI	UW Barron County 1800 College Drive, Theater	August 11, 2005 4 PM	15
Wausau, WI	UW Marathon County, 518 South 7 <sup>th</sup> Avenue, Room 5A180	August 12, 2005 4 PM	16
Green Bay, WI	UW Green Bay , 2420 Nicolet, Phoenix Room	August 15 <sup>th</sup> , 2005 10:30 AM	15
Rhineland, WI	UW-Extension Meeting Room Rhineland/Oneida County Airport	September 29, 2005 10:00 AM	18
Escanaba, MI	Escanaba MDOT 1818 3rd Avenue North	October 03, 2005 1:30 PM	19
Newberry, MI	Newberry MDOT 14113 M-28	October 10, 2005 1:30 PM	20
Ispeming, MI	Ispeming, MDOT 100 Westwood Drive	October 11, 2005 1:30 PM	36

### 5.1. Outreach and Presentations

Using information obtained from the literature review, meetings, and conferences, a standardized bullet formatted PowerPoint was created to convey information about the current and future status of trucking, historic and current rail issues, supply chain management, and other forces that are shaping international, national, and regional transportation. This was followed by a presentation of key activities and expected outcomes of the study. Each participant was encouraged to provide feedback via shipper survey.

Based on the immediate and later responses by respondents, the research team determined that the audience members valued this information. Participants were taking slides from the NW/UP rail study to use in transportation presentations to their corporations, organizations, and other companies. Many of the attendees valued the information because they were often compelled by their workloads to focus only on the immediate challenges and did not have time to learn about relevant issues outside their jobsite. Based on the feedback, there is a clear need to provide transportation and logistics

education as part of the university extension, outreach, and education programs. A complete commentary can be found in **Appendix 11.3**.

### **5.1.1. Summary of Shippers Comments**

1. Railroad communication changed with the merger of CN and WC. In many cases, Internet service replaced the former direct contact with railroad representatives. Shippers believed that they had no input on the new Internet system and felt disconnected. From a shipper's perspective, the new system transferred administrative workload from the railroad to the shipper. Shippers also stated that the railroad needs to communicate their long term plans for the region so businesses can make long term decisions. In addition a need was expressed for communication on issues regarding regional Shortlines switching on CN's track.
2. Shippers felt that the railroad does not understand the shippers' business model and shippers do not know or understand what CN's long term rail service plan is for the region. CN should focus on supporting the shipper's supply chain when providing rail service.
3. There is a need for a Freight Stakeholder Advisory Council (SAC) or other type of association that can provide a more cohesive and powerful voice for freight stakeholders along with information to improve rail shipping.
4. Shippers were upset with double digit rate hikes in one year, the lack of log cars, and the disadvantages in private ownership of rail cars.
5. Shippers felt that there may be a significant economic impact to the region if the railroad leaves.
6. The shippers said that the option of selling rail network to a Shortline railroad(s) in the study region should be explored.
7. Shippers felt that CN needs to have a better business model that encourages the use of private cars on their rail network.
8. A company that switched to rail gained EPA benefits and lowered supply chain costs.
9. The question was raised if relocating and consolidating log loading sites to CN's mainline would provide enough improved efficiency to justify the transloading facilities and longer trucking distance for logs?

The research team was not tasked with verifying the accuracy of any of the comments on price or service. Public data indicate that there were rail rate hikes in the double digit range and a reduction in train service in 2004/2005. The forums were, in part, responsible for Congressman Bart Stupak (D-Menominee, MI) interacting with Hunter Harrison, CEO, CN Rail. The dialog and input from attendees at the forum led to CN providing an additional 200 rail cars for the logging industry (Congressional News Release Congressman Bart Stupak, November 17, 2005). According to CN (Gordon Trafton, 2006) in 2005 and 2006 the railroad spent over \$5 million in upgrading and repairing, to put into

service, a total of 525 log rail cars. As of July 1, 2006 there were 400 of these log cars in storage because a lack of demand for their use.

A very important outcome of the forums was that whenever a railroad representative was present they took the time to have constructive dialog with the customers and where possible directly addressed issues during the forum. The railroad representatives also provided contact information and expressed an active willingness to continue discussions with companies. A summary of the comments of the rail carriers follows.

### **5.1.2. Summary of Comments from Railroad Representatives**

1. CN earned \$6 billion revenue in 2004 and invests approximately \$1 billion annually for capital improvements.
2. CN is dedicated to an operating strategy which focuses on running a disciplined, scheduled railroad. CN is not planning to discontinue service to NW/UP but does need to annually review and cull unprofitable lines. CN has no plans to change operations in the UP, but due to comparatively low line density in this region, CN is considering reducing days of service to increase average train volumes in this area.
3. If line density is not sufficient for economical operation, the potential sale of those subdivisions to a Shortline railroad would be an option for consideration. CN is committed to working with Shortlines and 16% of CN's revenue comes through Shortline railroad partners.
4. CN has enough track capacity in NW/UP, but not enough cars available, especially for logs.
5. CN has a budget of \$200 million per year for new equipment, yet this figure, given increasing steel prices, is modest. Investment is directed at equipment which will yield the highest utilization and best return on investments. Log cars, by the nature of their business cycle do not belong to this category. Since logs are a low value raw material compared to high value finished products and profitability of log rail shipments is low. The American Association of Railroads (AAR) specifies that railcars must be rehabilitated or scrapped after forty years of service. Log cars which are in service in NW/UP are reaching the end of their life cycle. Demand for new railcars is strong and order backlogs of nine to twelve months are not uncommon.
6. Future railroad car investments will be directed to more highly utilized multi-purpose cars. Users of specialty equipment are being invited to make their own equipment investment.
7. At this time CN will not allow any other railroad to operate on CN property, due to the following concerns: labor agreements require that CN compensate their organized labor force if work is outsourced to other operators on CN property; and liability issues are also significant given safety issues and the high cost of accidents.
8. CN merged with WC, in large part because WC was hauling CN traffic to the Chicago gateway. WC's traffic mix was similar to CN's and both carriers were primary traffic interchange partners with each other. The WC acquisition increased the network access for WC shippers and resulted in shipments with

longer length of haul. The WC acquisition resulted in a new rate structure and brought a new rail business model to the WC shippers.

9. Several former WC lines are at risk in the CN business portfolio. The Baraga line is a challenge because of low volume, but will be operated. Lake Superior & Ishpeming is abandoning 12 miles of the line, but the rest will stay in service for now. There is a need to increase traffic density on this line. If no additional users are identified their line would be a candidate for abandonment or sale.
10. CN has been a secondary transportation source for many shippers. Yet as transportation rates increase and truck capacity in Wisconsin dwindles, transportation use patterns are changing.
11. Some mills are not using CN consistently, arguably because of service and reliability concerns. Traffic is being split between rail and truck and neither mode is balanced which results in a less than desirable freight profile for each mode of service and in a reduction of the profitability of service providers.

### **5.2. Meetings with representative individual shippers**

In addition to the public forums, a research team met with logistics managers from three key rail users representing different business segments. The businesses were selected based on their volume of rail business and type of rail cars that they utilized. Confidential meetings were held to insure that no adverse actions would be taken, given the frank discussions of the user needs and service issues.

#### **Individual Representative Profiles:**

<b>Meeting date</b>	<b>Product type</b>	<b>Rail car usage</b>
June 27, 2005	Metals	Gondolas
June 28, 2005	Animal Products	Hopper and Tank cars
June 28, 2005	Paper products	Box Cars

#### **Customer Feedback:**

**Note:** All customers interviewed reduced rail service during the prior year (2004) which resulted in a combined annual loss of over 1000 rail car moves in 2005.

These shippers represent committed rail users and rely on rail service to run their businesses efficiently. Each shipper expressed interest in using and even expanding their rail participation. However, they felt that changes in the rail model from a regional service platform to a North American Class 1 network provider had resulted in dramatic and negative changes. The principal reasons users identified for the business shifts in 2004 were:

1. The customers felt that the rail company lost customer relationship focus and understanding of their business drivers.
2. The shippers interviewed felt that rail providers were not partners in their supply chain and that their rail business was not valued by CN.

3. The Class 1 carrier brought many activity based user charges to the regional market. There were numerous clerical billing errors; due to automation it was difficult to get customer service resolution of the errors.
4. As rail carriers seek to reduce rating and invoice complexity many of them are going back to published tariffs for rail movement on their lines. This has resulted in many carriers going back to a Rule 11 revenue settlement where the shipper will pay each carrier independently. This change increases the shipper's accounting and documentation workload to pay rail carriers.
5. During the period under discussion, July 2004 - July 2005, the shippers saw their rail rates growing at a faster rate than truck freight charges. Not only did the rail rates increase but administrative costs and the total delivered costs increased dramatically due to accessorial and activity based user charges. The shippers indicated that they had double digit rate increases in freight rates as well as excessive increases in scaling charges, fuel surcharges and demurrage costs. The shippers accepted the need for rate increases but felt that the pace and amount of increases were not justified and they were being taken advantage of.
6. Shippers understand change and the need for automation and productivity improvements, but without guidance and direction on how to implement needed administrative changes, frustrations and billing errors are mounting. More assistance in the transition stage is needed.
7. Sales contacts and local representatives have been reduced or automated; communication with the carrier has become strained.

### **5.3. Follow-up Conference Call**

A conference call was arranged between the study team, economic development agencies, and Canadian National (CN) to discuss various current and potential rail service issues in the study area. The call was held on April 11, 2006. The full conference call minutes are in [Appendix 11.3](#)

### **Discussion Summary**

1. CN provided options for obtaining information of important rail attributes.
2. Call participants discussed development examples in Wisconsin, where industry got discouraged or slowed down, since local economic development agencies were unable to provide rail related information for them concerning the feasibility of the project.
3. There seems to be a lack of focus that hampers communication. A focused contact between people responsible for city and county development (even private businesses) and CN industrial development representatives is a key to improving the situation.
4. CN just completed an extensive cost-benefit analysis of the logging industry to determine if they can profitably serve their log customers.
5. It was agreed that a direct contact between CN and Michigan Association of Timbermen members would be beneficial.
6. Several issues, such as volumes and maintenance costs, are considered when CN makes rail service decisions.

7. CN encourages customers to invest in their own railcars and customers are encouraged to lease or purchase their own cars when shortages exist.
8. CN has recently converted 525 bulkhead flats for log service. These are 52'6" side staked cars and 200 have been assigned for service in Northern Wisconsin and Upper Michigan.
9. CN realizes that sometimes the difference in rates, when using system cars vs. customer-owned cars has been too small and they are addressing those situations.
10. CN doesn't have the same shortage of mainline or car capacity as other Class 1 carriers, so they are constantly looking for opportunities to expand their business.
11. The long-range regional plan by CN depends on the business levels. They don't have a "region-specific 5-year plan," but more like a fluid business model, which is modified based on current and forecasted business levels.

#### 5.4. Meetings, Conferences, and Events

Additional meetings were attended by members of the research team to educate stakeholders in transportation trends and issues, study goals and potential solutions and to obtain additional input for the study.

<b>Date</b>	<b>Organization/Event</b>	<b>Location</b>
January	WisDOT	Madison ,WI
January 28, 2005	WisDOT	Superior, WI
July 29, 2005	CN Railroad	Homewood, IL
July 17 - 19, 2005	Regional Rail Conference	Grand Rapids, MN
November 3, 2005	Northeast Wisconsin Council of Logistics Management - Railroad Night	Green Bay, WI
November 9, 2005	WisDOT Annual Rail Conference	Madison, WI
November 11-13, 2005	Intermodal Association of North America and National Industrial Transportation League	Anaheim, CA
November 14, 2005	Midwest Freight Corridor Study	Chicago, IL
January 21-25, 2006	Transportation Research Board Committee Meetings	Washington, DC
March 2, 2006	Michigan Upper Peninsula Economic Development Alliance Meeting	Brimley, MI
April 28, 2006	Central Upper Peninsula Regional Planning Commission Meeting	Manistique, MI

## **6. Regional Shippers' Survey**

### **6.1. Objective**

The research team decided to formally survey shippers in order to gain more detailed information about their requirements and rail usage. The close out date on the survey process was November 1, 2005. Follow-up questions were conducted by the team with shippers when there were questions about the data or formatting. The final data collection was completed in January, 2006.

Initial analysis of the survey data was conducted by a team lead by Dr. Robert Beam using economic analysis software. The final process was completed at the start of February 2006. Additional analysis was conducted by other research team members.

The survey goals were:

1. To develop a clear cross-section of the rail shipper characteristics in the region. The parameters included company size and type, types and quantities of products being shipped, transportation modes used, frequency of services, identification of the party controlling shipments, etc.
2. To evaluate the level of shippers satisfaction to the current rail services and to identify perceived problems. The collected information was held confidential to reduce shippers' concerns that the survey results could cause adverse relationships between shippers and transportation providers.
3. To investigate potential solutions for problems and provide recommendations for improvements based on survey findings.
4. To identify companies that are not currently using rail, but have future potential for rail shipments.

### **6.2. Survey Methodology and Questionnaire Design**

The survey instrument was developed in June and July of 2005 based in part on survey formats used in other rail usage studies. The survey instrument was peer reviewed and pre-tested. The survey was handed out at the stakeholder meetings, posted on the study Web-site (<http://www2.uwsuper.edu/trans/>), and mailed or e-mailed to representative companies. Considering the significant length of the survey (six pages) and the large number of potential respondents, a paper format was selected to conduct the survey. Questionnaires were also mailed to selected companies in Wisconsin.

There were two alternative methods to return the survey – fax and mail. Postage Paid return envelopes were provided in the shipper meetings. The questionnaire was released to the public starting August 11, 2005. The initial deadline for survey responses was October 1, 2005, but it was extended until November 1, 2005, due to insufficient response time between the shipper meetings of the Upper Peninsula of Michigan and the initial deadline. An estimated 900 businesses in the region were contacted about the survey either by direct mail, email, public meetings or through associations.

The first questionnaire version included four pages and had total of 22 questions. The revised questionnaire included six pages and 33 questions (**See Appendix 11.4**) An error in distribution led to an earlier version of the survey being distributed to some

participants. To close the gap in data between the questionnaires, a follow-up survey was mailed in February to those companies who initially returned the shorter form. The questionnaire included both closed (multiple-choice and ranking type) questions and open ended questions.

### **6.3. Survey Participation**

A total of 43 survey forms were returned by the due date with six of the surveys being the shorter version. Sixty-five percent of the respondents were current rail users, while the rest were using other transportation modes, mainly trucks. It should be noted that the geographic distribution was based on the address reported in the form and didn't necessarily match the origin of shipping activities by that company.

### **6.4. Survey Results**

The following paragraphs and figures summarize the results of the survey. [Appendix 11.4](#) and incorporated links provide a detailed graphical representation of the individual question results. Since the survey was confidential, all information that might reveal the identity of the respondent has been removed from the summary.

#### **6.4.1. Company Type and Size**

Manufacturing companies formed 75% of the responding companies ([See Figure 6.2](#)). The company size varied from less than 50 employees to more than 500 employees, with one third of the responding companies being smaller than 50 employees ([See Figure 6.3](#)).

#### **6.4.2. Product types**

The most common product types shipped were wood, paper, and pulp, accounting for more than 50% of the responding companies. The other 50% was divided fairly evenly between other categories. For rail shippers, the portion of wood, paper, and pulp was even higher, almost 70% ([See Figure 6.4](#)).

#### **6.4.3. Shipping Quantities**

The total quantity of annual shipments was over 11 million tons from the companies surveyed ([See Figure 6.5](#)). The two largest transportation modes were trucks and railroads. Over 70% of the total quantity was moved by trucks, while rail counted for 27% and water for the remaining portion. The outbound shipments of those responding to the survey accounted for more tons than inbound shipments, but the split between the truck and rail was fairly similar for inbound and outbound traffic. Rail users shipped significantly larger quantities than non-rail users, but even rail users used trucks for more than 50% of their shipments ([See Figure 6.6](#)).

#### **6.4.4. Control and Payment for Shipments**

The use of third party providers to control the freight was fairly limited, approximately 10%. For inbound shipments shipper and consignee controlled shipments were almost equally distributed, but for outbound shipments, shippers had the control for the majority of shipments ([See Figure 6.7](#)).

The respondents were responsible for paying for approximately 80% of shipments. The remainder (20%) was paid by other parties (See Figure 6.8).

Some of the shippers checked more than one option, when asked about the control of the freight or party responsible for payments. Therefore, the percentages in graphic summaries do not always add up to 100%.

#### **6.4.5. Rail Service Frequency and Rail Shipment Trends**

The frequency of switching services provided by the operating railroad varied between three and seven days per week with the average being about five days per week (See Figure 6.9). The most common service frequencies were 5 or 7 days per week.

The responses for quantity of weekly car shipments and for recent increases or decreases in rail usage were insufficient for reasonable analysis. Other data sources may provide more accurate analysis of these items. Based on survey responses, the number of weekly rail car shipments varied between 1 and 80 and included a wide variety of different rail car types (See Figure 6.10).

In the follow up question regarding recent increases or decreases in rail usage, 11 rail shippers stated a decrease in rail shipments, mainly due to either poor car availability or higher prices. On the other hand, 9 rail shippers reported an increase in rail usage due to a wide variety of reasons (See Figure 6.11). When asked about the potential to ship more by rail in the future and what improvements this would require, most rail shippers reported a potential to increase rail shipments if rates and service were improved (See Figure 6.12).

#### **6.4.6. Rail Car Ownership**

65% of the rail users responded to the question considering the potential for owning, leasing, or pooling (sharing) of privately owned rail cars in the future. 35.5% of them stated their interest (See Figure 6.13) and 16.7% would like to receive assistance in planning for the purchase, pooling, or lease (See Figure 6.14).

#### **6.4.7. Backhaul Frequency**

On the question about backhaul opportunities, about 42% of the respondents said that they didn't have any backhaul activities. 32% said that they were able to provide backhaul to some degree, the mean percentage of which was 25% (See Figure 6.15). 26% of the shippers who use rail reported coordinating with other companies for backhaul opportunities. Comparatively, only about 8% of non-rail users reported any kind of coordination for backhaul activities (See Figure 6.16).

#### **6.4.8. Shipment Origins and Destinations**

For rail and non-rail users, most of the inbound truck freight (85%) originations were in the States of Michigan, Wisconsin, Minnesota, Illinois, and Ohio. However, for rail shipments, 40% of the locations were outside the Midwest. (See Figure 6.17) For outbound traffic, truck destinations were geographically more dispersed, but rail still had more destinations outside the Midwest (See Figure 6.18).

#### **6.4.9. Rail Performance Metrics**

Each respondent was asked to evaluate the importance of ten rail service performance metrics. The most important metrics were 1) reliability and consistency of

service and 2) equipment availability. The least important metric was claims/damage history.

Shippers were also asked to grade their level of satisfaction for current rail services. Among rail users, railroads received a “failed” grade in six out of ten categories, including the two most important ones. The two categories, where railroads received an A grade were ranked as the least important ones, claims/damage history and cargo tracking (See Figure 6.19). Among non-rail users, grades for rail carriers varied between B and D (See Figure 6.20).

As a follow-up question, respondents were asked what information they would like to receive from the railroads as they consider future rail use. The information most shippers were interested in was related mainly to equipment availability, pricing, and customer service (See Figure 6.21).

#### **6.4.10. Shipper and/or Trade Associations**

85% of the respondents answered the question on shipper/trade associations. The interest toward shipper and trade associations was higher among current rail users. 23% of responding rail users belong to shipper or trade organizations, such as Lake States Shippers Association and over 47% would consider joining one. Only one of the non-rail users belonged to a shipper or trade association, but 25% reported interest in joining (See Figure 6.22).

#### **6.4.11. Other Comments and Future Interest for Study**

Several respondents provided additional valuable comments for the study mainly regarding concerns for recent and potential future changes in the rail service. 72% of the respondents are willing to provide additional information for the study, if they are contacted in the future (See Figure 6.23).

### **6.5. Interpretation of Results**

Even though this survey can not be considered a comprehensive representation of the region’s shipper community, it does provide some useful insights to the shipping patterns and customers’ satisfaction levels of current rail services.

It is clear that the majority of rail shipments in the region consist of heavy bulk raw materials, such as wood, paper, and pulp. These are fairly low value goods and therefore transportation forms a significant piece of the overall expense in refining these raw materials into consumer products. As fuel prices and other transportation related costs continue to increase, access to the most efficient transportation mode is a necessity making shippers’ concerns of increased rail rates and insufficient service understandable. On the other hand, less than 50% of their products are currently shipped via rail, which raises the question, why? Most of the shippers reported an interest to ship more by rail, but that would require improvements in certain aspects of rail service. It can be speculated that increased rail usage would require investments from both rail users and rail carriers. The majority of rail users (85 %) expressed their willingness to invest in their own rail cars, but it is out of the scope of this study to investigate if their investments would improve the overall rail service or if the potential increase in shipments would economically warrant any new investments by the rail carriers.

Even though 50% of the respondents were able to provide some backhaul shipments, they were only able to provide it for an average of 35% of their shipments. Backhaul should be encouraged, since it improves the overall economics of shipments by reducing the percentage of empty cars in transit. Only 20% of the shippers coordinated with other shippers to arrange for backhaul opportunities. Northern Wisconsin and the Upper Peninsula of Michigan are sparsely populated areas, so coordination for backhaul opportunities is an important consideration and might have potential to lead to overall increase in rail shipments.

Rail shippers are clearly dissatisfied with the current rail services. Complaints range from price and car availability to customer service. The prices and car availability are defined mainly by current market conditions. The current demand for rail services is high throughout the nation and rail capacity is stretched both in equipment and infrastructure. In Northern Wisconsin and the Upper Peninsula, the shortage is mainly in equipment, not in track capacity. The shippers must be proactive in communicating their concerns with rail carriers, which can be facilitated by using shipper associations to represent shipper groups. Addressing issues in larger groups saves both shipper and rail carrier resources and combines several small concerns to a larger package. It was encouraging to see that the majority of rail shippers either belonged to a shipper group or association or would consider joining one. This should be supported and information between groups should flow freely, so topics under consideration can reach carriers in a timely fashion and in sizable packages.

## 7. Evaluation of the Capabilities of the Current Regional Rail System

### 7.1. Introduction

Railroad capacity is a function of line capacities and terminal capacities. While a comprehensive evaluation of the rail capacity would require a thorough examination of the rail system beyond the scope of this study, a preliminary examination of the current traffic situation shows that region's rail infrastructure capacity is sufficient for the current and probable future volumes. There is no immediate need to increase rail capacity. As a result, instead of investigating potential infrastructure improvements, it seemed appropriate to highlight some important operational features that affect the capacity of infrastructure.

### 7.2. Regional Rail System Capabilities

Three characteristics of rail infrastructure were identified as necessary for efficient and safe operation of railroads: maximum speed, track capacity, and grade crossing protection. **Table 7.1** summarizes the planning standards for every functional line classification.

#### Maximum Speed:

Federal Railroad Administration (FRA) Track Safety Standards establish maximum allowable operating speeds by classifying trackage based on its condition as compared to a set of specifications. Among other factors, the specifications consider the ballast section, cross ties, rail, track surface, and geometry.

*Federal Railroad Administration Safety Standards - Table 7.1*

FRA SAFETY CLASSIFICATION	MAXIMUM SPEED	
	Freight	Passenger
Class 1	10 MPH	15 MPH
Class 2	25 MPH	30 MPH
Class 3	40 MPH	60 MPH
Class 4	60 MPH	79 MPH
Class 5 & 6	80 & 110 MPH	90 & 110 MPH

Establishing minimum speeds for entire segments of track makes rail freight service more efficient for the transportation of goods and services. In addition to these six classes of track, FRA may also use the term excepted track for certain lines. These lines have the maximum operating speeds of 10 MPH or less, can not be used for passenger movements, and may have other limitations for trains transporting hazardous materials. Rail carriers may elect to set lower speed limits for a variety of reasons such as repairs, traffic levels, washouts, or the condition of the rail.

**Track Speeds:**

At present the track speed limits are not posted in a readily available location. The speed limits give an indication of the track condition as well as ability of the system to absorb traffic increases.

**Track Weight Limits:**

CN provides rail track weight limits (track capacity) on their Web-site, ([www.cn.ca/customer\\_centre/services\\_support/railcapacity/en\\_railcapacity.shtml](http://www.cn.ca/customer_centre/services_support/railcapacity/en_railcapacity.shtml)), but this map does not list all track in the study region, such as the White Pine subdivision.

**Track Freight Volume:**

Only one source, Ladd's Rail Atlas, provided an easy to use reference for the volume of traffic on the study region's rail service. Ladd provided the information on 0-8 scale where a level 8 represented the highest ton-mile volume and 0 the lowest ton-mile volume. Based on Ladd, tracks in the region belong to categories 5 through 1, which represents 20 million ton-miles per mile to zero ton-miles per mile. A similar system could be integrated into a GIS mapping system so that users could readily determine the volume of traffic on the rail line during a set time period. The accuracy of Ladd's data has not been cross checked.

**Frequency of Service:**

One of CN's corporate goals is to operate as a scheduled rail carrier providing shippers with reliable service (Harrison, 2005). Current and prospective customers can obtain schedule information by contacting CN sales representatives. Currently, information about the service schedules in the study region is not easily and openly available to Economic Development Associations and the general public on the CN website.

**Grade Crossings:**

Wisconsin and Michigan DOTs', along with the rail carriers, work with the FRA to maintain an up-to-date listing and condition of rail grade crossing. GPS locations of the grade crossings that are on FRA's Web site were "extrapolated" by Oak Ridge National Labs and are coded as "estimates" instead of "actual" readings. Michigan has up-to-date data of grade-crossings, which is currently maintained by MDOT as a separate free-standing database. Wisconsin DOT uses an Oracle database that is tied to a location representing the intersection of road and rail. This data set is integrated into the state's GIS rail data base however, the GIS rail lines may not be accurate due to scanning from topographical maps. Another problem in using GIS data with Global Positioning System (GPS) accuracy is the fact the FRA has not adopted a single standard in projection and datum for all states and data bases.

A 2005 spot survey of grade crossing locations in Superior, Wisconsin by the research team using GPS and GIS data found existing grade crossings not listed on the GIS rail maps and noted GIS crossings with geographical errors. This is not an uncommon error where rail data from older air topographic maps have been scanned into a GIS. New GPS capabilities allow significantly greater accuracy than was obtainable in older mapping systems. A systematic survey should be undertaken to update the GIS maps. Access and support by the rail carriers is necessary and they should be able to jointly share data with the DOTs.

## **8. Rail Users Tool Kit**

A Rail User Tool Kit was assembled by a research team led by Libby Ogard to provide prospective users with a reference document. The Tool Kit includes a “how-to-get-started” section which describes rail economics, rail carriers, equipment, and contact information for a variety of transportation questions. A resource section provides contacts for trade associations, trade publications, and economic development contacts.

While the Tool Kit is fairly comprehensive, it is primarily regionally focused in order to keep it at a reasonable length.

The development effort was distributed throughout the study and meeting participants were asked to comment on the outline and provide suggestions for further documentation. Valuable information and feedback was provided by shippers, carriers, and government agencies.

The primary purpose of the Tool Kit was to provide support for shippers who were unfamiliar with rail service. It was designed to provide information at an introductory level. Additional support and information can be obtained from the railroads and courses in transportation management. **The Tool Kit is located in appendix 11.2** and will be posted in a PDF format on the University of Wisconsin-Superior Transportation and Logistics Web site (<http://www2.uwsuper.edu/trans/>).

## **9. Rail Economic Development Model**

Early in the study, a review of literature found a GIS based system with the principal aim of providing economic development agencies rail information. The Pennsylvania DOT established an economic development link to rail service that is on a GIS system (<http://www.dot.state.pa.us/Internet/Bureaus/pdBRF.nsf>). The model integrated information about rail, other transportation modes, real estate, power and governments to provide prospective developers with a system for an initial assessment of potential rail user sites. This Pennsylvania model was discussed at stakeholder meetings and other public venues and the study of developing a similar system for the study region received positive response.

The study of rail services in the context of regional economy requires a platform on which key elements are integrated. This platform should include geographic characteristics, transportation system, and regional economic development. Although it imposes significant challenges to capture the dynamics between these key elements, the research team at the University of Wisconsin – Superior made the first step toward uncovering the relationship between transportation (rail in particular) and regional economy, with a goal to examine the potential of promoting rail services. Specifically, an Economic Development Model based on GIS was proposed that would be similar to the Pennsylvania model. In this section, the concept of the rail GIS model is introduced as a platform of supporting economic development primarily by promoting rail services available. This section also documents the process of developing the model rail GIS system.

This study adopts a perspective that aims at developing practical tools to help promote rail services by exploring shippers' needs, by providing access to rail service information, and by attracting new businesses to available properties to use rail services. The ultimate goal of this study is to foster economic development in the NW/UP by connecting shippers and railroads through effective use of information. If fully implemented, the GIS economic development model would have potential to serve as a central point of information for multiple audiences such as: shippers, railroads, local economic agencies, State DOTs, and developers. Developers frequently look at over 100 potential sites before picking the location for a distribution center and any tool that helps in that search process benefits all parties (American Shipper, 2006).

WisDOT made an effort in the early 1990s to develop a Rail Geographic Information System (GIS) in order to inventory and analyze infrastructure conditions and commodity flow data. Several applications were identified during the study design period. The proposed applications included rail system deficiencies, identification of grade crossing needs, and commodity flow analysis to forecast financial and traffic-related impacts of terminal and infrastructure improvements. Passenger rail analysis was viewed as another area with potential GIS applications. The initial concept was that data developed for the rail GIS would also be shared with the Intermodal Management System project. The Rail GIS project would have been funded in part by a Federal Railroad Administration grant and it was to be in place by December 1995, which did not happen as expected. This study can be considered as an extension to this early effort. However, this proposed model represents a much more comprehensive platform by which key transportation issues can be studied in the context of regional economy.

### **9.1. Verification of the Current GIS Rail Network: What's Available Now?**

The railroad network, together with other transportation modes such as trucking, provides the necessary transportation capacity to support the economic development in Northeast Wisconsin and Upper Peninsula of Michigan. Study of the interaction between rail services and local economic development begins with the examination of current railroad network, and current rail GIS data that is available for adaptation.

At the onset of the study, an assumption was made that the research team would be able to use either the WisDOT Rail GIS system and/or commercial rail GIS systems as a base platform to build the system on. WisDOT provided excellent access and assistance in using their GIS Rail system. There are many GIS sources that are commercially available; two of the most widely used commercial GIS packages are from the companies ESRI and DeLorme. The research team acquired standard, off-the-shelf copies of ESRI's ArcGIS software, and DeLorme's Street Atlas software.

The study examined the rail data in current releases from those two firms, as well as GIS rail data provided by WisDOT. Initial investigations of the GIS maps revealed that there were data discrepancies between them. These differences motivated the efforts to verify by field research select subdivisions of the currently functional railroad network in the study area. After examination, it was found that none of the sources was completely accurate compared to the actual rail network.

Some segments of railroad appear on one map, but do not appear on another. Some sidings, and even mainlines, that had been removed many years ago are still shown on the source GIS maps. For example, in Ashland an area that was once heavily industrialized is shown on the source maps as having many functional rail sidings. However, all of these listed sidings were verified as having been removed and the area is now residential. According to local residents interviewed, many of the sidings have been gone for at least twenty years, some much longer than that. Based on the three listed sources; **Figures 1a, 1b, and 1c in Appendix 11.5** show the verified rail network within the urban area of the City of Ashland. The present existent functional railroad there is shown in **Figure 1d**. The CN railroad has GIS mapped significant parts of their rail network but the property covered by this study was acquired from Wisconsin Central in 2004 has not been updated.

The partial verification of the rail lines was undertaken by the research team at the University of Wisconsin – Superior in the summer and autumn of 2005. It focused on the area along the subdivision's main line from Ashland to Prentice and along the main line from Ladysmith to Rhinelander. It was determined that the most accurate results would be achieved by having researchers physically go out and verify the rail network.

Using the three rail GIS data sources as guide maps, researchers attempted to physically locate and verify all of the sidings and spurs in the primary focus area. Since there were differences in all of the sources, all three were used in the field verification process. Any siding or spur that was shown on any of the three sources was identified and selected to be verified. Research teams were organized in groups of two, and each group was equipped with GPS units, digital cameras, and GIS generated maps detailing specific target sites to investigate. In order to verify spurs and sidings, researchers had to drive and/or walk to each specific site; and the team made every reasonable effort to verify each identified site. Many of the identified sidings and spurs in the rail network are located on the private property of the businesses and industries that utilize them. In such cases, the research team made every effort to obtain proper permission before entering onto private

property. Permission was not always granted however, and several sites were not able to be verified through this process.

The researchers used several criteria for verifying the rail network. First and foremost was to determine whether or not the identified siding or spur in the databases actually existed or not. If it did exist, then GPS positions were recorded, photos were taken, and researchers took notes on the general condition of the track. Observations such as the amount of overgrowth (would interfere with train movement), and any obvious major damages such as missing ties, out of gauge rail, bed washouts, or rail disconnections were noted. Based on these observations, the research team was able to make certain determinations about the status of each site. In comparison to the source maps, each identified site was described according to the following categories:

1. Track exists as shown on database and is serviceable without repair
2. Track exists as shown on database and is not serviceable without repair
3. Track exists but is not shown on database and is serviceable without repair
4. Track exists but is not shown on database and is not serviceable without repair
5. Track does not exist but is shown on database

The research team started the field verification process in the Ashland, Wisconsin area. Within the city limits of Ashland, the railroad mainline tracks as well as sidings and spurs were verified. Once the field data from Ashland was analyzed, it was found that a total of only about 8,419 meters of serviceable track actually still exist there. The DeLorme data showed about 29,719 meters of track; the WisDOT data showed about 13,352 meters; and the ESRI data showed about 11,741 meters. **(See Table 3)**

These initial findings highlight a keen need to verify the whole rail network in order to support the planning of the transportation system and to provide accurate information to new businesses. The major findings from this undertaking include the following:

1. The rail GIS maps available in the commercial software packages for business uses are not entirely accurate. This is especially true in the urban areas where the density of rail lines used to be high.
2. New businesses that need loading/unloading facilities or rail sidings within their properties cannot make their location decisions based on the current commercial GIS packages. This is evident by the differences between the GIS sources and the results of the field verification process. **(See Appendix 11.5, Figures 1a, 1b, 1c, and 1d)**
3. Transportation network planning by Wisconsin State DOT can not rely on complete accuracy from the current rail maps from the sources the research team evaluated. This fact may be a concern in the planning processes.

The full-scale verification process of rail lines would be an extensive effort and is beyond the scope of this study. The process could be speeded up by a partnership between railroads, DOTs, and GIS programs at universities. Properly prepared researchers could ride trains or maintenance vehicles and collect data in a format useable for both the railroads and government agencies.

## 9.2. Importance of a Rail Economic Development Model

The decrease of railroad services and the resulting modal switch of existing businesses in Northeast Wisconsin and Upper Peninsula of Michigan is economically disadvantageous, especially for businesses whose products are of low value, such as agricultural products, lumber, scrap metal, and raw materials (Leong, Russell and Mohamud, 2004). Some of the businesses would be forced to consider re-location owing to the potential loss of available rail services, which can cause a series of ripple effects in regional economic development. What is worse, decline of economic activities due to the inadequacy of rail services may cause further reduction of available rail services, giving rise to a next round of reductions.

The research on the rail economic development model recognizes the following facts:

- The economy in the Northeast Wisconsin and UP region relies heavily on bulk products. Typical commodities in this region include lumber products, grain, scrap metals, and other raw materials. Additional facts are available in the 1995 Wisconsin DOT study. Railroad freight transportation has a lower cost and is a more appropriate transportation mode than trucking for many regional businesses.
- There are niches for new businesses in areas once occupied by rail users. These properties represent opportunities for new business and economic development in the region and hold promise for the carriers to increase density. A rail economic development model could provide the opportunities to attract new businesses to the region of interest, and hopefully help reverse the trend of diminishing rail service.
- Current and potential businesses need to know the rail service and frequency, if it is critical to their development. Plans for future service levels are an important planning consideration, so that users may plan production activities accordingly.
- There is a need for examination of interactions between rail services and economic development in the particular region of interest. Typical questions that could be asked are:
  - What economic development intensity justifies the use of frequent rail services?
  - What could a model transportation system look like in a region where the economic development is sparse and the primary products are bulk commodities?
  - How to promote rail services in economic regions of low value products via truck-rail intermodal system?

Study of this interaction in an analytical model could be challenging. Railroads represent private business interests, while economic development is generally a publicly led local activity. A good starting point to improve the potential for future development activities is identifying local contacts and mutual interest. The economic development model may serve as an ideal platform on which parties can explore for common interest.

The rail service decrease is not a unique phenomenon to the NW/UP area, but is common to many other areas of North America (Russell, Babcock and Mauler, 1995).

Shift of transportation modes needs to be better addressed by promoting new models, and proposing new policies. Policies play an important role in shaping the development of the transportation systems. As seen in Europe, with adequate policies in place, rail development and use by freight shippers increased from 13% to nearly 40% within a time period of ten years (<http://www.cbo.gov/showdoc.cfm?index=5330&sequence=0>). However, the European model may not have the same impact in the study region due to different population densities, geography, and national transportation policies.

Evaluation of this impact on the trucking sector and on the entire local economy is beyond this study. The demand for trucking and transportation services in general is so strong at this time that the promotion of rail services may have little immediate adverse impact on trucking services. This study has promotion of rail services as its focus in order to help the local economy develop new business services and jobs.

### **9.3. Prototype of the Rail Economic Development Model**

Implementing a rail economic development model to accurately capture the interaction between rail service and economic development would be a significant undertaking. Adding to its complexity are alternative modes of transportation and variations on the rail transportation product as well as shippers' utility functions of modal transportation. Transload centers can provide a central location to consolidate truckload quantities into rail car shipments, and intermodal containers (both domestic and international) into rail shipments. They represent alternatives to accessing the rail network directly at a plant or facility site. Local economic development policies could also be a significant factor.

To simplify the complexity, a model rail GIS system was proposed. With this model system, the following issues were examined:

1. What rail service information from the shipper's point of view is essential to evaluate the use of rail services?
2. What information from the local economic development agencies can be incorporated to foster regional economic development? The core question is how much information is necessary for serious inquirers to screen likely locations for further investigation?
3. Where should this model GIS system reside? Note that this system serves multiple audiences including local Economic Development Agencies, Shippers, Railroads, and the State DOT.
4. Where does the responsibility for the development and maintenance of the system belong as both public and private entities explore new partnerships? Who should fund this system?

The rail study covers the area shown in **Figure 2 in Appendix 11.5**, and **Figure 3** shows the portion of the study area that is detailed in the Rail GIS Model.

#### **9.3.1. Examining Theoretical Shipper Rail Service Characteristics**

From the shippers' point of view, the rail GIS system should provide rail service characteristics as follows:

1. Service frequency (train departures/arrivals per day/week/month)

2. Switching frequency
3. Loading/unloading capability (door height, dock size, siding length)
4. Line capacity (axle weight and track weight)
5. Accessibility to rail services (location of terminals in the context of a local transportation network)
6. Contact information of available rail services

Furthermore, a Rail GIS is also expected to serve as a central point of information. Detailed rail information should be included. The rail specific information includes, but is not limited to, the following:

1. Company name
2. Contact information
3. Milepost
4. Prior railroad use
5. Spur / siding availability
6. Cars spotted
7. Service frequency
8. Clearance restrictions
9. Weight restrictions
10. Serving yard
11. Car supply (quantity and types)
12. Intermodal yard
13. Major railroad connections
14. Companies served by this railroad

### **9.3.2. Local Economic Development Information**

One of the goals of such a GIS system is to promote local economic development primarily through a more informed and proactive approach to connecting users to transportation services and options. Economic activities that can be enhanced or promoted by having the rail information can be incorporated into the model rail GIS system. One of the prominent economic activities identified is publicizing the properties available for potential businesses. Efforts of this type are observed to be consistent across the regions. While retaining present businesses is important, attracting new businesses into this area has remained a high priority for local Economic Development Agencies (EDAs).

To design a generic set of features about the property for investment, various sources where properties are published by the EDAs were investigated. While there is no consistent format of information, generally the key features incorporated at various sites are similar to each other. Examples of sites that publish available properties that could be adapted to the GIS system include:

- Forward Wisconsin: [www.forwardwi.com](http://www.forwardwi.com)
- Northspan Group: [www.northlandconnection.com](http://www.northlandconnection.com)
- Michigan DOT: [www.michigan.org/medc/services/sitedevelopment/selectsites](http://www.michigan.org/medc/services/sitedevelopment/selectsites)

### **9.3.3. Rail System in a Large Context of the Transportation System**

While addressing the issue of rail service decline remains the focus, one has to be conscious of the fact that the issue was not caused solely due to rail service itself. It helps

to put rail services in a context of a larger transportation system. In particular, it helps to understand that a transportation system also incorporates the highways, and to have rail services combined with available trucking services. In contrast to the rail GIS system, the highway GIS is updated constantly and remains generally up-to-date. One might ask: what role and responsibilities should the railroads have in maintaining and providing this information for their own private networks?

Such a model would be helpful to regional transportation system planning, especially in developing an intermodal system that promotes a reasonable use of trucking and railroad services. The promotion of a concerted use of rail and trucking might represent a promising direction for the study region and nearby areas, where many businesses have been suffering from declining rail services. A model rail GIS system coupled with a highway GIS system may help capture the dynamics between trucking and rail shipping volumes under various hypothetical studies including intermodal and/or transloading opportunities.

The establishment of a transloading centers at rail freight rail sidings or terminals within the study region to help accumulate sufficient freight for longer more profitable trains is worth serious consideration. The accumulated freight cars at the transloading points might also justify the operation of more frequent services than currently exist and/or larger, more productive trains. These services pull the accumulated freight cars to the nearest classification yard near an intermodal freight terminal for blocking in order to be combined into outbound trains.

Worthy of mention here is that an intermodal facility that supports the study region need not be located within the area of study. The planned opening in 2007 of Prince Rupert, British Columbia as a new container port, and the merger of CN with numerous other rail carriers have fundamentally restructured the rail network serving northwestern Wisconsin. The possibility of an intermodal hub in Superior, Wisconsin linking business in the study region to the Asian market through the Prince Rupert gateway should be further explored.

#### **9.3.4. A Mechanism to Support a Dynamic Rail Geographic Information System**

Although a fully implemented and dynamically updated rail GIS system is beyond the scope of this study, the future development and maintenance of such a fully fledged system was considered. A communication mechanism that allows potential users and providers to identify preliminary sites for further analysis would be indispensable. The central questions which need to be addressed include:

1. Who can and should host such a system?
2. How will such a communication platform be funded?
3. Who holds responsibility for updating the information in the system?

Fundamentally it would seem that those who have the most to gain economically would be best positioned to assume this responsibility. The issue of merging public and private interests in new partnerships is new for both parties. A cost benefit analysis would help guide this effort in the future. From the practical point of view, it is unclear to both carriers and EDAs whether a tool such as this would be utilized, and if it would actually result in new site developments. From the theoretical point of view, such a platform would be essential to the study of rail services in the context of regional economy.

Developing a dynamic Rail GIS system is a multi-faceted task. Parties involved would have to be the EDAs (who hold the property information available for new businesses as well as local economic development interest in relation to railway services), the State DOTs, and railroad companies.

An initial effort was made as part of the study to look into the related information from different parties. It is concluded that the information on railway service system (including scheduled train frequency, loading/unloading information, etc.) seems highly proprietary, and that it is not readily available to the shippers. Finding relevant GIS information about the rail services directly from the railroads was difficult. Only high profiled GIS information can be found at the main Web page (<http://www.cn.ca>), such as the service network, weight capacity on the network, and the major freight terminals.

The EDAs vary in terms of whether they have chosen to manage or post their information on the Internet (such as available properties for investment), and how consistently postings are structured and maintained. Nineteen EDAs were surveyed to gather information about available properties in the region. The list of EDAs surveyed is shown in **Table 1**, and the survey form is shown in **Table 2 of Appendix 11.5**. Only one of the nineteen responded with a fully completed form. From the completed and partially completed surveys, it was noted that: one respondent indicated that there was no property available for investment, and another noted a piece of vacant land by the railroad in their area was available for new businesses.

Based on the sparse response the survey process was discontinued. In addition to the survey process, an inquiry was made to the EDA in Douglas County, which posts available properties on two different Internet sources: [www.forwardwi.com](http://www.forwardwi.com) and [www.northlandconnection.com](http://www.northlandconnection.com). However, neither of these provides accurate up-to-date rail information.

### **9.3.5. A Model Rail Geographic Information System**

The proposed Model Rail GIS System is aimed at serving as a central point connecting EDAs, railroads, shippers, potential new businesses, and the State Department of Transportation by providing up-to-date and accurate information relevant to their businesses. Input to this system would come from EDAs, railroads, State DOTs, and shippers in the study area. As an example, typical shipper information could include the types of commodities shipped, their annual volumes, and location distribution (origin and destination).

The system is proposed to be developed using ESRI's ArcGIS software package, as it is the most widely used GIS software in the industry. The structure of the proposed GIS model is simply to use the built-in database and object-oriented programming tools to develop a model that will be a user-friendly and dynamic system that will be flexible, easy to use, and expandable. A prototype of the system was developed using data from the Ashland Subdivision (**See Figure 4 in Appendix 11.5**); however, it should be noted that this was merely a prototype and does not contain all of the desired elements or functionality that an actual system should have.

The prototype Model Rail GIS of CN Railroad's Ashland Subdivision was created using ESRI's ArcGIS software package. The interface utilized several of the standard built-in toolbars, menus, and command buttons. There are nine simple commands: Add Data, Find, Zoom In, Pan, Zoom Full Extent, Data View, Layout View, Save, and Print.

These commands allow users to perform a desired task by simply clicking on a command button. For example the user can click the Find button and search the database for specific information such as railroad owner, track class, length, and so forth

**(See Figure 4 in Appendix 11.5).**

The proposed model should allow users to integrate other GIS information layers from various sources; and create, print, and save customized map views of the information. The proposed model should provide an easy and interactive way for users to find and present relevant information in a map format. The ArcGIS software allows for a significant amount of customization, so that the visual interface can be modified to suit different intended audiences that might have different needs or interests.

#### **9.4. Conclusion**

A rail GIS system has strong theoretical advantages. First, it could help foster the use of rail services and promoting the regional economic development. Second, it helps railroads to develop their services in the region by having greater economic development information in these areas available to the public. Third, an up-to-date rail GIS system would be essential to a concerted development of a comprehensive regional transportation system characterized by multi-modalism. Ideally, such a system would help address concerns from multiple audiences including shippers, economic development agencies, the Federal and State DOTs.

There are several ways to improve the information flow using GIS and Internet based models. However, a cost benefit analysis should be done to determine economic feasibility. The State of Pennsylvania model explored in the study is one alternative. That model has not had long term funding to keep it updated and any system will have to be designed for long term support for it to be successful. There are significant issues in further development of this system:

1. This study area has a fairly small number of business opportunities where rail service is essentially making the costs for a regional GIS system prohibitive. The implementation of robust statewide Internet service as a resource is a more likely strategy, with larger market applications for the entire states of Wisconsin and Michigan.
2. Long term funding and buy-in by WEDA, Wisconsin Forward, MEDC, and other relevant economic development agencies and rail carriers would be needed for success. A user fee system may be needed to recover a portion of the cost.
3. The existing direct lines of communication are established, but seem to be underutilized. Due to lack of detailed input and participation in the conference calls facilitated as part of the study, it was difficult to clarify the reasons behind current communication problems. The first priority should be to clarify these issues and take full advantage of the current lines of communication.
4. The states' Departments of Transportation should view accurate rail GIS data as critical for an efficient transportation network as highway GIS data. However finding funds during tight budgets to support the system without a revenue source may be difficult.

## **10. Conclusions and Recommendations**

### **10.1. Conclusions**

Conclusions are summarized from three different perspectives throughout this study.

#### **10.1.1. Shippers Conclusions**

1. Shippers of all transportation modes are facing new paradigms in an unfamiliar environment of rate increases, capacity shortfalls, and increasing logistics complexity.
2. Rail service is vital to the health and success of many small communities and companies focused on natural resource utilization. Rail service is an important feature for economic development agencies.
3. Users in rural and medium size communities (population of 250,000 or less) are fearful of becoming disconnected from the global supply chain.
4. The transition in the study area from regional rail service to Class 1 carrier has adversely impacted shippers who were not prepared for the transition. Railroad institutional knowledge of the local regional needs of shippers and the community appears to have been lost in the merger of CN and WC. This adversely impacts the shippers in the study area who are not located in areas of high rail traffic density.
5. Many shippers in the study region generate short haul business or business which travels less than 600 miles total. The study region enjoyed the strong presence of a non-traditional regional railroad which made strong customer commitments. The nature and structure of the WC was to gather business from its limited territory and deliver it to the many Class 1 carriers in Chicago.
6. Customer service levels for a regional rail carrier focused on a small geographic area are different than for a large multi-national railroad. Not all comments or recent experiences with rail carriers have been negative. Weather Shield Manufacturing, Inc. provides one example in the region of how rail transportation can become successful, economical, and provide a competitive edge to the company.
7. The increased demand for transportation coupled with capacity and cost issues in trucking create a situation where railroads can raise rates. Rates can be raised to cover rising costs, provide funds for infrastructure improvements, and increase profitability. A negative side effect of the rising rates may be the loss of customers who cannot afford the increased price of rail service.

#### **10.1.2. Rail Carriers**

1. The business model for the Class 1 railroads is changing. Energy (coal) and Intermodal (both domestic and international) rail business segments are witnessing double digit growth as a result of U.S. foreign trade policy and the current energy situation. The strong demand in these two sectors has required carriers to focus a majority of their resources on new strategies to accommodate traffic growth and rail congestion at ports and interchange gateways.

2. Railroads are private companies with shareholder responsibilities. As private companies they are responsible for defining their own business models and customer relationship strategies. New increased level of demand has forced Class 1 carriers to reassess their internal transaction costs and where possible, pass these costs on to users in proportion to their use of the system. This is the case in the study area. Questions remain as to the costing being proportional in the study region. Activity based costing is a strategy many Fortune 500 companies use in an attempt to reduce costs for true partnership efforts and railroad are increasingly using this accounting procedure and this will be the case in the study region.
3. Railroads have historically been most efficient and productive when they handle large volumes of traffic moving long distances. This economic reality has not changed over the past 100 years. What has changed in the last 25 years is the utilization of the existing rail infrastructure. In an effort to maintain base levels of business in the face of significant competition, certain car types were priced without replacement costs assuming that this business was over time not destined to remain in rail service. Many markets were served and many trains carried excess capacity which could be sold at variable cost levels. Today the system is running at or near capacity in many markets and the Class 1 carriers are in a strong position to make capacity and market decisions based on internal rate of return measurements and network velocity. This new business environment is the heart of the issue in the NW/UP market.
4. Many entities have historically considered railroads as “public utilities.” During the times of regulation and when extra capacity existed, it was difficult for rail carriers to turn away customers and they were not allowed to set their own rates. With current demand this has changed. Just like other corporations, railroads must provide market based profits to their stakeholders, which make them very conservative, especially when considering new business that require either infrastructure or equipment investments. Carriers will only commit to business that is considered profitable in the long run. There seems to be a learning curve among all stakeholders that rail transportation can not be taken for granted.
5. Rail carriers consistently responded to the inquiries for a 5-year or strategic plan with the statement that “we will serve the region as long as the business is there.” Carriers also clearly stated their interest to increase the business in the region in the long run, but only if it seems economically viable based on their business model. The sharing of strategic business plans should be a two way effort between carriers and shippers. Effective supply chain management requires ever increasing collaboration with extended time horizons, information sharing and joint planning. Carriers can devote additional assets to regions where there are known growth prospects.
6. As part of the reorganization and rationalization efforts, the railroads have reduced traditional industrial development functions (a department focused on identifying and locating new business on the rail network). To a large part, this function has dwindled as railroads seek to shift property development activities to the private sector. The Class 1 railroad’s local and regional sales coverage in low density regions has been automated and centralized resulting in fewer

railroad representatives in the marketplace. The railroads have attempted to bridge this loss with newsletters and Web site supplements. As interest in rail use increases, new users and many former users struggle to identify a point of contact or how to establish a business relationship. This has led shippers and economic development agencies to feel out of touch with the railroads. However the railroads expressed a willingness to work with EDAs and others to develop profitable rail traffic.

7. Class 1 business models are increasingly moving to shipper's owning or leasing rail cars and not using the railroads' rolling stock. This is true in the study region but there appeared, during the stakeholder meetings to be little if any price (rate) incentives provided by the railroads for the shippers to purchase and use their own rail cars. Since the stakeholder meetings, CN advised the research team that the railroad is beginning to address this issue by creating advantageous rates for the use of private cars for the transportation of certain commodities.

### **10.1.3. Government Agencies**

1. The State Departments of Transportation at all levels recognize the importance and benefits of rail transportation to the respective states and are willing to help address rail issues where ever possible. However the railroads are private entities and the state DOT's tend to be primarily focused on highways due in part to legislative requirements, budgets, and the majority of voter interests. The state DOT's have minimal additional funds to devote to rail issues and railroads in many cases, have expressed a clear lack of interest in using public funds for rail upgrades.
2. Government agencies recognize that shifting freight from highway to rail or marine modes would reduce congestion, pavement damage, and other external costs such as pollution. The agencies also feel that market forces and not legislation will be the driving force behind modal selection.
3. Local Economic Development Agencies (EDAs) and other developers are key components in initiatives to start new businesses in the region, and sometimes rail services can be critical when making final decisions.
  - a. EDAs have stated their dissatisfaction at current flow of rail related information from the carriers.
  - b. However, inquiries for EDAs by the study team to specify the difficulties or to participate in efforts to improve the information flow by developing a GIS based system resulted in minimal support. EDAs on the whole are less knowledgeable about rail usage, business models, shipper needs for rail transportation, and do not interact with rail carriers on a regular basis.

## **10.2. Recommendations**

For all recommendations a single party such as Rail Carriers, Shippers, or Government Agencies will take the lead but these actions will have the greatest chance of success with proactive collaboration.

### **1. Improve Communications – Long and Short Term Plans for Carriers and Shippers**

- a. Continue to hold scheduled stakeholder meetings. These can be initiated by the railroads with assistance from EDAs or a third party.
- b. Associations can provide a productive way to combine shipper-carrier interactions into one larger package and use limited resources effectively. Shipper's associations that serve the region could help in rate negotiation, supply chain management, car pooling, and consolidation of cargo. The development and use of associations should be promoted.
- c. Where possible communicate long and short term plans for carriers and shippers.
- d. Active stakeholder participation is a necessity. The potential for public-private partnerships to improve or preserve rail services should be investigated at vulnerable locations.

**2. Rail Carriers Need to Expand Their Outreach to Seek Customer Input**

- a. Survey customer needs, and act on them where feasible.
- b. Communicate strategies for stakeholders to participate in improving rail services.
- c. Locate more rail sales staff in the region or increase the communication frequency with stakeholders.
- d. Establish a rail ombudsman (similar to positions that the BNSF has created in Montana and North Dakota) to form a single point of contact for communication with local and regional stakeholders.

**3. Supply Tools to Support Supply Chain Management**

- a. Shippers need to assess their supply chains to determine where rail could be used to lower costs by reducing empty back hauls. The railroad and third party logistics providers can assist in this process.
- b. In this study, a Rail User Tool Kit was developed to help facilitate shippers to use rail services. This on-line tool kit should be regularly updated and kept available for all shippers.
- c. Shippers should actively work with carriers to make their freight characteristics more desirable.
  - i. Reduce switching or railroad work events.
  - ii. Manage account activities in a paperless and automated fashion
  - iii. Use equipment and service efficiently and effectively
- d. Encourage higher educational institutions to provide courses and seminars to support shippers adjusting to a changing transportation system. Shippers need to gain an understanding of the carrier's goals and objectives and work together to improve asset velocity and utilization.
  - i. Supply chain management and modal management courses and seminars
  - ii. Outreach to the regional companies
- e. A GIS tool that incorporates up to date rail data and is linked to economic development sites and the rail company's economic development managers could be a useful tool to assist in increasing rail

freight in the region. However, a cost benefit analysis should be done to determine economic feasibility.

**4. Support Shippers' and Rail Carriers Interaction with Regional Communities**

- a. Continued development of tools for shippers to encourage increasing rail.
- b. Continued government support toward shippers' rail improvements in the form of grants and loans.

**5. Formally Recognize External Costs of Transportation**

- a. The states of Wisconsin and Michigan should examine changing regulations to allow carbon credits for switching to more fuel efficient, less polluting forms of transportation. This action would encourage the use of more environmentally friendly modes of transportation, such as rail, and lessen the distortion of the marketplace because the external costs of pollution are not recognized. The State of Texas has models providing carbon credits for switching from highway to a less polluting mode such as rail or marine
- b. Estimate the external costs for the region and states, if rail service was either partially or totally discontinued.

**6. Explore the Feasibility of Adding Transload Centers**

- a. Transload centers are common loading/unloading facilities where regional shipments in a variety of commodities and packaging configurations could be gathered and prepared for rail pick-up.
- b. The goal of these transload centers is to consolidate users for efficiency.
- c. The transload centers should be located within easy access to the global marketplace.

**7. Shortline or Regional Railroad Operator Options**

The current CN business model, which is tailored for larger volumes and long-distance shipments, does not seem to fit the region's rail transportation needs or encourage regional shipping by rail. While CN is committed to serving the region, a continuing decline in rail traffic could result in those segments facing abandonment and a loss of rail service for the region due to CN business economics. Before abandonment is considered, three alternatives to preserve rail service in NW/UP should be investigated:

- a. Consider having CN modify their business model for this area to better fit the regional traffic characteristics.
- b. Research the potential of selling line segments to short haul carriers
  - i. This should be done when business levels are high enough to ensure probable success
  - ii. Agreements would need to be in place to allow the short haul carrier reasonable access to Class 1 networks.
- c. Consider the potential of selling line segments to appropriate government agencies who want to preserve the corridor

**8. Promote Economic Development by Enhancing Rail Access**

- a. Current state and federal aid to shippers to support rail usage is useful and well promoted by the states' Departments of Transportation.

- i. Provide additional and improved tools to EDAs so that rail can be considered as a viable addition to highway transportation.
  - ii. The tools and information needs to have full railroad participation to be effective.
- b. There are several ways to improve the information flow using GIS and Internet based models. However, a cost benefit analysis should be done to determine the economic feasibility of investing in the system and all parties using the system should provide initial and ongoing funding.

# Appendix 11.1

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## Literature Review

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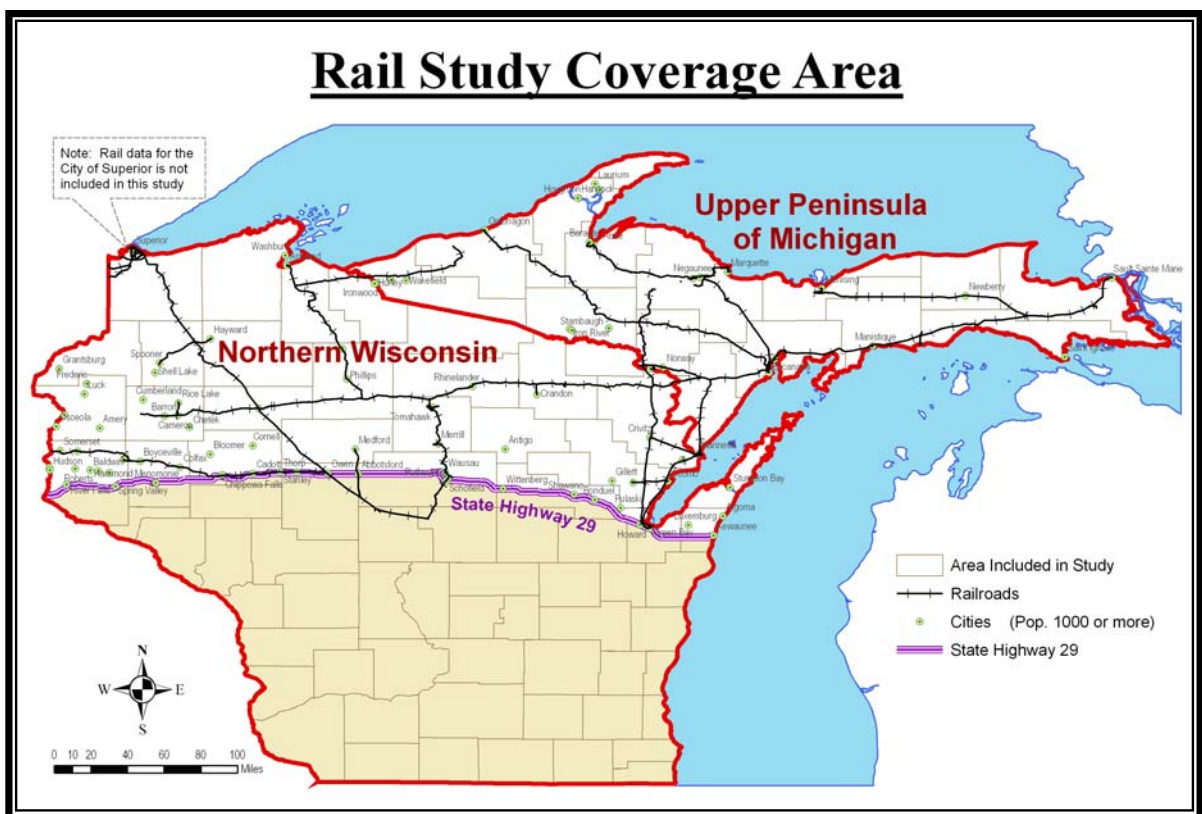
Wisconsin DOT rail site with map of rail lines. <<http://www.dot.wisconsin.gov/travel/rail/index.htm>>

# Appendix 11.2

## Rail Tool Kit

# Rail User Tool Kit

Northern Wisconsin and Michigan Upper Peninsula Rail Study  
2005-2006



**MichiganTech**

UNIVERSITY of WISCONSIN  
*Superior*  
Wisconsin's Public Liberal Arts College



<http://www2.uwsuper.edu/trans/>

## **About this Rail User Tool Kit:**

This Rail User Tool Kit was prepared as a result of a Federal Rail Grant provided by Congressman Obey. It was conceived as a result of user interest and the need for a general reference tool for users who were not familiar with railroad service or programs. The document was created by a research team under the leadership of Libby Ogard from Prime Focus, LLP with input received from a variety of users, public agencies and carriers. If there are areas of interest, or items which are missing, please notify Dr. Richard Stewart at the University of Wisconsin-Superior, Transportation and Logistics Research Center. <http://www2.uwsuper.edu/trans/> The Rail User Tool Kit is part of a larger study on rail service in Northern Wisconsin and the Upper Peninsular of Michigan that is available for download on the UW-Superior, Transportation and Logistics Web site.

With any publication, contact information, people, and phone numbers change often. In an effort to minimize this inconvenience Web sites and multiple points of contact for various sources of information are mentioned.

For new rail users, there are four critical factors which will help identify if rail service is a viable transportation alternative for your business.

1. Shipment quantity – Large volumes and order sizes are best suited for rail shipment.
2. Length of Haul – Distance is another key determinate. Rule of thumb is any movement over 700 miles could be considered rail suitable. However this distance varies with volume and the density of the product. High volume, high density cargoes may gain advantage shipping by rail over much shorter distances.
3. Transit Time – Adequate order lead time is essential. Rail shipments move much slower than truck transportation.
4. Complexity – Railroading is not new, rules may vary by carrier. Many nuances exist which is why this tool kit was developed. Using rail requires an initial investment of time and effort. The railroad companies are becoming more proactive in helping new customers.

Last but not least, information and education resources are also included for further investigation.

This Rail User Tool Kit was developed for the new user as an introduction to rail transportation. The research team does not endorse or sponsor any of the carriers, trade associations, educational links, or public agencies listed in the following pages.

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## Getting Started

This section is devoted to help potential users assess if railroad transportation will meet their logistics needs. This section is intended to help identify key contacts and considerations.

**Mode Selection** – There are three different ways to take advantage of rail transportation economics.

### *Carload*

Carload shipments are loaded/unloaded at the user's site. Railcars are spotted by the rail carrier at the plant or facility which is served by a rail siding. These sidings are typically owned by the business or facility owner. The railroads provide box cars, hopper cars, flat cars, and a limited number of specialty cars. Typically refrigerated, tank, or single purpose cars are owned by the shippers or may be leased from fleet owners. For specific information on rail cars please go to the equipment section. Carload service is sold directly by the railroads. Typically shipments move more than 600 miles.

### *Transload*

Transloading is a way for users to access the rail network if their facility is not physically located on the rail line. Transloaders typically offer services which consolidate local truck pick-ups/deliveries into rail carload quantities. These professionals oversee blocking and bracing of the shipment and provide customer service and various other value added services such as warehousing, mixing, labeling etc. There are over 700 transload centers nationwide. Many operate as agents for the railroad, some are independent operators. There are many different types of transloading services which facilitate liquid, bulk, hazardous, perishable, frozen, high value, and/or finished goods movement. For more specific information on Transloading, the Transloading and Distribution Association has a Web site [www.transload.org](http://www.transload.org) Many railroads often list transload facilities on their Web site. Transloading is not a new concept, as rail interest grows transloading services are gaining in popularity. Transloading is an economical way to locate products closer to your customers. Inventories can be managed to allow for truck deliveries on short notice. Transloading is a good way for shippers without rail access, to try rail with limited investment or risk. Transload services are most effective in movements of 600 miles or more.

### *Intermodal*

Intermodal combines truck pick up and delivery with rail line haul service. Containerize shipments are loaded and unloaded directly at the users facility. Typically international shipments move in 20' - 40' containers. Domestic shipments move in 48' and 53' containers. International containers are often owned or leased by the ocean carrier. Domestic containers may be owned by the rail carrier, a third party logistics company or a domestic trucker. This service is sold through the intermodal marketing companies, the ocean carriers or domestic truckers.

Containers or trailers are spotted at the user's facility where they are loaded and sealed. The shipments move to intermodal terminals and enter the rail network. The average intermodal load moves over 1,100 miles and crosses two rail carrier networks.

***Shipment Characteristics:*** The following list of questions is provided to help aid users in shipment considerations. Railroads have damage prevention professionals on staff to aid users in developing secure shipment configurations.

*What are the product characteristics?*

- Refrigerated
- Hazardous - special considerations maybe necessary
- Fragile - special packaging might be required
- Bulk product subject to load shifting - special load blocking

*What is the expected transit time?*

- Intermodal is typically truck transit time plus two days. Intermodal shipments move in dedicated trains between terminals providing the most consistent rail service.
- Railroad cars transit times will vary based on how many days per week the pickup or delivery location is provided with railroad switching service. Shipments which interchange between two carriers may take longer.
- Transload providers will be able to provide schedule information based on work requirements for each load.
- Check schedules to make an informed decision.

*What is the size and weight of your shipment?*

- Intermodal containers can handle up to 46,000 lbs.
- Railroad cars can typically handle three to four truck shipments in each car, depending on equipment type.
- Rail cars need to be weighed to determine rates in some instances. These charges are often in addition to the transportation line haul charges.
- Check equipment specifications for details at [www.railinc.com](http://www.railinc.com)

***Origin Characteristics:***

*Where will the shipment originate?*

- Your plant or facility?
- A transload center?
- An Intermodal terminal?

*If so, which carrier serves this facility?*

- Identification of the carrier serving the facility is your starting point for service and rates. If your facility is not rail served, intermodal containers may be an easy way to access the railroad. If you plan on

using intermodal, identify the terminals in your area. Transloading in another option, identify transload centers in your area. Terminals and transload centers are listed on the railroad Web site.

***Destination Characteristics:*** Is the destination of your shipment located on rail or in proximity to an intermodal or transload center?

- *Is the destination rail served?*
- *If not, where are the closest Intermodal or transload terminals in your area?*

***Route Selection:*** Once you have determined whether the origin and destination points are rail served you will be able to narrow down the actual mode choice. The next step is to identify which carriers and terminals best fit your transportation needs.

*What is the geographic reach of each carrier?*

- Start with a carrier map and see the geographic reach of each carrier. Interchange between two carriers may be necessary to move to the East or West Coasts. Interchange of rail cars between railroads usually incurs additional charges and these must be determined in the pro-forma statement.

***Loading Consideration:***

*How much will your product weight?*

- An advantage of rail service is its ability to haul much heavier, longer, and wider loads than trucks. However, heavy loads may exceed a rail carrier's track limits on portions of the system. For example, a large segment of the CN rail network in the study area is limited to 263,000 pounds while the main rail from Superior to Chicago is limited to 286,000 pounds.

*How much of the transportation vehicle's cubic capacity will be taken up by the product?*

*Will your product weigh out before it cubes out or will it cube out before it weighs out?*

***Equipment Options:***

*Will you be using rail cars or Intermodal containers?*

*If you are using rail cars what type of cars will you use?*

The following list, although not exhaustive, displays the multiple car types that are appropriate for different commodities. It is important to check with your rail service provider to confirm car availability.

- Automotive Equipment
- Fertilizer and Potash
- Forest Product Cars
- Government Hopper Cars
- Grain Product Cars
- Hopper Cars
- Lumber and Panels
- Metals and Minerals
- Petroleum and Chemicals
- Pulp and Paper



Centerbeam Car

Specially designed for the lumber industry; the 73-foot centerbeam car combines ease of loading and unloading with maximum safety for the product. Fifty-one-foot and 66-foot centers beam cars are also designed for lumber traffic.



Bulkhead Flat Car

Used in the forest products industry for transporting lumber, these bulkhead flat cars are suitable for carrying loads of 80 to 97 tons.



Double-Door Boxcar

50, 52, and 60-foot double-door boxcars come in a full range of configurations. Some are capable of carrying up to 6,600 cubic feet of cargo, with door openings ranging from 10 to 18 feet. These boxcars are used in panelboard and lumber service.

### ***Determining equipments size***

It is always best to check with your potential rail service provider to find out what equipment they have to offer since there are many different car types and sizes available throughout the industry. Another helpful resource, the Steelroads Equipment Information uses information from the Universal Machine Language Equipment Register (Umler), a database containing information about all rail equipment available in North America. These services are maintained by the Railinc Corporation and more information is available at: <http://www.railinc.com/view.cfm?cnid=36> The following list displays the available information from the Steelroads Equipment Information

#### Dimensions

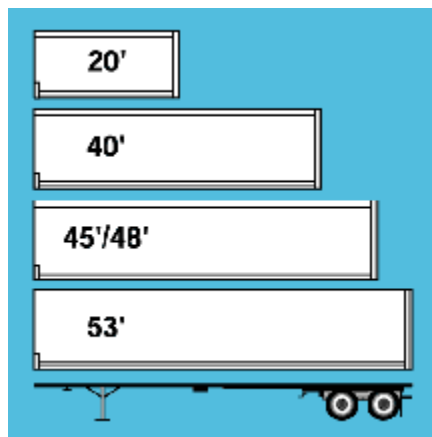
- Inside Dimension – Length, Height, Width
- Clearance
- Outside Dimension – Length, Extreme Height, Extreme Width
- Height Ext. Width

#### Weight/Capacity

- Capacity
- Tare Weight
- Load Limit
- Total Weight
- Axles

### ***Determining container size***

The following chart displays standard containers.



### ***Blocking and Bracing:***

*What are your blocking and bracing needs?*

Loading guides are available from the originating carrier. Intermodal shipments are blocked similar to highway trailer shipments, carload shipments may require load securement if there are voids in the way the product is loaded in the rail car. It is important to remember that rail service experience coupled shock forces and some products may require special packaging and securing. Check with your rail service representative for more details.

## **Rail Service Resources and Providers**

The following resources contain rail network and rail contact information:

- The [U.S. Railroad Traffic Atlas](#), by Harry Ladd, contains information about volume and trackage and haulage rights.
- The [Professional Railroad Atlas](#), by Rand McNally contains contact information on rail companies, distances, and reporting marks.
- The American Short Line and Regional Railroad Association  
<http://www.aslrra.org/home/index.cfm>
- The American Association of Railroads, <http://www.aar.org>

The following companies offer rail services in Northwest Wisconsin and the Upper Peninsula of Michigan. Other rail companies connect with these carriers to reach markets across North America.

Burlington Northern Santa Fe (BNSF) - [www.bnsf.com](http://www.bnsf.com)

Canadian National (CN) - [www.cn.ca](http://www.cn.ca)

Escanaba and Lake Superior (E&LS) - [www.elsrr.com](http://www.elsrr.com)

Lake Superior Ishpeming (LS&I) - NA

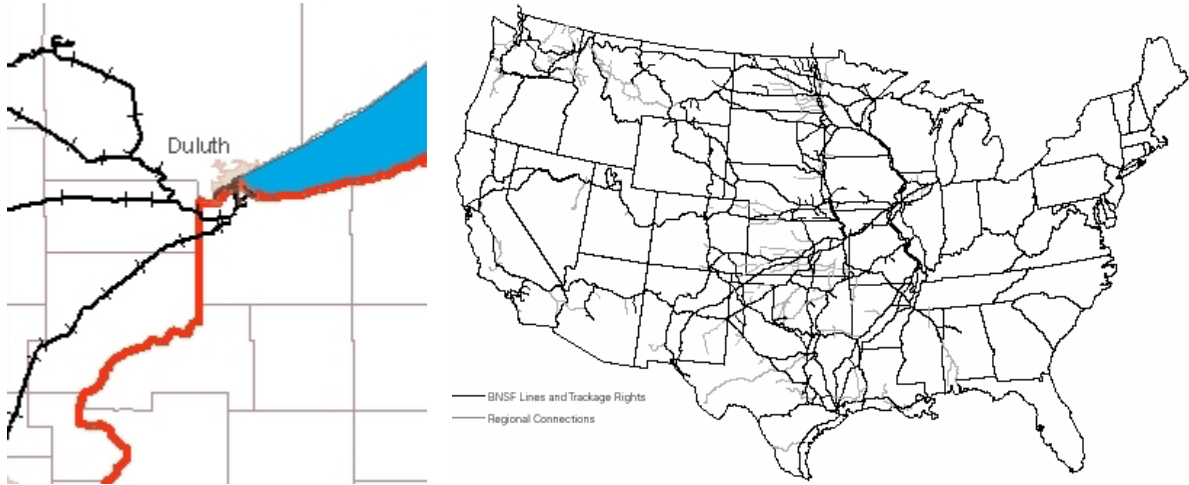
Progressive Rail (PR) - [www.progressiverail.com](http://www.progressiverail.com)

Tomahawk Railway (TR) - NA

Union Pacific (UP) - [www.up.com](http://www.up.com)

# Burlington Northern Santa Fe (BNSF)

## BNSF Map



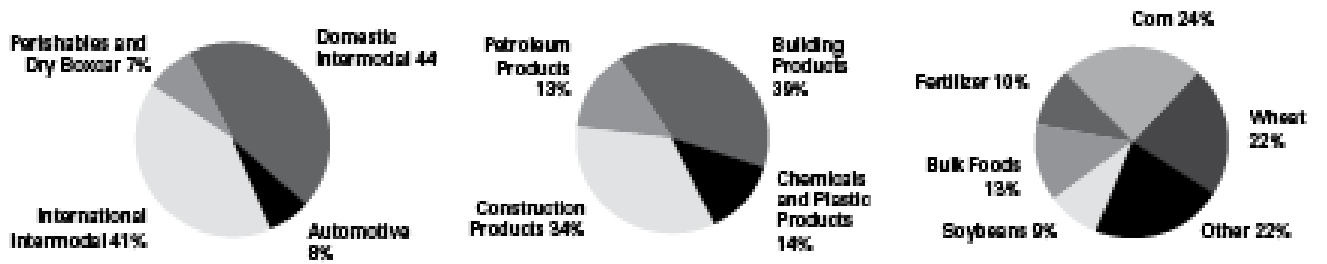
## BNSF Contacts

Web site: [www.bnsf.com](http://www.bnsf.com)  
 Phone Number: 1-800-795-2673  
 Mailing Address:  
 P.O. Box 961956  
 Fort Worth, TX 76161-0056

Sales Representative (for MN, WI, MI,  
 IA, IN, and IL)  
 Tel.: 708-924-6758

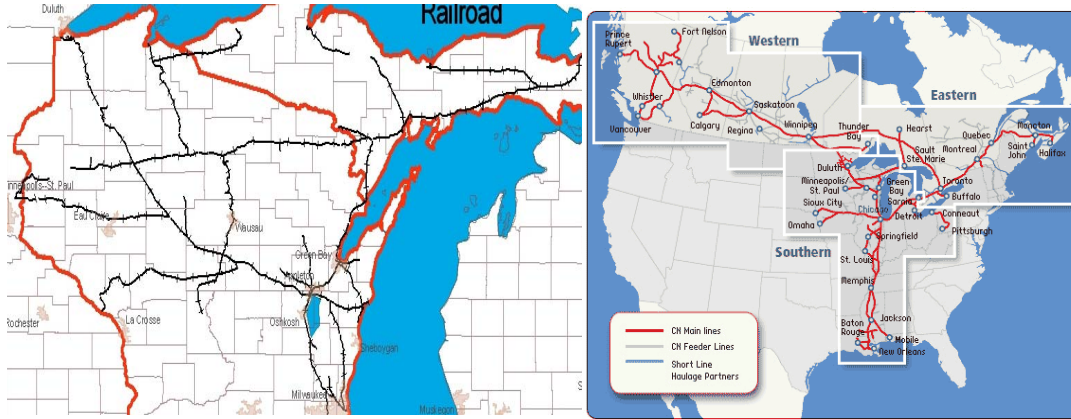
## BNSF Information

<http://www.bnsf.com/investors/annualreports/2005annrpt.pdf>



# Canadian National (CN)

## CN MAP for Northern Wisconsin and the Upper Peninsular of Michigan



Major Railroad connections: [http://www.cn.ca/about/en\\_about.shtml](http://www.cn.ca/about/en_about.shtml) (Then click on "CN Network Map")

### CN Contacts

Web site: [www.cn.ca](http://www.cn.ca)

Home Office Mailing Address:

935 de La Gauchetiere St W  
Montreal, Quebec  
H3B 2M9

Contacts for new Customers  
Trans-Com Transport Limited  
1-800-354-9046 Account  
Development 1-888-MOVIN-CN

Upper Peninsula contact  
Account Manager:  
Chris Hellem 920-842-2822

Northwestern Wisconsin: Contact Account Mgr John Milquet 715-345-2581

For general info contact: Customer Service (Stevens Point, WI) 800-822-6440

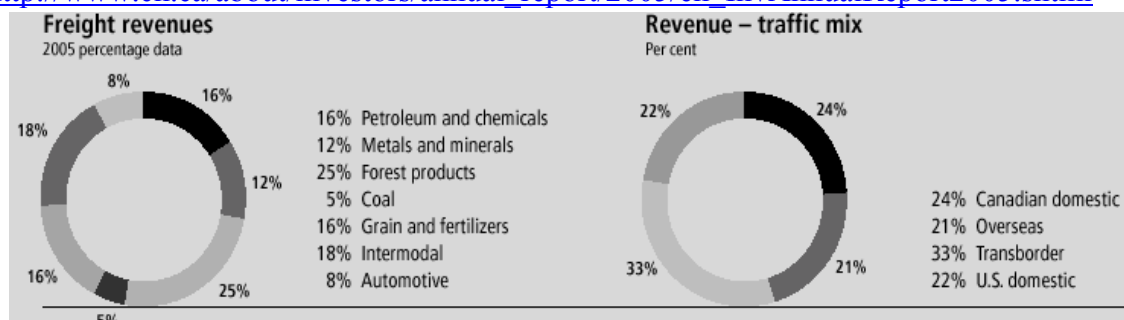
**The following information is provided by CN to assist customers in the region.**

1. **Prior RR use by customers:** Can be determined when potential customers call and location is determined.
2. **Spur Availability:** Contact Customer Service or Account Manager assigned to the specific region for information about spur availability.
3. **Cars Spotted:** Determined by specific track or siding.

4. **Service Frequency:** Subject to change. Contact Customer service and provide location of city and state.
5. **Clearance Restrictions:**  
[http://www.cn.ca/productsservices/metals\\_minerals/machinery/classification/en\\_Machinery\\_Classification.shtml](http://www.cn.ca/productsservices/metals_minerals/machinery/classification/en_Machinery_Classification.shtml)
6. **Weight Restrictions:** Branch lines 263,000 gross lbs. Main lines 286,000 gross lbs. Check with customer service and provides CN representatives with shipping origin destination pairs.  
[http://www.cn.ca/customer\\_centre/services\\_support/railcapacity/en\\_railcapacity.shtml](http://www.cn.ca/customer_centre/services_support/railcapacity/en_railcapacity.shtml)
7. **Serving Yard:** Determined by location of shipment origin or destination. Customer service can provide this information.
8. **Car Supply Types:** Determined by product shipping. i.e. Forest products:  
[http://www.cn.ca/productsservices/forest\\_products/pulp\\_paper/resource\\_centre/equipment/en\\_Pulp\\_Equipment.shtml](http://www.cn.ca/productsservices/forest_products/pulp_paper/resource_centre/equipment/en_Pulp_Equipment.shtml)
9. **Intermodal:**  
[http://www.cn.ca/productsservices/intermodal/terminals/en\\_IMX\\_Terminals.shtml](http://www.cn.ca/productsservices/intermodal/terminals/en_IMX_Terminals.shtml)
10. Major Railroad connections: [http://www.cn.ca/about/en\\_about.shtml](http://www.cn.ca/about/en_about.shtml)
11. **Customs:**  
[http://www.cn.ca/about/media/news\\_releases/2006/2nd\\_quarter/en\\_News20060418.shtml](http://www.cn.ca/about/media/news_releases/2006/2nd_quarter/en_News20060418.shtml)
12. **Optional Services and tariffs (fuel surcharge):**  
[http://www.cn.ca/customer\\_centre/services\\_support/supp\\_services\\_tariffs/en\\_KF\\_ChargeableServices.shtml](http://www.cn.ca/customer_centre/services_support/supp_services_tariffs/en_KF_ChargeableServices.shtml)
13. **Short line RR Partners:**  
[http://cnplus.cn.ca/it/Shortlines/SL\\_Static.nsf/sl\\_home/english?OpenDocument](http://cnplus.cn.ca/it/Shortlines/SL_Static.nsf/sl_home/english?OpenDocument)
14. **Specialized Services:** [http://www.cn.ca/specialized/en\\_index.shtml](http://www.cn.ca/specialized/en_index.shtml)
15. **Sale of Surplus Assets:** [http://www.cn.ca/about/surplus\\_assets/en\\_index.shtml](http://www.cn.ca/about/surplus_assets/en_index.shtml)
16. **Safety:** [http://www.cn.ca/about/safety/en\\_index.shtml](http://www.cn.ca/about/safety/en_index.shtml)
17. **Transportation of Dangerous Commodities:**  
[http://www.cn.ca/about/safety/dangerous\\_goods/en\\_index.shtml](http://www.cn.ca/about/safety/dangerous_goods/en_index.shtml)

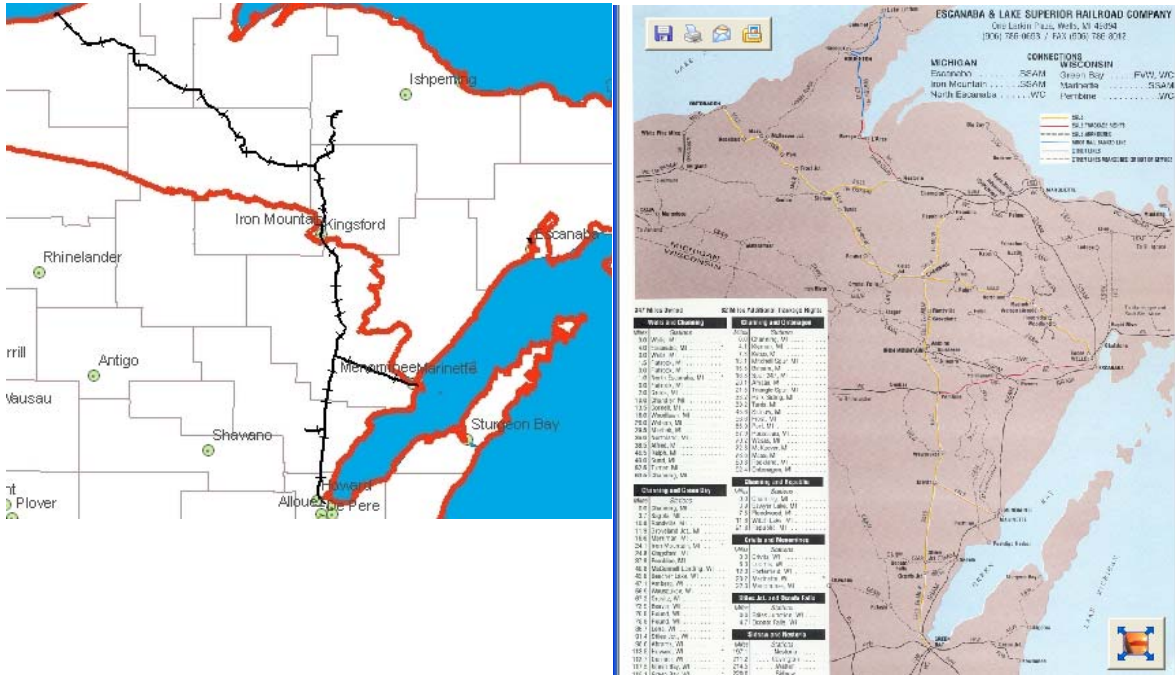
CN owns and operates the largest fleet of equipment in Canada, for more information on specific types and exact dimensions, contact your Account Manager. **Car Supply Types:** Determined by product shipping. i.e. Forest products:  
[http://www.cn.ca/productsservices/forest\\_products/pulp\\_paper/resource\\_centre/equipment/en\\_Pulp\\_Equipment.shtml](http://www.cn.ca/productsservices/forest_products/pulp_paper/resource_centre/equipment/en_Pulp_Equipment.shtml)

[http://www.cn.ca/about/investors/annual\\_report/2005/en\\_InvAnnualReport2005.shtml](http://www.cn.ca/about/investors/annual_report/2005/en_InvAnnualReport2005.shtml)



# Escanaba and Lake Superior (E&LS)

## E&LS Map



### E&LS Contacts

Web site: [www.elsrr.com](http://www.elsrr.com)  
 Phone Number: 906-786-0693  
 Fax Number: 906-786-8012  
 Mailing Address:  
 P.O. Box 217  
 Wells, MI 49894

Marketing/Customer Service  
 Tel.: 920-435-8006

### E&LS Information

The 208 mile mainline of the E&LS stretches from Ontonagon, MI on the shores of Lake Superior to Green Bay, WI. In addition to the mainline, two key branches are the 6-mile Stiles Junction, WI to Oconto Falls, WI line and the 21-mile Crivitz, WI to Marinette, WI/Menominee, MI line.

The E&LS R.R. provides a minimum of 5 day per week service over the mainline from Ontonagon to Green Bay and customizes service to meet shipper requirements in Oconto Falls and Marinette/Menominee.

The principal commodities transported by the E&LS include: medium corrugated or pulp board, scrap paper, wood pulp, pulpwood logs, oriented strand board, lumber, wood bark, canned goods, steel, scrap metal, aggregate, chemicals, and agricultural items such as corn, grains, feed, and fertilizers.



## Lake Superior and Ishpeming (LS&I)

LS&I Map



### LS&I Contacts

Contact: Jim Scullion, Manager, Maintenance and Transportation

Phone Number: (906) 475-7901

E-mail: [jims@lsandirr.com](mailto:jims@lsandirr.com)

Mailing Address:

Cliffs Michigan Mining Company

P.O. Box 2000

Ishpeming, MI 49849

### LS&I Information

Lake Superior and Ishpeming are operated by Cliffs Michigan Mining Company (CMMC) a subsidiary of Cleveland Cliffs and transports mostly ore to the ore dock in Marquette from the mining operations at Tilden and Empire Mines and rare moves near the city of Ishpeming. General freight cargo such as Ferrelgas in Negaunee is uncommon. There are also shipments of coal from the upper harbor of Marquette where coal is unloaded for the UP Generating Company. LS&I works with the Canadian National Railway to deliver pellets to the ore dock in Escanaba on Lake Michigan.



## **Progressive Rail (PR) / Wisconsin Northern**

### **Progressive Rail Contacts**

Web site: [www.progressiverail.com](http://www.progressiverail.com)

Phone Number: 1-(888)-776-7245

Fax Number: (952)-985-7626

Mailing Address:

Airlake Industrial Park  
21778 Highview Avenue  
Lakeville, MN 55044

E-mail: [info@progressiverail.com](mailto:info@progressiverail.com)

### **Wisconsin Northern Information**

This railroad operated by Progressive Rail runs in northwest Wisconsin out of Chippewa Falls. They operate north to Cameron, WI - Rice Lake, WI on Monday and Wednesday, south on the return route on Tuesday-Thursday. They provide service to Barron, WI on as needed basis. Progress Rail provides special services such as multiple switches per day, rate making assistance, transloading and more. A portion of the rail line is leased from the Union Pacific railroad.



## **Wisconsin Great Northern Railroad**

The Wisconsin Great Northern Railroad is a historic excursion and dinner train operating on approximately 20 miles of former Chicago & North Western track between the northern Wisconsin towns of Spooner and Springbrook with connections to CN's track at Stanberry Junction. The Excursion Train operates under a permit issued by the Wisconsin Department of Transportation Bureau of Railroads and Harbors. There is no scheduled freight service as of January 2006.

### **Contact Information**

Phone Number: 715-635-3200

426 North Front Street, Spooner, WI 54801

E-mail: [manager@spoonertrain.com](mailto:manager@spoonertrain.com)



## **Tomahawk Railway (TMK)**

The Tomahawk Railway is owned by the Genesee & Wyoming Railroad

### **Tomahawk Contacts**

#### **Manager of Operations**

Phone Number: (715) 453-2303

Cell Number: (715) 966-0500

Fax Number: (715) 453-3518

Mailing Address:

Tomahawk Railway, L. P.

P. O. Box 130

Tomahawk WI 54487

#### **Marketing Contact**

**Al Abruzzese**, *Manager - Marketing & Distribution*

Phone: (717) 771-1732 152

Fax: (717) 845-2898

204 N. George Street

Suite: 220

York, PA 17401

E-mail: [aabruzzo@gwrr.com](mailto:aabruzzo@gwrr.com)

### **Tomahawk Information**

Tomahawk Railway operates on four miles of track, serving one primary customer (Packaging Corporation of America.) TR operates 365 days per year, with typical operating hours between 0500-2100 or as needed, based on customer request.

Tomahawk Railway is owned by the Genesee & Wyoming Railroad and is a division of Rail Link. **Rail Link, Inc.**, is a subsidiary of Genesee & Wyoming Inc., that provides industrial switching and related customer logistics services.

## Union Pacific (UP)



### UP Contacts

Web site: [www.up.com](http://www.up.com)

Phone Number: 1-(888)-870-8777  
(402)-544-5000

Mailing Address: Union Pacific Railroad  
400 Douglas Street  
Omaha, NE 68179

### UP Information

The Union Pacific Railroad links to the study area through the Progressive Rail line in Cameron, WI.

UP owns, operates, and maintains millions of dollars worth of rail equipment. These car descriptions explain each car's general usage, the main types of commodities shipped in each style of car, and some of the special features which distinguish the various styles.

UP's [Equipment Resources and Policies](#) page provides additional information. See [Damage Prevention](#) information for the steps UP takes to protect shipments. Contact the Association of American Railroads (AAR) at (877) 999-8824 to order loading, unloading, and other information. Frequently-requested documents include the Office Manual of AAR Interchange Rules and the Field Manual of AAR Interchange Rules.

## **Access Provisions**

According to the AAR (<http://www.all-aboard-rr.com/AAR-GLOSSARY.html>), the definitions for trackage and haulage rights are as follows:

### ***Trackage Rights***

An agreement between two railroads according to which, one railroad buys the right to run its trains on the tracks of the other, and usually pays a toll for the privilege. That toll is called a "wheelage" charge. An arrangement in which one railroad (the "tenant") negotiates the right to operate its trains over specific segments of track owned by another railroad (the "owner,") usually without rights to serve customers located along that portion of the line.

### ***Haulage Rights***

An arrangement where one railroad (the road receiving haulage rights) may negotiate rates or contracts with customers located on another railroad's line (the road granting haulage rights). The railroad receiving haulage rights supplies the cars.

According to Ladd's 2001 U.S. Railroad Traffic Atlas, the following companies own track rights in Northwest Wisconsin and the Upper Peninsula of Michigan:

- **CN** has trackage rights on SSAM's line from Green Bay, WI to Oconto, WI and from Marinette, WI to Escanaba, MI and from Larch, MI to Negaunee, MI.
- **CP** has trackage rights on CN's line from Junction City, WI to Weston Plant, WI; from Wisconsin Rapids, WI to Junction City, WI; and on BNSF's line coming from Minnesota to Superior, WI.
- **ELS** has trackage rights on CN's line from Pembine, WI to Hermansville, MI and on SSAM's line from Marinette, WI to Menominee, MI.
- **TR** has trackage rights on CN's line from Tomahawk, WI to Bradley, WI.
- **UP** has trackage rights on CN's line from Gordon, WI to Spencer WI; from Somerset, WI to Owen, WI; from Wisconsin Rapids, WI to Junction City, WI; and on BNSF's line coming from Minnesota to Superior, WI.

There may be additional rights granted on a special basis contact customer service in the railroads.

**Third Party, Outsourcing and Supplier Considerations:**

You can work directly with the railroad. If you do not have a transportation department and rail transportation seems too complex at first, third party shipper agents can be helpful resources in managing rail traffic. Third Party Logistics providers (3PLs) have expertise in many different areas. Firms in this area provide a broad range of services. It is necessary to carefully identify your needs before you select a provider. Third parties may be experts in rail, truck, warehousing, freight payment, value added services, and/or product merge in transit operations. Most providers are not an expert in every facet of logistics.

There are several sources which identify and rank 3PLs, and provide supplier directories.

- Armstrong Associates Inc: <http://www.3plogistics.com/>
- Global Logistics and Supply Chain Magazine: <http://www.glsccs.com/>
- Logistics Today: <http://www.logisticstoday.com/>

If you are shipping intermodal containers or trailers you may work with a Third Party Intermodal Marketing Company, often referred to as IMCs. Railroads wholesale their intermodal product to these companies who provide door to door service. These companies can provide you with rail rates, equipment availability, and schedules. Two Web sites list many of the providers of these services.

- Intermodal Association of North America: <http://www.intermodal.org/>
- Transportation Intermediary Association: <http://www.tianet.org/>

If you do not have rail access, a transloading operation maybe necessary. The following list represents members of the Transload Distribution Association. These companies specialize in consolidating shipments and transload product to and from rail cars. A more complete list is available at:

- Transportation Distribution Association: <http://www.transload.org/members.html>

**Transload Distribution Association  
North Central Region - Transload Member Locations**

<b>Company</b>	<b>City</b>	<b>State/Province</b>	<b>Service Location</b>	<b>Country</b>
<a href="#">Bulkmatic Transport</a>	Saginaw	MI	Saginaw	USA
<a href="#">Bulkmatic Transport</a>	Willis	MI	Willis	USA
<a href="#">Bulkmatic Transport</a>	Dowagiace	MI	Dowagiace	USA
<a href="#">Capitol Warehousing</a>	Windsor	WI	Windsor, WI	USA
<a href="#">Hallet Dock Company</a>	Superior	WI	Superior, WI	USA
<a href="#">Mallory Properties</a>	Milwaukee	WI	Rockton, IL	USA
<a href="#">Reload Inc</a>	Lacrosse	WI	Lacrosse, WI	USA
<a href="#">RSI Leasing Inc.</a>	Milwaukee	WI	Port of Milwaukee Area	USA
NDS Warehouse	Rhineland	WI	Rhineland, WI	USA

<a href="#">TRANSFLO - Kinder Morgan Material Services</a>	Wixom	MI	30350 Wixon Rd., Wixom, MI	USA
<a href="#">TRANSFLO - Savage FlexiFlo</a>	Melvindale	MI	Melvindale MI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	555 Bell St, Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	2605 N. Casaloma Drive, Appleton, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	100 W. Prospect, Combined Locks, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	2557 Leahy Court, Stevens Point, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	655 Brighton Beach Rd, Menasha, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	8500-8525 Martin Dr, Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	1771 Morris St, Fond Du Lac, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	356 Dixie Street Fond Du Lac, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	1222 Ehlers Road, Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	3500 Wolosek Ave, Wisconsin Rapids, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	1286 Ehlers Road Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	845 Specialists Ave, Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	1097 Ehlers Rd, Neenah, WI	USA
<a href="#">Warehouse Specialists Inc.</a>	Appleton	WI	1500 Disk Drive, Plover, WI	USA

There are many railroad suppliers. The following Web sites list equipment providers, leasing and financing firms, consulting, repair, maintenance and management services, design, building and construction firms. The listings below are provided as examples without financial evaluation or recommendation.

[www.railserve.com/Equipment/Consultants/](http://www.railserve.com/Equipment/Consultants/)

[www.aar.org/Our\\_Members/our\\_members.asp](http://www.aar.org/Our_Members/our_members.asp)

[www.intermodal.org/XMEMBER.HTM#SUPPLIER](http://www.intermodal.org/XMEMBER.HTM#SUPPLIER)

[www.thomasnet.com/products/railroad-supplies-66101403-1.html?WT.mc\\_t=pi&WT.mc\\_n=y&WT.srch=1](http://www.thomasnet.com/products/railroad-supplies-66101403-1.html?WT.mc_t=pi&WT.mc_n=y&WT.srch=1)

[www.livetrains.com/snav/27/page.htm](http://www.livetrains.com/snav/27/page.htm)

<http://enr.construction.com/resources/industryLinks/default.asp>

## **Freight Rail Assistance Programs**

The Wisconsin Department of Transportation offers two programs to preserve and improve Wisconsin's freight rail service. The Freight Railroad Preservation Program (FRPP) and the Freight Rail Infrastructure Improvement Program (FRIIP). These programs provide local government and railroads assistance in preservation or existing rail lines and encourage improvement. Since 1980 \$75 million has been awarded in grants through the FRPP program and \$35 million in loans have been awarded through the FRIIP program.

**FRPP Program Information** <http://www.dot.wisconsin.gov/localgov/aid/frpp.htm>

The Michigan State Department of Transportation Michigan Rail Loan Assistance Program (MiRLAP) is designed to help preserve and improve rail freight infrastructure by loaning funds to eligible applicants. \$1.8 million will be available for 2006 projects. Railroads, local governments, economic development corporations, and current or potential users of freight railroad services are eligible to apply for loan funds. Examples of eligible projects include: track rehabilitation; bridge and culvert repair; new construction, transload facilities, and rail consolidation projects. Projects are evaluated to determine their relative merit in conjunction with program goals. Among other things, the selection process evaluates the projects economic and safety benefits to the public, e.g., jobs created or retained; improved rail service to industrial and agricultural rail customers; elimination of grade crossings; reduction in highway traffic congestion, etc. All loans must be approved by the State Transportation Commission and the State Administrative Board. This generally takes 60-90 days after applications have been evaluated.

**MiRLAP** - [http://www.michigan.gov/mdot/0,1607,7-151-11056\\_11264---,00.html](http://www.michigan.gov/mdot/0,1607,7-151-11056_11264---,00.html)

## **State DOT Rail Resources**

Wisconsin DOT  
Hill Farms State Transportation Building  
4802 Sheboygan Ave.  
PO Box 7910  
Madison, WI 53707-7910  
<http://www.dot.wisconsin.gov/modes/rail.htm>

Michigan DOT  
State Transportation Building  
425 W. Ottawa St.  
P.O. Box 30050  
Lansing, MI 48909  
<http://www.michigan.gov/mdot/0,1607,7-151-11056---,00.html>

## **Rail Equipment Management:**

The Association of American Railroads (AAR) is a helpful resource for more information about rail management. AAR's Web site [www.aar.org](http://www.aar.org) contains information about hazardous materials, loading recommendations, and performance measures such as cars on the line, train speed, and terminal dwell times. The membership list provides many contacts for both carriers and suppliers.

The rail car fleet is aging and many carriers have decided to reduce the number and types of railcars they provide. In response to this downsizing effort, some shippers have decided to lease, pool resources with other shippers, or purchase private cars for their own use.

Equipment lease or purchase decisions require extensive analysis. Consulting firms and industry articles which outline the use, storage, and mileage payments should be carefully considered.

## **Shipper and Trade Associations**

### **Transportation Development Association (TDA)**

131 W. Wilson Street, Suite 302

Madison, WI 53703

608-256-7044 Fax 608-256-7079

E-mail: [general@tdawisconsin.org](mailto:general@tdawisconsin.org)

Web site: <http://www.tdawisconsin.org/>

Who should Join TDA? Any company who:

- Plans, improves, maintains, or operates any portion of Wisconsin's transportation system.
- Relies on Wisconsin's transportation system to deliver materials and supplies and to ship finished goods.
- Does business with the transportation industry.
- Requires insight to address transportation and mobility issues in your community.
- Needs to follow transportation issues at the state and local level.
- Depends, even indirectly, on state or federal transportation funds.
- Values the opportunity to network with others concerned about good transportation in Wisconsin and the nation.
- Tracks issues related to the coordination of land use and transportation, as well as the development of environmentally responsibly transportation.
- Seeks simple, easy to understand updates on Wisconsin transportation issues and their impacts on your community, business, or organization.

**Wisconsin Paper Council**

250 N. Green Bay Road

P.O. Box 718

Neenah, WI 54957-0718

920-722-1500 Fax 920-722-7541

Web site: <http://www.wipapercouncil.org/>

- The Wisconsin Paper Council is the trade association representing the pulp, paper, and allied industry.

**Timber Producers Associations of MI and WI**

P.O. Box 1278

Rhineland, WI 54501

715-282-5828 Fax 715-282-4941

E-mail: [timberpa@neworth.net](mailto:timberpa@neworth.net)

Web site: <http://www.timberpa.com>

- Serves land owners, loggers, resource managers, truckers, and converting facilities.
- Promotes public understanding of the Lake States Forests

**Central Corridors Freight Committee**

John Duncan Varda & Marc Bentley

2 East Mifflin ST., Suite 600

Madison, WI 53703

Fax: 608-252-9243

Web site: <http://www.centralcorridors.com/>

- 7 state, upper Midwest region
- CCFC mission is to facilitate creation of an integrated system for freight mobility, to support a highly competitive, sustainable economy in the central corridors region and the region.

**Lake States Shippers Association**

Temporary Web site: <http://www.centralcorridors.com/lssa.asp>

- Effectively apply logistics and technology solutions to the management and transportation of wood fiber from producers to consumers in the lake states region.

**Wisconsin Manufacturers & Commerce**

501 E. Washington Ave

Madison, WI 53703-2944

P.O. Box 352

Madison, WI 53701-0352

608-258-3400 Fax 608-258-3413

Web site: <http://www.wmc.org/>

- Currently has over 4,000 members representing over 500,000 employees.
- Wisconsin businesses are welcomed to join.

## **Economic Development Contacts**

Local economic development agencies on the municipal, regional, or state level are a useful source of financing and can provide everything from training to help in securing local government contracts. Sometimes the money will come from them directly, but more frequently, the local agency will provide a referral and help with loan applications.

Such aid is available since cities and regions are interested in promoting the economic health of their region and creating or retaining jobs in their area. Sometimes the toughest part about getting such help is finding out what programs are available and who to ask about them. Several different agencies and organizations -- some private, some public and some that fall somewhere in between -- may handle different facets of local economic development efforts.

### **Wisconsin Economic Development Associations**

*Barron County Econ Development Corp.*  
P. O. Box 71  
Barron, WI 54812  
800-529-4148  
E-mail: [david.miller@co.barron.wi.us](mailto:david.miller@co.barron.wi.us)  
Web site:  
<http://www.barroncounty.com/>

*Bloomer Wisconsin Industrial Development Corp. & Chamber of Commerce*  
Bloomer Community Visitor Center  
1421 Main Street, P.O. Box 273  
Bloomer, WI 54724  
715-568-3339  
E-mail: [bcchamber@bloomer.net](mailto:bcchamber@bloomer.net)  
Web site:  
<http://www.bloomer.net/~bchamber/>

*Burnett County Development Association*  
74140 County Rd K, #129  
Siren, WI 54872  
Advisor: Mike Kornmann 715-349-2979  
Web site:  
<http://www.burnettcounty.com/>

*Chippewa County Econ. Dev. Corp.*  
770 Scheidler Road, Suite #3  
Chippewa Falls, WI 54729  
715-723-7150 or 800-797-9976

Charlene Coulombe, Executive Director  
E-mail: [ccedc@chippewa-wi.com](mailto:ccedc@chippewa-wi.com)  
Web site: <http://www.chippewa-wi.com/>  
*The Development Association (Superior)*  
1225 Tower Avenue  
Superior, WI 54880  
715-392-4749 or 715-392-4740  
Web site:  
<http://www.developmentassociation.com>

*Dunn County Economic Development Corp.*  
401 Technology Drive East, Suite 400  
Menomonie, WI 54751  
715-232-4009 Fax: 715-232-4034  
Executive Director: Robert J. Bossany  
E-mail: [info@dunnedc.com](mailto:info@dunnedc.com)  
Web site: <http://www.dunnedc.com/>

*Eau Claire Area Economic Development Corp.*  
800-944-2449 or 715-834-0070  
E-mail: [ec.info@eauclaire.wi.com](mailto:ec.info@eauclaire.wi.com)  
Web site: <http://www.eauclaire-wi.com/>

*Hayward Area Development Corp.*  
15954 Rivers Edge Drive, Suite 252  
Hayward, WI 54843  
715-634-7226 Fax 715-634-8043  
E-mail: [info@hayward-wi.org](mailto:info@hayward-wi.org)  
Web site: <http://www.hayward-wi.org/>

*Iron County Develop. Zone Council*  
PO Box 97  
Hurley, WI 54534  
715-561-2922  
Kelly Klein  
E-mail: [ironcountywi@centurytel.net](mailto:ironcountywi@centurytel.net)  
Web site:  
<http://www.ironcountywi.com/>

*Marinette Community Development*  
City of Marinette  
1905 Hall Avenue  
Marinette, WI 54143-1716  
Community Development 715-732-5139  
E-mail: [mayor@marinette.wi.us](mailto:mayor@marinette.wi.us)  
E-mail: [comdev@marinette.wi.us](mailto:comdev@marinette.wi.us)  
Web site: <http://www.marinette.wi.us/>

*Oconto County Econ Development Corp*  
113 Main Street, PO Box 43  
Oconto, WI 54153  
920-834-6969 or 800-297-4343  
E-mail: [ocedc@ocontocounty.org](mailto:ocedc@ocontocounty.org)  
Web site:  
<http://www.ocontocounty.org/>

*Pierce County EDC*  
410 S. Third St, UWRF RDI Building  
River Falls, WI 54022  
715-425-3881  
E-mail: [pcedc@uwrf.edu](mailto:pcedc@uwrf.edu)  
Web site: <http://www.pcedc.com/>

*St. Croix County Economic Development Corp*  
1101 Charmichael Road  
Hudson, WI 54016  
715-381-4383  
Executive Director: William Rubin  
E-mail: [bill@stcroixedc.com](mailto:bill@stcroixedc.com)  
Administrative Assistant Jacki Bradham  
E-mail: [jacki@stcroixedc.com](mailto:jacki@stcroixedc.com)  
Web site: <http://www.stcroixedc.com/>

*Shawano County Economic Progress*  
213 East Green Bay St., PO Box 35  
Shawano, WI. 54166-0035  
715-526-5839 Fax: 715-526-2125  
E-mail: [scepi@frontiernet.net](mailto:scepi@frontiernet.net)  
Web site: <http://www.shawanoecondev.org>

Superior (see The Development Association)  
*Wausau Region Chamber of Commerce*  
200 Washington St.  
Suite 120 PO Box 6190  
Wausau, WI 54402-6190  
715-845-6231 Fax 715-845-6235  
E-mail: [info@wausauchamber.com](mailto:info@wausauchamber.com)  
Web site:  
<http://www.wausauchamber.com/economicDev/index.cfm>

### **Upper Peninsula of Michigan Economic Development Associations**

*Gogebic County Economic Development Commission*  
Gogebic Community College  
Ironwood, MI 49938  
Economic Development Coordinator  
Patrick Merrill, 906-932-2090  
E-mail: [edc@gogebic.edu](mailto:edc@gogebic.edu)  
Web site:  
<http://www.gogebic-edc.org/edcmain.htm>

*Iron County Economic Development Corporation*  
2 South Sixth, Suite 8  
Crystal Falls, MI 49920  
906-875-6688  
E-mail: [edc@iron.org](mailto:edc@iron.org)  
Web site:  
<http://www.iron.org/edc/index.php>

*Northern Initiatives*  
P.O. Box 7009  
Marquette, MI 49855  
906-228-5571 or 800-254-2156  
E-mail: [info@niupnorth.org](mailto:info@niupnorth.org)  
Web site:  
[http://northerninitiatives.com/html/contact\\_us.htm](http://northerninitiatives.com/html/contact_us.htm)

*Eastern Upper Peninsula Regional  
Planning & Development Commission*  
524 Ashmun Street  
P.O. Box 520  
Sault Ste. Marie, MI 49783  
906-635-1571  
E-mail: [ebenoit@lighthouse.net](mailto:ebenoit@lighthouse.net)  
Web site: [www.eup-planning.org](http://www.eup-planning.org)

*Schoolcraft County Economic  
Development Corporation*  
321 Deer St.  
Manistique, MI 49854  
906-341-5126 or 888-780-1999  
E-mail: [SCEDC@up.net](mailto:SCEDC@up.net)  
Web site:  
<http://www.schoolcraftedc.com/home.asp>

*Western Upper Peninsula Planning &  
Development Region*  
P.O. Box 365  
Houghton, MI 49931  
906-482-7205  
E-mail: [jstingle@chartermi.net](mailto:jstingle@chartermi.net)  
Web site: [www.wupldr.org](http://www.wupldr.org)

*Michigan Economic Development  
Corporation*  
P. O. Box 38  
Sagola, MI 49881  
517-373-9307  
E-mail: [colec@michigan.org](mailto:colec@michigan.org)  
Web site: <http://medc.michigan.org/>

## **Metropolitan Planning Organizations and Regional Councils:**

A MPO is an agency created by federal law to provide local input for urban transportation planning and allocating federal transportation funds to cities with populations greater than 50,000. These organizations in urbanized areas are designated by their Governors to perform significant planning and programming of federally funded highways and transit projects. Through the Long Range Transportation Plan and its link to the Transportation Improvement Program (TIP), MPOs are responsible for approving significant expenditures of federal dollars.

A regional council is a multi-service entity with state and locally-defined boundaries that delivers a variety of federal, state and local programs while continuing its function as a planning organization, technical assistance provider and “visionary” to its member local governments. As such, they are accountable to local units of government and effective partners for state and federal governments.

Conceived in the 1960s, regional councils today are stable, broad-based organizations adept at consensus-building, creating partnerships, providing services, problem solving and fiscal management. The role of the regional council has been shaped by the changing dynamics in federal, state, and local government relations, and the growing recognition that the region is the arena in which local governments must work together to resolve social and environmental challenges. Regional councils have

out a valuable niche for themselves as reliable agents and many operate more independent of federal funding. Comprehensive and transportation planning, economic development, workforce development, the environment, services for the elderly, and clearinghouse functions are among the types of programs managed by regional councils. Of the 39,000 local, general purpose governments in the United States (counties, cities, townships, towns, villages, boroughs) a total of more than 35,000 are served by Regional Councils.

#### **MPO and RPC Contact information:**

Bay Lake Regional Planning Commission – [www.baylakerpc.org](http://www.baylakerpc.org) 920-448-2820  
Brown County Planning Commission – [www.co.brown.wi.us/planning](http://www.co.brown.wi.us/planning) 920-448-6489  
Marathon County Metro Planning Commission – 715-261-6043  
Metro Interstate Commission (MIC) – [www.ardc.org](http://www.ardc.org) 218-529-7506  
North Central WI Regional Planning Commission – [www.ncrpc.com](http://www.ncrpc.com) 715-849-5510  
Northwest Regional Planning Commission – [www.nwrpc.com](http://www.nwrpc.com) 715-635-2197  
West Central Wisconsin Reg. Planning Commission [www.wcwrpc.org](http://www.wcwrpc.org) 715-836-2918  
Michigan Economic Development Corporation (MEDC) -  
<http://medc.michigan.org/> 517-373-9307  
Eastern Upper Peninsula Regional Planning & Development Commission -  
[www.eup-planning.org](http://www.eup-planning.org) 906-635-1571  
Central Upper Peninsula Planning and Development Regional Commission (CUPPAD) -  
[www.cuppad.org](http://www.cuppad.org) 800-562-9828  
Western Upper Peninsula Planning and Development Region (WUPPEDA) -  
[www.wupdr.org](http://www.wupdr.org) 906-482-7205

#### **Education Opportunities**

Several opportunities exist for further education and possible certification in regards to rail shipment and other supply chain management areas. The Council of Supply Chain Management Professionals' (CSCMP) Web site:

<https://cscmp.org/website/CSCMPStore/AccentureCourses.asp?XX=1> offers a list of multiple courses that may be offered at universities throughout the country.

CSCMP also provides a list of schools throughout the United States, Canada, and other countries that offer logistics related courses. The schools from Michigan, Minnesota, and Wisconsin are listed below. For the complete list of schools, check out

<http://cscmp.org/Education/EduListing.asp>.

#### **Michigan**

*Central Michigan University*

[www.cmich.edu](http://www.cmich.edu)

Mount Pleasant, MI 48859

*Eastern Michigan University*

[www.cmich.edu](http://www.cmich.edu)

Ypsilanti, MI 48197

*Ferris State University*

<http://www.ferris.edu/>

Big Rapids, MI 49307

*Lake Superior State University*

[www.lssu.edu](http://www.lssu.edu)

Sault Ste. Marie, MI 49783

*Michigan State University*  
[www.bus.msu.edu/msc/logistics/](http://www.bus.msu.edu/msc/logistics/)  
East Lansing, MI 48824

*Michigan Technological University*  
[www.mtu.edu](http://www.mtu.edu)  
Houghton, MI 49931

*Northern Michigan University*  
[www.nmu.edu](http://www.nmu.edu)  
Marquette, MI 49855

*University of Michigan*  
[www.umich.edu](http://www.umich.edu)  
Ann Arbor, MI 48109

*Wayne State University*  
<http://www.busadm.wayne.edu/>  
Detroit, MI 48202

*Western Michigan University*  
<http://ism.hcob.wmich.edu/>  
Kalamazoo, MI 49008

### **Minnesota**

*Metropolitan State University*  
[www.metrostate.edu](http://www.metrostate.edu)  
St. Paul, MN 55106

*St. Cloud State University*  
[www.stcloudstate.edu](http://www.stcloudstate.edu)  
St. Cloud, MN 56301

*University of Minnesota*  
[www.umn.edu](http://www.umn.edu)  
Minneapolis, MN 55455

### **Wisconsin**

*Northeast Wisconsin Technical College*  
[www.nwtc.com](http://www.nwtc.com)  
Green Bay, WI 54307

*University of Wisconsin Executive Education*  
[www.uwexeced.com/transportation](http://www.uwexeced.com/transportation)  
Madison, WI 53715-1035

*University of Wisconsin Madison*  
[www.wisc.edu](http://www.wisc.edu)  
Madison, WI 53706

*University of Wisconsin Superior*  
[www.uwsuper.edu](http://www.uwsuper.edu)  
Superior, WI 54880

As an expanded example, the University of Wisconsin, Madison's Fluno Center (<http://uwexeced.com/programs/>) offers several supply chain management and transportation management courses that may be taken as individual classes or as certification courses.

## **Continuing Education Courses**

Supply Chain Management courses include  
[Supply Chain Redesign and Measurement for Breakthrough Performance](#)  
[Strategic Sourcing for Purchasing and Supply Management](#)

Transportation Management courses include  
[Today's Buying, Selling and Pricing of Transportation Services](#)  
[Industrial Transportation Management and Quality Performance](#)  
[Pricing and Costing Motor Carrier and Logistics Services](#)  
[Contracting and Managing Motor Carrier and Logistics Services in Supply Chains](#)  
[Import/Export Documentation and Traffic \(brochure pdf\)](#)  
[Transportation Claims Management and Prevention \(brochure pdf\)](#)

Based on demand, these courses may be portable to different areas in the study region.

## Logistics Certification Programs

The trade and professional associations listed below offer certification programs specifically in the logistics area. Click on an association to link to information about its certification programs.

- [American Society of Transportation & Logistics \(AST&L\)](#)
- [APICS The Educational Society for Resource Management](#)
- [Certified Claims Professional Accreditation Council \(CCPAC\)](#)
- [Institute for Supply Management \(ISM\)](#)
- [Institute of Certified Management Accountants \(IMA\)](#)
- [Institute of Management Consultants \(IMC\)](#)
- [Institute of Packaging Professionals \(IoPP\)](#)
- [Institute of Logistical Management](#)
- [Materials Handling & Management Society \(MHMS\)](#)
- [National Private Truck Council \(NTPC\)](#)
- [SOLE - The International Society of Logistics](#)
- [International Warehouse Logistics Association](#)

## Trade Publications

There are several excellent trade publications that are a very favorable resource for anyone who desires to stay abreast of current information in regards to the rail industry and other supply chain and logistics areas. The following list provides links to several, although not all, trade publications available:

- [About Logistics/Supply Chain](#)
- [American Shipper Magazine](#)
- [Canadian Transportation Logistics Magazine](#)
- [Commercial Carrier Journal](#)
- [Containerisation International](#)
- [DC Velocity](#)
- [Distribution Business Management Journal](#)
- [Distribution Center Management](#)
- [E-logistics Magazine](#)
- [Exporter Magazine](#)
- [Food Logistics](#)
- [Gestion Logistique](#)
- [Global Logistics & Supply Chain Strategies](#)
- [Grocery Headquarters](#)
- [Inbound Logistics](#)
- [Industry Week](#)
- [Journal of Commerce Group](#)
- [Logistics Europe](#)
- [Logistics Management](#)
- [Logistics News](#)
- [Logistics Quarterly](#)
- [Logistics Today](#)
- [Logistique & Management](#)
- [Managing Exports & Imports](#)
- [Material Handling Management](#)
- [Materials Management & Distribution Magazine](#)
- [Modern Bulk Transporter](#)
- [Modern Materials Handling Magazine](#)
- [Operations & Fulfillment Magazine](#)
- [Pacific Shipper Magazine](#)
- [Purchasing Magazine](#)
- [Refrigerated & Frozen Foods](#)
- [Research & Education Supply Chain Information](#)
- [Sloan Management Review](#)
- [Supermarket News](#)
- [Supply & Demand Chain Executive](#)
- [Supply Chain Digest](#)
- [Supply Chain Forum: an International Journal](#)
- [Supply Chain Management Review](#)
- [Traffic World Magazine](#)
- [Transportation Journal](#)
- [Transport Topics](#)
- [World Cargo News](#)
- [World Trade Magazine](#)

## **Case Study: Launching a Rail Service Program**

### ***Introduction***

Weather Shield Mfg. Inc. wanted to include rail service into their transportation carrier program. This case study will document establishing new rail service.

### ***Background***

Weather Shield Mfg. Inc., headquartered in Medford, WI, builds windows and doors for the residential and commercial construction markets. The company produces a variety of wood and vinyl products and markets Weather Shield, Vetter, Crestline, and Peachtree brand windows and doors. Weather Shield owns operating facilities in several states. Doors and windows are made in Wisconsin, West Virginia, Georgia and Utah. These products are distributed through a network of over 2000 dealers world wide. North America is the company's primary market. Weather Shield is privately held and employs more than 6,000. Annual growth is estimated at approximately 8% per year.

Building a window or door requires lumber, vinyl compound, glass, paint, silicone, aluminum cladding, wood preservative, and hardware. Lumber is processed into window and door components in Wisconsin and Utah. Windows and doors are then assembled in Wisconsin and Georgia. The vinyl product line components are made in Wisconsin and final products are assembled in Utah, Wisconsin, West Virginia, and Georgia.

### ***Logistics Profile***

Vinyl compound and pellets come in to Weather Shield facilities via truck. In 2006 this product will move inbound by rail. Weather Shield purchases millions of pounds of vinyl product per year. Weather Shield also purchases millions of board feet of lumber each year which moves to Wisconsin to make doors and windows, approximately fifty percent of this volume moves inbound via rail. Glass is the third largest component of doors and windows. Three to five thousand tons of glass is purchased annually. The inbound glass moves via truck. Scrap glass and glass waste products move to Texas, approximately 80% of this scrap product moves via rail. Outbound finished products are moved to customers by truck, to domestic markets and via container to international destinations.

### ***Conversion Opportunities Identified***

Over the past ten years, Weather Shield relied on truck transportation for both inbound and outbound shipments. The decision to look into rail alternatives was made for two reasons; first, to reduce transportation cost, and second, to reduce mobile source air emissions. Lumber and vinyl extrusions were the first two products identified as candidates for modal conversion. These two products move in the large quantities, suitable for carload shipment, and were the least time sensitive production components. Secondly, due to the long length of haul and the annual purchased volumes, conversion of these two products from truck to rail shipment also represented the best transportation cost savings opportunity. One rail car handles the equivalent of four truckload shipments.

### ***Resources***

Weather Shield enlisted the help of two of their rail suppliers, the Canadian National and Union Pacific Railroad. The rail carriers were asked to provide rail rates, service, and access. Since the Wisconsin facility had received rail shipments in the past, the plant still had rail access. The first lumber shipments were made using cars from the existing rail fleet which was in excellent condition. After a few shipments Weather Shield was satisfied that rail could be an important transportation supplier. Vinyl moved on 40' flat cars, this type of car quality was inconsistent. A special rail car was designed for the vinyl extrusion products by the Weather Shield transportation manager with the help of the vinyl plant manager and a railroad engineering consultant. Helm Financial Group was identified through a simple internet search along with other rail leasing companies. The WSOR car shop in Horicon, WI helped realize the new car design. They constructed the new railcar to the jointly defined equipment specifications. The cost saving from the conversion from truck to rail helped make the case for the private rail fleet investment. Another consideration for the modal conversion is the anticipation that in the near future Wisconsin may offer industrial air emission credits to companies actively engaged in air quality improvements. While these credits are not available now, other states are experimenting with emission credit programs.

### ***Results***

The decision to bring rail transportation back to the Weather Shield transportation program has been successful and well received. In 2003 one rail car was shipped. In 2004 after more testing 28 rail cars were handled. In 2005, more than 91 rail cars were moved. Weather Shield cautioned that it is essential to allow enough lead time in the order process, to accommodate rail transit times. They cite that the railroads have improved their technology, especially in the customer service area, and their car tracing capabilities. Many questions can be resolved on their Web site.

### ***Future Outlook***

The conversion of lumber traffic from truck to carload was financially successful; Weather Shield actively undertook discussions with lumber providers to explore conversion of all of their inbound lumber shipments to rail. This effort resulted in an internal review of the purchasing terms. In some cases terms were changed and Weather Shield now controls that traffic. Effort is currently underway to look at other inbound products which might be able to convert to rail movement.

### ***Conclusion***

Rail service works for Weather Shield. Persistence and a strong emphasis on environmental consciousness contributed to the investigation of reinstating rail service. Help from industry experts and some basic research guided Weather Shield in equipment and investment decisions. Cost was the primary motivation for the investigation, and cost savings coupled with the recognition of railroad's limitations helped justify the modification of other purchasing and manufacturing processes necessary to fully implement a vital rail program.

## **Acknowledgements**

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Special thanks to Frank Huntington with Wisconsin Department of Transportation for his suggestions and insights. Also special thanks to Gary Kolbe and the CN Railroad sales staff for their interest and support in the process.

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We also wish to acknowledge the efforts and support of the economic development agencies and the Chamber of Commerce staff who provided contacts and facilities for our outreach programs. Special thanks to the organizers of the International Trade, Business and Economic Development Council for the outreach opportunity they provided our team in Lac Du Flambeau. Also Thanks to Jim Kumbera who provided us with outreach opportunities to help us define the user needs and interests represented in this toolkit.

Finally we want to thank and acknowledge the efforts and interest that many shippers in Wisconsin, Michigan, and Minnesota who provided ideas and suggestions on materials they wanted included in this toolkit.

# Appendix 11.3

## Stakeholder Meeting Comments

## 5.1 Outreach and Presentations: Comments from participants

1. Railroad communication changed with the merger of CN and WC. This change has caused numerous problems in the NW/UP area. Shippers said that they felt disconnected from the larger carriers. Communication format changed dramatically from the WC approach. Internet service replaced the familiar direct contact with the railroad. Shippers received no guidance on the use of the new railroad Internet sites. From a shipper's perspective, the new system transferred administrative workload from the railroad to the shipper.
2. Shippers felt that the railroad does not recognize their problems nor does it understand their business needs (model). In addition, shippers do not know or understand what CN's long term rail service plan is for the region. An important type of information that shippers felt should come from the study and surveys was – "What the future of your rail looks like and how do you measure the rail performance from the public service perspective?"
3. There is a need for a Freight Stakeholder Advisory Council (SAC) or other type of association that can provide a more cohesive and powerful voice for freight stakeholders along with information. When the potential economic impact of the loss of rail service is considered, shippers felt that there may be need for more State support to the railroad. Concern was expressed that the carrier was not living up to common carrier obligations. Such issues were raised that even companies with long term contracts and their own cars can't get the cars picked up at the sidings. Do US agencies have any power for CN, since it is Canadian? Does CN receive subsidies from Canadian government?
4. Shippers felt that the highways are not built to support the expected increases in road traffic if any rail service is shut down.
5. There is a need to look at an expanded scope of this rail study to be sure to include the logging industry which is dependent on rail. Also, shippers feel that in addition to studying how to improve rail, the use of heavier loads by trucks along freight corridors should be considered if there is to be no improvement in rail service and prices. Regarding study scope, shippers felt that the research team should be examining if selling the rail network in the region to a short line railroad(s) would be a workable alternative.
6. If CN wants to have more private cars on their lines, they need a better business model that addresses these issues.
  - a. Pricing model and merging of cars need to promote private ownership and the current model does not.
  - b. There is only a 30 day commitment for rail car prices from CN but shippers are pricing product three months ahead for customers.

- c. Shippers feel it costs them more to own cars than use CN cars and that should not be the case if CN wants private ownership. Shippers said that CN charges a higher price for shipping privately owned cars than CN owned cars discouraging the shipper from buying their own cars.
7. Regional short lines have approached CN to do industrial switching onto CN's line and CN is not receptive to idea. Why doesn't CN let anyone else to handle the traffic, if they can't? (Is there anyone who can force them?) This could solve service problems but no explanation is given to shippers why this is not possible.
  8. Shippers have issues about CN complaining of small problems, while ignoring the big picture of a customer's supply chain. Many rail shippers can't increase trucking because it creates many logistical difficulties.
  9. New technology pushed by rail is frustrating to shippers because there is no time or resources and shippers feel that CN is transferring the administrative burden to shippers and charging more for this. This is largely due to the fact that rail doesn't have competition (several comments on this issue). What else can shippers do to pressure CN to provide reasonable rates and service?
  10. Shutting down rail in NW/UP would cause major problems for already congested Milwaukee and Chicago highways by increasing the number of trucks on highways.
  11. CN is meeting only 10% of car demand and yet rates have had high increases and the combination is unacceptable for shippers.
    - d. Same price for shipping, if company owns the car (and only 30 day commitment for price from CN).
  12. Companies using rail have gained EPA benefits.
  13. Would relocating and consolidating log loading sites to CN's mainline provide enough improved efficiency to justify the transloading facilities and longer trucking distance for logs?

**Outcomes: Comments from Railroad Representatives**

1. CN earned \$6 billion revenue in 2004 and invests approximately \$1 billion annually for capital improvements. CN capital improvements in Wisconsin over the past four years, has been targeted toward expanding sidings to accommodate longer trains of 9000 feet.
2. CN is dedicated to an operating strategy which focuses on running a disciplined, scheduled railroad. This means that trains are run on schedule, with locomotives assigned to train symbols regardless of tonnage. This keeps locomotive power and cars more evenly distributed across their network. CN's business mix does not include a high percentage of unit coal and grain trains at the moment. CN is not planning to discontinue service to NW/UP but does need to annually review and cull unprofitable lines. CN has no plans to change operations in UP, but due to

comparatively low line density in this region, CN is considering reducing days of service to increase average train volumes in this area. If line density does not improve, divesting this subdivision to a Shortline railroad would be a first option. 16% of CN's revenue comes through Shortline railroad partners

3. CN has enough track capacity in WI/UP, but not enough cars available, especially for logs.
  - a. CN has a budget of \$200 million per year for new equipment; yet this figure, given increasing steel prices, is modest. Investment is directed at equipment which will yield the highest utilization and best return on investments. Log cars, by the nature of their business cycle do not enjoy the same utilization as boxcars.
  - b. Demand for new railcars is strong, and order backlogs of nine to twelve months are not uncommon. There are only a few car builders in the industry today, due to the rail order decline over the past twenty years. Each car builder is working on a backlog today with no new market entrants identified.
  - c. CN carefully evaluates car investments and attempts to balance risk and customer needs on a network basis. Two years ago CN maintained 15,000 covered hoppers cars designed for 1 commodity, which represented a high-risk investment, yet a necessary one to support a cyclical strategic market they serve.
  - d. Future railroad car investments will be directed to more highly utilized multi- purpose cars. Users of specialty equipment are being invited to make their own equipment investment.
4. Log cars are a unique asset in the industry. The AAR specifies that railcars must be rehabilitated or scrapped after forty years of service. Log cars which are in service in NW/UP are facing depreciation. In 2004, 200 WC log cars were retired; and only 200 remain in the industry in North America.
  - a. CN has identified a system-wide increase in demand for logging cars.
  - b. Logging car economics are also changing with longer average length of haul. This means more revenue per car but also represents a longer cycle time and generally more empty miles per shipment. This economic profile is not favorable for carrier reinvestment.
  - c. Carriers can reconfigure or rebuild rolling stock to accommodate logs. CN has identified 150-200 cars suitable for conversion to log cars, but other immediate relief is not expected.
  - d. Because logs are a low value raw material compared to high value finished products, profitability of log rail shipments is low. CN seeks to avoid investment in low returning assets when demand across all commodity types is increasing. Lumber is a higher value finished product that is more profitable; therefore, in a resource constrained environment, CN is more willing to add more centerbeam cars to their fleet for lumber.
5. At this time CN will not allow any other railroad to operate on CN property, due to the following concerns:

- a. Union issues. Labor agreements require that CN compensate organized labor if work is outsourced to other operators on CN property.
  - b. Liability issues are significant, given safety issues and the high cost of accidents.
6. CN bought WC, in large part because WC was hauling CN traffic to the Chicago gateway. This hauling agreement was attractive to CN because it provided a faster route with less circuitry to a primary destination market. WC's traffic mix was similar to CN's and both carriers were primary traffic interchange partners with each other. The WC acquisition increased the network access for WC shippers and resulted in shipments with longer length of haul. CN viewed the acquisition as an opportunity to increase their business base and improve marginally profitable interline traffic segments originating and terminating in Wisconsin. The WC acquisition resulted in a new rates structure and brought a new rail business model to the WC shippers. Several former WC lines are at risk in the CN business portfolio.
7. The Baraga line is a challenge because of low volume, but will be operated. LS&I is abandoning 12 miles of line, the rest will stay in service for now. There is a need to increase traffic density on this line. If no additional users are identified the line would be a candidate for abandonment or sale.
8. CN has been a secondary transportation source for many shippers; yet, as transportation rates increase and truck capacity in Wisconsin dwindles, transportation use patterns are changing. Some mills are not using CN consistently, arguably because of service and reliability concerns. Traffic is being split between rail and truck and neither mode is balanced which results in a less than desirable freight profile for each mode of service.

## **5.2 Meetings with representative individual shippers:**

1. The rail company lost customer relationship focus and understanding of their business drivers. These companies felt that CN acted as though small shippers were not important nor was their business valued. The railroad did not involve shippers in discussions of the railroads' long term (5 year) plans, or dialogue about how the business model was transitioning from a regional rail base to a North American network model.
  - a. The shippers interviewed felt that rail providers were not partners in their supply chain. Shippers noted that due to the nature and competition in the trucking industry, communication and general business understanding was better. Due to the importance of keeping a truck driver busy and productive, truckload carriers need a better understanding of the customer's business needs and practices.
  - b. These shippers did not understand the benefits from the new CN rail business model and felt that their rail business was not valued by CN. In many ways these users felt that they were victims of change and had little control in defending their business interests.
2. The Class 1 carrier brought many activity-based user charges to the regional market. One example included rail scale charges, needed to establish lading

weights to properly rate shipments. Due to a change in rail scale location, users had to pay to move cars to these weigh stations and this charge was in addition to the transportation charge. There were numerous clerical billing errors and due to automation it was difficult to get customer service resolution.

3. As rail carriers seek to reduce rating and invoice complexity, many carriers are going back to published tariffs for rail movement on their lines. In the past shippers often negotiated joint line rates with interline carriers and paid the destination carrier, who sent a division of revenue to the origin carrier. This process extended Days Sales Outstanding (DSO) revenues for the originating carrier and has resulted in many carriers going back to a simpler Rule 11 revenue settlement. Rule 11 states that the user will pay each carrier independently.
4. As carriers adopt more Rule 11 revenue settlement rates, this increases the users accounting and documentation workload to pay carriers. During the period under discussion, July 2004- July 2005, the shippers saw their rail rates growing at a faster rate than truck freight charges. Not only did the rail rates increase but the total delivered costs increased dramatically due to accessorial and activity-based user charges. The administrative burdens to track and pay for these fees also increased dramatically.
5. Shippers understand change and the need for automation and productivity improvements, but without guidance and direction on how to implement needed administrative changes, frustrations and billing errors are mounting. In general these users felt that the carrier was acting in a unilateral, uncooperative way.
6. These users recognized that carrier business needs change, and felt that if needed they could make changes to preserve rail service, but no carrier effort was being made to help them transition to the new business environment.
7. Sales contacts and local representative have been reduced or automated and communication with the carrier has become strained.

**April 11, 2006**

**MEMORANDUM**

**Northern Wisconsin & Upper Peninsula of Michigan Federal Rail Survey –**

**Conference call with Canadian National (CN)**

**Objective of call**

A conference call was arranged between the study team, economic development agencies and Canadian National (CN) to discuss various current and potential rail service issues in the study area.

**Participants**

Christopher Hellem – Account Manager Southern Region, Canadian National  
Gloria Combe – Director, U.S. Government Affairs, Canadian National  
Linda Armbruster – Manager Real Estate & Business Development, Canadian National  
Dan Drier – Manager Real Estate & Business Development, Canadian National  
Jim Stingle – Executive Director, Western U.P. Planning Region  
Dan Mathine – Menominee Business Development Corporation  
Tom Baldini – District Director, Congressman Stupak Office  
Richard Stewart – Professor, Principal Investigator, University of Wisconsin – Superior  
Pasi Lautala – Ph.D. Candidate, Project Coordinator, Michigan Technological University

**Discussion Summary**

**Current data sharing**

1. Methods to request information on a list of important rail attributes  
For information on Canadian National rail line in UP Michigan, inquiries should be directed to the Linda Armbruster in industrial development
  - Some of the information in the list can be found from the CN Web site.
  - Several attributes in the list can be handled by the local account manager or at least he can provide further contacts within CN to address the issues.
  - Information on other carriers' lines can be obtained through Michigan Railroad Association (MRA).
2. Discussed development examples in Wisconsin, where industry got discouraged or slowed down since local economic development agencies were unable provide rail related information for them

- Several related inquiries have been directed to Dr. Stewart at UWi-Superior instead of CN. Since the correct location for the inquiries is CN, why did people end up contacting Dr. Stewart instead and is there any way to change the pattern?
- Customers used to dealing with trucking industry are looking for easy access to preliminary data. Is there potential for CN to provide easier access to some of the data?
- Currently CN provides some of the information in their Web site and the remainder of questions should be directed to their industrial development liaison.
- On one specific development in Wisconsin, CN had significant interaction with developers during the process, but the company didn't seem sure if they really wanted to do the development; rail may sometimes be used as an excuse.
- Sometimes developers are not satisfied, when CN tells them that specific development is not feasible from rail point of view.
- Alternative approaches for direct rail service, such as transload facilities, could be considered to improve the feasibility of the project.

### **Current communication tools**

1. CN stated that they communicate with and participate in economic development groups, and are included as a rail contact in Economic Development Agency (EDA) lists. Therefore, CN has hard time to understand why EDAs complain that it is difficult to reach CN. The necessary contacts should be available.
2. There seems to be lack of focus. A focused contact between people responsible for city and county development (even private businesses) and CN industrial development representatives is a key to improve the situation.
  - One potential way to improve the communication might be including CN in conference calls by local development agencies.

### **Current operations and Future plans**

1. CN just completed extensive cost-benefit analysis of logging industry to evaluate, if they can profitably serve their log customers.
  - To provide sustainable services in rural areas, shippers and CN need to become and remain transportation partners, since CN can not continuously provide unprofitable service.
  - Railroad is no public utility and no business can promise to stay around, if there is no return of investment.
  - CN has some frustrations with the leadership of Michigan Association of Timbermen, who continue their complaints of inadequate rail car availability, even though CN has addressed this by converting cars for logging purposes. It was agreed that a direct contact between CN and association members would be beneficial.
2. Several issues, such as volumes and maintenance costs, are considered when CN makes rail service decisions.

3. CN can not always provide same service that Wisconsin Central (WC) did, because:
  - Some WC operations were not profitable and CN has to stay in business.
  - As a large Class 1 railroad, CN can not bend the rules like WC did. CN has to maintain the same rules throughout the network.
  - CN recognizes that some old WC customers may have had difficulties to locate correct contacts after the merger.
  
4. CN encourages customers to invest in their own railcars.
  - Customers are encouraged to lease or purchase their own cars when shortages exist.
  - CN has recently converted 525 bulkhead flats for log service. These are 52'6" side staked cars and 200 have been assigned for service in Northern Wisconsin and Upper Michigan.
  - CN realized that sometimes the difference in rates, when using system car vs. customer-owned car has been too small and they are addressing those situations.
  
5. CN doesn't have the same shortage of mainline or car capacity as other Class 1 carriers, so they are constantly looking for opportunities to expand their business.
  
6. The long-range regional plan by CN depends on the business levels. They don't have a "region-specific 5-year plan", but more of a fluid business model, which is modified based on current and forecasted business levels.
  - Railroads are very capital intensive and can not provide assurances of service, unless the business is there.

# Appendix 11.4

## Shipper Survey Forms and Results

To be filled in by Research staff - Survey number \_\_\_\_\_

## Northern Wisconsin & Upper Peninsula of Michigan Federal Rail Survey

The information collected in this survey is **confidential**. Your company name will not be used in any reports or released to any organizations, individual or agencies not part of the research team. You have been assigned a number to ensure that your corporate identity remains confidential. The information you provide will be integrated into the composite report that is identified only by the cargo categories.

**Please return by FAX before November 1, 2005**  
**UW-Superior Wisconsin Rail Study**  
**Fax number: 715-394-8374**

---

1. Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, \_\_\_\_\_ State \_\_\_\_ Zip Code: \_\_\_\_\_  
Name: (Optional) \_\_\_\_\_  
E-mail: (for future updates) \_\_\_\_\_

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2. Company Type:  
 Manufacturing  Distribution  Service  Other \_\_\_\_\_

3. Number of employees currently employed by your firm at this location:

**Exact number if available** \_\_\_\_\_

- 1-50
- 51-99
- 100-199
- 200-299
- 300-500
- More than 500

---

4. Please check the category that best describes the product(s) that your company ships.

- Wood Products
- Paper & Pulp Products
- Consumer Goods
- Agricultural Goods
- Ferrous Products including value added products such as pig iron or scrap
- Basic Materials (aggregates, salt)
- Refined Materials (concrete, clays)
- Petroleum Products, Chemicals
- Sub-Assemblies that are being shipped into or out of your plant for use at another location
- Other \_\_\_\_\_

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## Part one: Inbound Profile

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5. In tons, or other industry standards (example: board feet), what was the quantity of **Inbound** goods your company **received** last year, January 1 2004 to December 31, 2004? \_\_\_\_\_
6. Consider the total volume moved inbound. What Percent moves by:  
\_\_\_\_% Truck    \_\_\_\_% Rail    \_\_\_\_%Water    \_\_\_\_% Air    \_\_\_\_% Pipeline
7. Who controls the inbound freight? (Check all that apply)  
 Shipper     Consignee     Third Party
8. Do you pay for the inbound freight shipments?  
 YES     NO

## Part Two: Outbound Profile

---

9. In tons, or other industry standards (example: board feet), what was the quantity of **Outbound** goods your company **shipped** last year, January 1, 2004 to December 31, 2004? \_\_\_\_\_
10. Consider the total volume moved outbound. What percent moves by:  
\_\_\_\_%Truck    \_\_\_\_% Rail    \_\_\_\_%Water    \_\_\_\_% Air    \_\_\_\_% Pipeline
11. Who controls the outbound freight? (Please check all that apply)  
 Shipper     Consignee     Third Party
12. Do you pay for the outbound freight shipments?  
 YES     NO

## Part Three: Current Rail Traffic

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13. Do you currently ship by rail?     Yes     No:  
**If your answer is no, go to question 23.**
14. How many days per week is your facility switched by the railroad? \_\_\_\_\_
15. How many rail cars do you ship a week by type?

	Inbound	Increase + or Decrease - since 2001	Outbound	Increase + or Decrease - since 2001	Car Ownership P = Private S = System F = Foreign	Increase + or Decrease - since 2001
Tanker						
Boxcar						
Flatcar						
Gondola						
Carload						
Hopper - Uncovered						
Hopper- Covered						
Other ( )						

16. If you have decreased your rail usage in the past year, please explain why?

17. If you have increased your rail usage in the past year, please explain why?

18. What would have to happen in order for your company to be able to ship more freight by rail?

19. If this were to happen, how much would your weekly rail volume increase?

20. Who owns the rail cars you use?

Note: Car ownership can be Private cars which are those not owned by a rail carrier (they will have the X designation such as GATX), System rail cars are those that are owned by the carrier that owns the rail line at your location. Foreign rail cars are those railcars that are owned by a rail carrier that **does not** own the track at your location.

	Number Inbound Car Ownership P = Private S = System F = Foreign	Increase + or Decrease - since 2001	Number Outbound Car Ownership P = Private S = System F = Foreign	Increase + or Decrease - since 2001
Tanker				
Boxcar				
Flatcar				
Gondola				
Carload				
Hopper - Uncovered				
Hopper- Covered				
Other ( )				

21. Would you consider rail car ownership, leasing or pooling in the future?

YES       NO

22. Do you need assistance in planning for the purchase, pooling or lease of rail cars?  
 YES       NO

23. What percentage of the time are you able to provide a backhaul shipment for a carrier making a delivery? \_\_\_\_\_%

24. If you are unable to provide a back haul shipment for the carrier making a delivery to you, do you coordinate with other local companies to provide a backhaul for the carrier?  
 YES       NO

25. What are your top five **INBOUND** freight origins?

<u>Truck</u>	<u>Rail</u>	<u>Marine</u>
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

26. What are your top five **OUTBOUND** freight destinations?

<u>Truck</u>	<u>Rail</u>	<u>Marine</u>
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

### Rail Performance Metrics:

27. On a scale of 1-10, with **10 being very important** and **1 being not important**, please circle the number that best describes how important the following performance measure are to your business (Circle number) Note: These metrics are listed alphabetically and not by a rank value.

	Very Important					Not Important				
Accuracy of Billing	10	9	8	7	6	5	4	3	2	1
Claims/Damage History	10	9	8	7	6	5	4	3	2	1
Cargo Tracking	10	9	8	7	6	5	4	3	2	1
Ease of Doing Business	10	9	8	7	6	5	4	3	2	1
Equipment Availability	10	9	8	7	6	5	4	3	2	1
Final Customer Satisfaction	10	9	8	7	6	5	4	3	2	1
Reliability (Consistency) of Service	10	9	8	7	6	5	4	3	2	1
Scheduled Service	10	9	8	7	6	5	4	3	2	1
Total Transit Time	10	9	8	7	6	5	4	3	2	1
Transport Costs	10	9	8	7	6	5	4	3	2	1
Other*	10	9	8	7	6	5	4	3	2	1

\*Please Specify \_\_\_\_\_

28. On a scale of 1-10, with **10 being very Satisfied** and **1 being very Unsatisfied**, please circle the number that best describes how you feel about your railroads performance. (Circle number) Note: These metrics are listed alphabetically and not by a rank value.

	Very Satisfied					Very Unsatisfied				
Accuracy of Billing	10	9	8	7	6	5	4	3	2	1
Claims/Damage History	10	9	8	7	6	5	4	3	2	1
Cargo Tracking	10	9	8	7	6	5	4	3	2	1
Ease of Doing Business	10	9	8	7	6	5	4	3	2	1
Equipment Availability	10	9	8	7	6	5	4	3	2	1
Final Customer Satisfaction	10	9	8	7	6	5	4	3	2	1
Reliability (Consistency) of Service	10	9	8	7	6	5	4	3	2	1
Scheduled Service	10	9	8	7	6	5	4	3	2	1
Total Transit Time	10	9	8	7	6	5	4	3	2	1
Transport Costs	10	9	8	7	6	5	4	3	2	1
Other*	10	9	8	7	6	5	4	3	2	1

\*Please Specify \_\_\_\_\_

29. What information would you want from the railroad to consider future rail use?

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30. Do you belong to a Shipper or Trade Association? (Please name below)

YES       NO

31. Would you consider joining a shipper association in the future?

YES       NO

Please include any other comments or information you think valuable. If referring to a question, please write the question number beside your comment.

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Would you be willing to provide additional information, if we contacted you?

Yes       No

Please share this Web site based survey with any other company you think may be interested in participating.

***Thank you!***

**Please return by FAX to: UW Superior Wisconsin Rail Study**

**Fax number: 715-394-8374**

**Close of Survey – November 1, 2005**

# **NORTHERN WISCONSIN & UPPER PENINSULA OF MICHIGAN FEDERAL RAIL STUDY**

**TRANSPORTATION & LOGISTICS RESEARCH CENTER**



## Question 2: Company Type

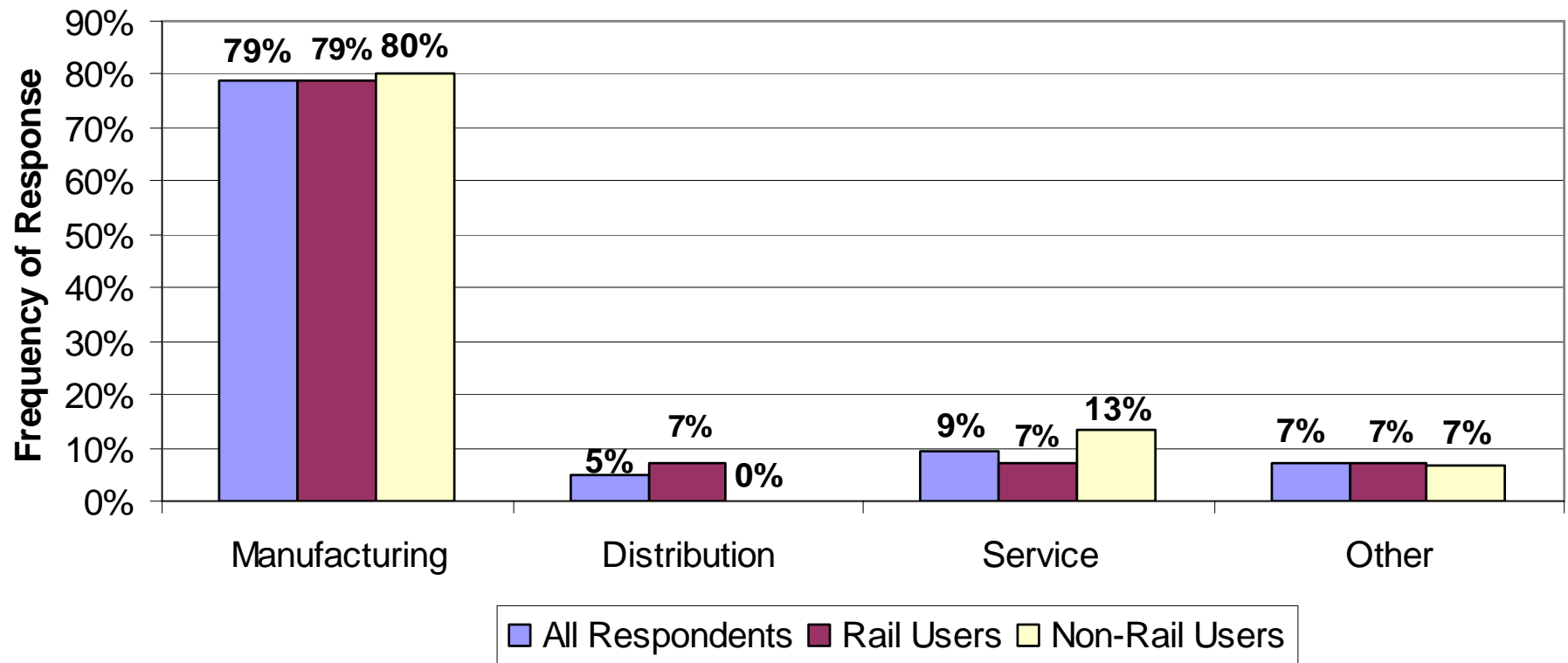


Figure 6.2

# Question 3: Number of Current Employees

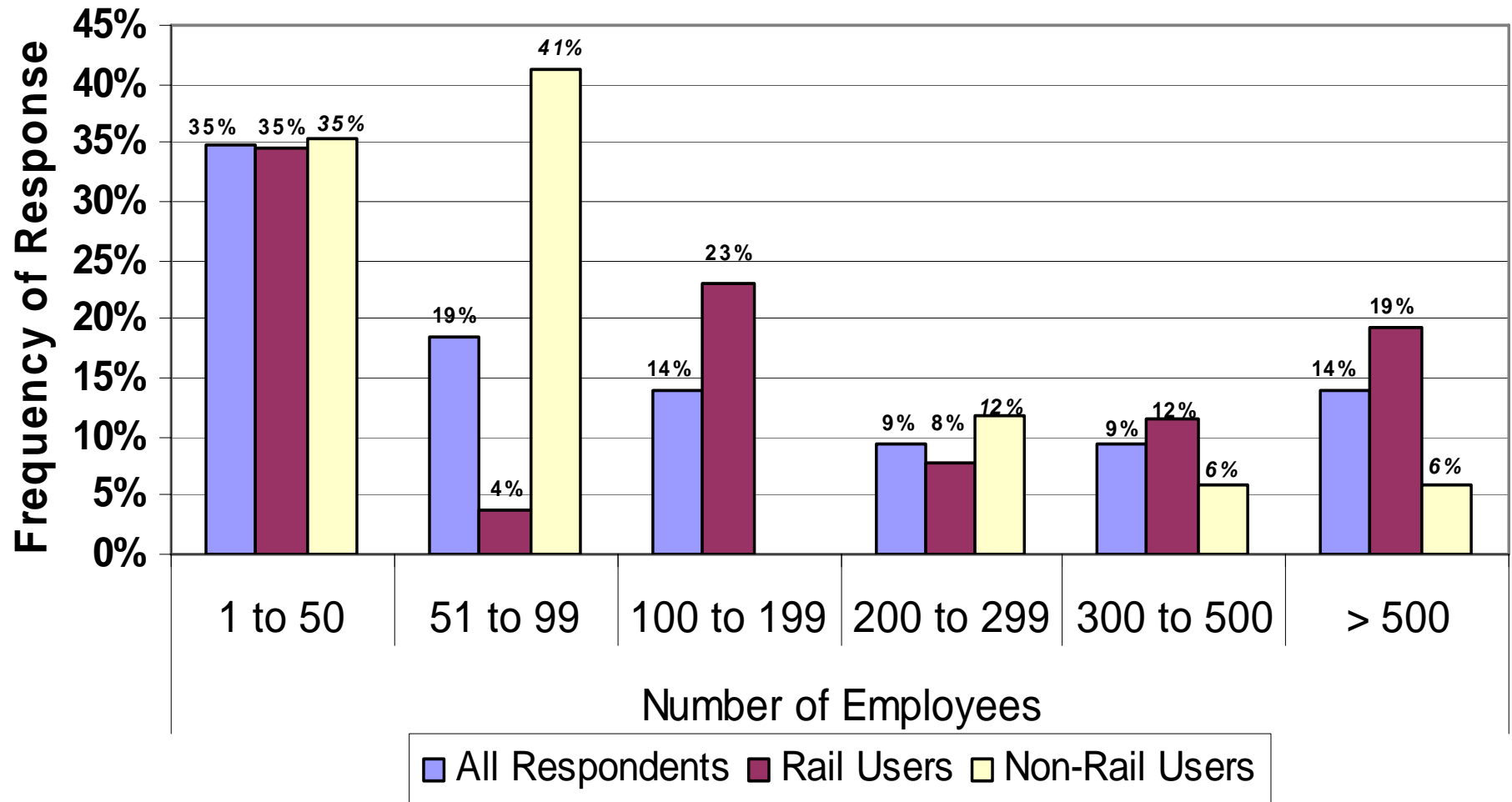
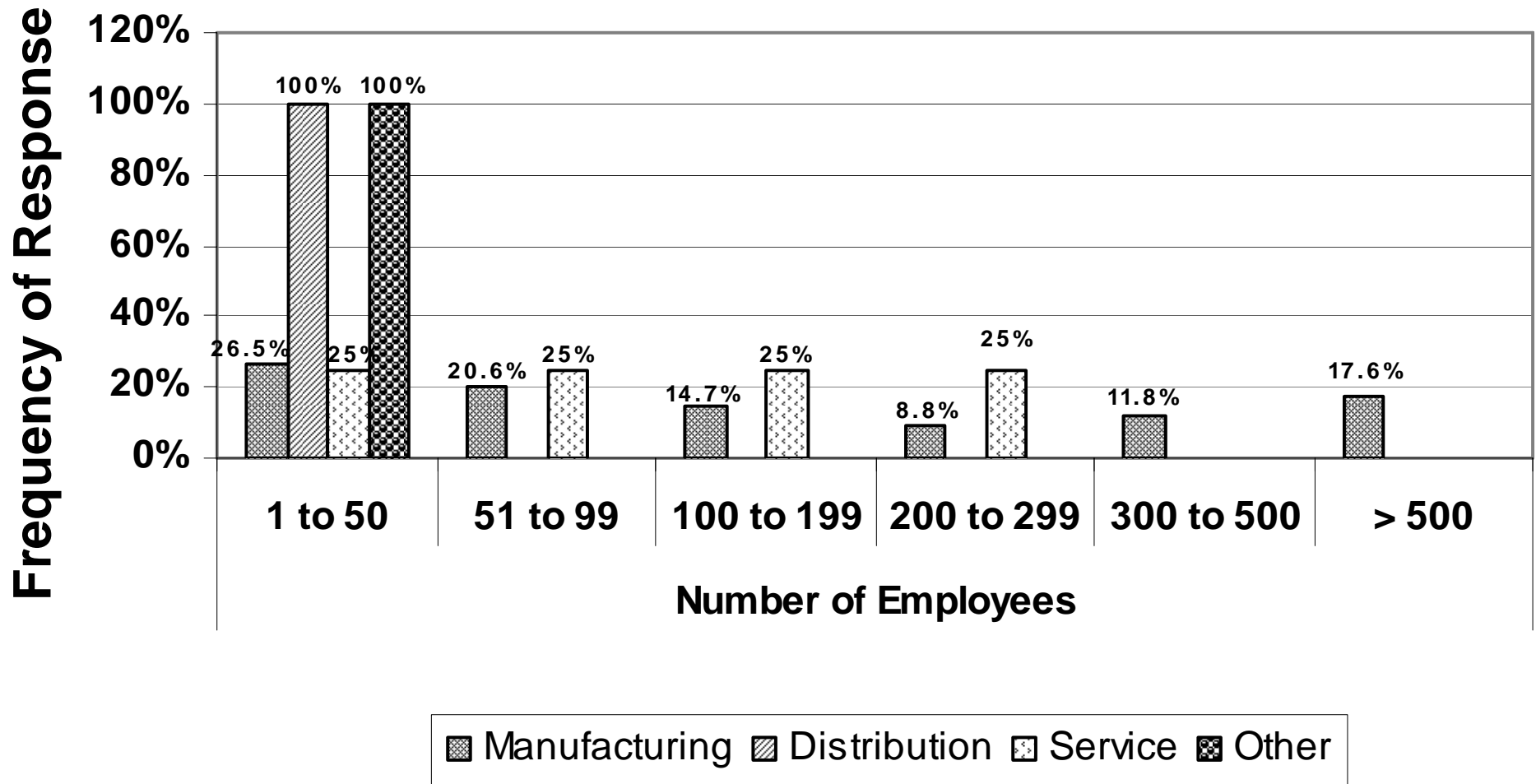


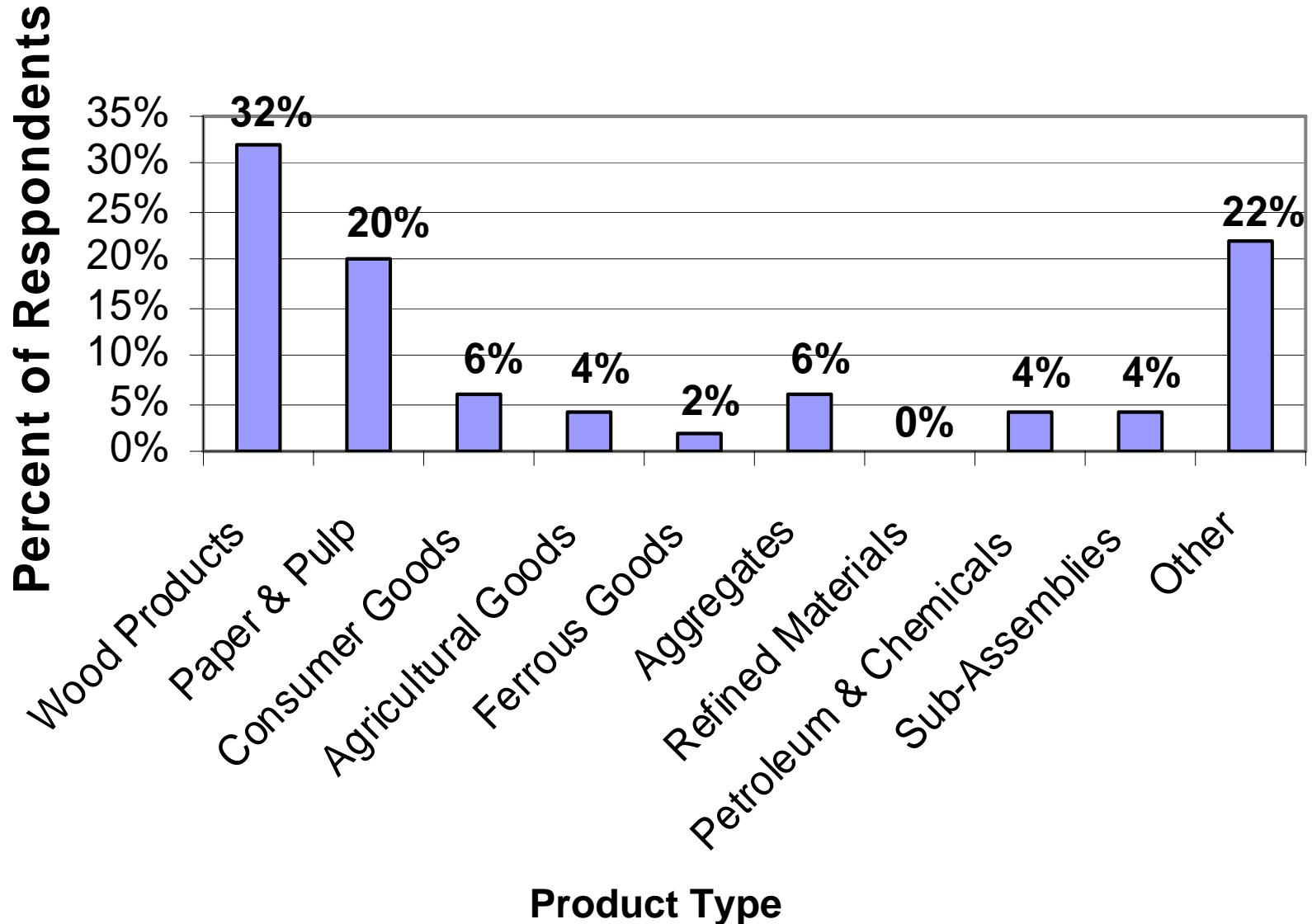
Figure 6.3

# Cross Tabulation of Questions 2 and 3

## Company Type / Current Employees



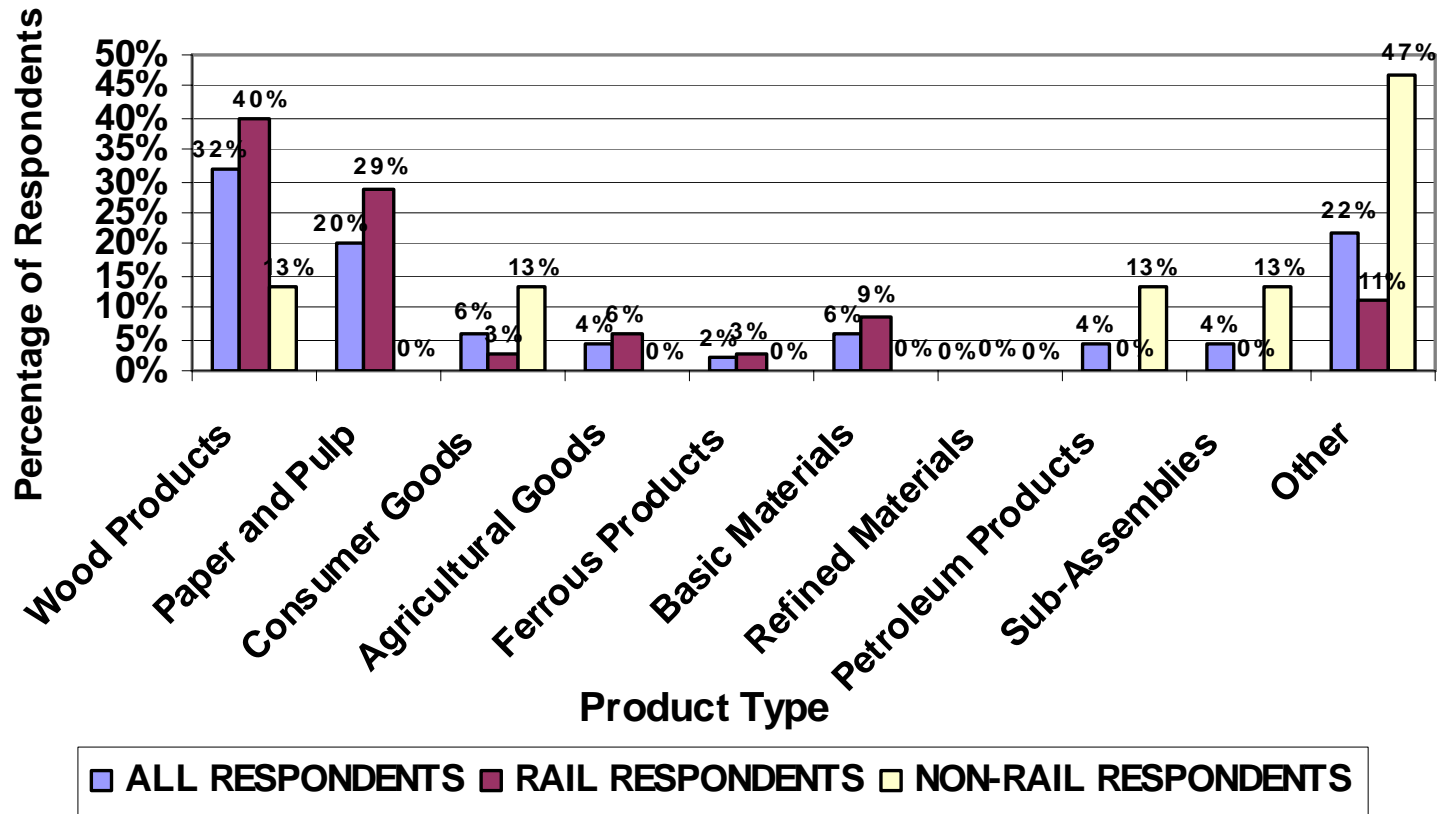
## Question 4: Product Type



*Note\* The question allowed respondents to select more than one product. The combined percentage of responses exceeds 100%, because the total frequency of responses (50) exceeds the total number of respondents (43.) The frequency adjustment of procedures are shown in slides 7 to 9.*

Figure 6.4

# Question 4: Product Type (Percentage of Respondents)



**Note\*** This slide breaks down product type into three categories: **all respondents**, **rail users only**, and **non-rail users only**. Rail-users answered “yes” to survey question 13. Non-rail users answered “no” to question 13. Some of the surveyed companies ship more than one type of product. There are more responses than there are respondents. That is why the percentage of responses by respondents exceeds 100%. An adjustment factor that converts “% of Responses” into “% of Respondents” is explained in slides 7 to 9.

## Question 4: Adjusted Frequencies for Product Type (All Respondents)

<b>All Respondents</b>					
<b>Adjustment Factor = Total Responses / Total Respondents</b>					
<b>Total Responses Frequencies</b>	<b>50</b>				
<b>Total Respondents</b>	<b>43</b>				
<b>Adjustment Factor</b>	<b>1.16</b>				<b>Adjusted</b>
<b>Product</b>	<b>Response</b>	<b>Percentage</b>	<b>Adjustment</b>	<b>Adjusted</b>	<b>Percentage</b>
<b>Category</b>	<b>Frequency</b>	<b>of Responses</b>	<b>Factor</b>	<b>Frequency</b>	<b>of Respondents</b>
<b>Wood Products</b>	<b>16</b>	<b>32.00%</b>	<b>1.16</b>	<b>13.76</b>	<b>32.00%</b>
<b>Paper and Pulp</b>	<b>10</b>	<b>20.00%</b>	<b>1.16</b>	<b>8.60</b>	<b>20.00%</b>
<b>Consumer Goods</b>	<b>3</b>	<b>6.00%</b>	<b>1.16</b>	<b>2.58</b>	<b>6.00%</b>
<b>Agricultural Goods</b>	<b>2</b>	<b>4.00%</b>	<b>1.16</b>	<b>1.72</b>	<b>4.00%</b>
<b>Ferrous Products</b>	<b>1</b>	<b>2.00%</b>	<b>1.16</b>	<b>0.86</b>	<b>2.00%</b>
<b>Basic Materials</b>	<b>3</b>	<b>6.00%</b>	<b>1.16</b>	<b>2.58</b>	<b>6.00%</b>
<b>Refined Materials</b>	<b>0</b>	<b>0.00%</b>	<b>1.16</b>	<b>0.00</b>	<b>0.00%</b>
<b>Petroleum Products</b>	<b>2</b>	<b>4.00%</b>	<b>1.16</b>	<b>1.72</b>	<b>4.00%</b>
<b>Sub-Assemblies</b>	<b>2</b>	<b>4.00%</b>	<b>1.16</b>	<b>1.72</b>	<b>4.00%</b>
<b>Other</b>	<b>11</b>	<b>22.00%</b>	<b>1.16</b>	<b>9.46</b>	<b>22.00%</b>
<b>TOTAL</b>	<b>50</b>	<b>100.00%</b>	<b>TOTAL</b>	<b>43.00</b>	<b>100.00%</b>

## Question 4: Adjusted Frequencies for Product Type (Rail Users Only)

Adjustment Factor	1.25				Adjusted
Product	Response	Percentage	Adjustment	Adjusted	Percentage
Category	Frequency	of Responses	Factor	Frequency	of Respondents
Wood Products	14	40.00%	1.25	11.20	40.00%
Paper and Pulp	10	28.57%	1.25	8.00	29.00%
Consumer Goods	1	2.86%	1.25	0.80	3.00%
Agricultural Goods	2	5.71%	1.25	1.60	6.00%
Ferrous Products	1	2.86%	1.25	0.80	3.00%
Basic Materials	3	8.57%	1.25	2.40	9.00%
Refined Materials	0	0.00%	1.25	0.00	0.00%
Petroleum Products	0	0.00%	1.25	0.00	0.00%
Sub-Assemblies	0	0.00%	1.25	0.00	0.00%
Other	4	11.43%	1.25	3.20	11.00%
<b>TOTAL</b>	<b>35</b>	<b>100.00%</b>	<b>TOTAL</b>	<b>43.00</b>	<b>100.00%</b>

## Question 4: Adjusted Frequencies for Product Type (Non-Rail Users Only)

<b>All Respondents</b>					
<b>Adjustment Factor = Total Responses / Total Respondents</b>					
<b>Total Responses Frequencies</b>	<b>15</b>				
<b>Total Respondents</b>	<b>15</b>				
<b>Adjustment Factor</b>	<b>1.00</b>				<b>Adjusted</b>
<b>Product</b>	<b>Response</b>	<b>Percentage</b>	<b>Adjustment</b>	<b>Adjusted</b>	<b>Percentage</b>
<b>Category</b>	<b>Frequency</b>	<b>of Responses</b>	<b>Factor</b>	<b>Frequency</b>	<b>of Respondents</b>
<b>Wood Products</b>	<b>2</b>	<b>13.00%</b>	<b>1.00</b>	<b>2.00</b>	<b>13.00%</b>
<b>Paper and Pulp</b>	<b>0</b>	<b>0.00%</b>	<b>1.00</b>	<b>0.00</b>	<b>0.00%</b>
<b>Consumer Goods</b>	<b>2</b>	<b>13.00%</b>	<b>1.00</b>	<b>2.00</b>	<b>13.00%</b>
<b>Agricultural Goods</b>	<b>0</b>	<b>0.00%</b>	<b>1.00</b>	<b>0.00</b>	<b>0.00%</b>
<b>Ferrous Products</b>	<b>0</b>	<b>0.00%</b>	<b>1.00</b>	<b>0.00</b>	<b>0.00%</b>
<b>Basic Materials</b>	<b>0</b>	<b>0.00%</b>	<b>1.00</b>	<b>0.00</b>	<b>0.00%</b>
<b>Refined Materials</b>	<b>0</b>	<b>0.00%</b>	<b>1.00</b>	<b>0.00</b>	<b>0.00%</b>
<b>Petroleum Products</b>	<b>2</b>	<b>13.00%</b>	<b>1.00</b>	<b>2.00</b>	<b>13.00%</b>
<b>Sub-Assemblies</b>	<b>2</b>	<b>13.00%</b>	<b>1.00</b>	<b>2.00</b>	<b>13.00%</b>
<b>Other</b>	<b>7</b>	<b>47.00%</b>	<b>1.00</b>	<b>7.00</b>	<b>47.00%</b>
<b>TOTAL</b>	<b>15</b>	<b>100.00%</b>	<b>TOTAL</b>	<b>43.00</b>	<b>100.00%</b>

## **QUESTION 4: PRODUCT TYPE “OTHER”**

### **Rail Users**

**Lime (Calcium Oxide)**

**Roofing Granules**

**Copper Catard**

### **Non-Rail Users**

**Plastic Parts**

**Boats**

**Electronic Instruments**

**Food (Cheese)**

**Plastic Film**

**Steel**

*These were taken verbatim off the survey questionnaires.*

<b>Questions 5 &amp; 9: Shipments in Tons for 2004</b>			
<b>Inbound</b>			
	<b>All Respondents</b>	<b>Rail Users</b>	<b>Non-Rail Users</b>
<b>Minimum</b>	<b>10</b>	<b>6,520</b>	<b>10</b>
<b>Maximum</b>	<b>2,337,420</b>	<b>2,337,420</b>	<b>8,640</b>
<b>Mean</b>	<b>368,167</b>	<b>490,141</b>	<b>2,245</b>
<b>Total</b>	<b>5,890,681</b>	<b>5,881,701</b>	<b>8,980</b>
<b>Outbound</b>			
	<b>All Respondents</b>	<b>Rail Users</b>	<b>Non-Rail Users</b>
<b>Minimum</b>	<b>125</b>	<b>5,500</b>	<b>125</b>
<b>Maximum</b>	<b>7,800,343</b>	<b>7,800,343</b>	<b>300</b>
<b>Mean</b>	<b>693,009</b>	<b>785,382</b>	<b>213</b>
<b>Total</b>	<b>11,781,166</b>	<b>11,780,741</b>	<b>425</b>
Figure 6.5			

**Note\*** Questions 5 and 9 deal with the tonnage of inbound and outbound goods received and shipped during 2004, so they are both compared on one slide.

Inbound and outbound goods are divided into 3 categories: inbound goods received and outbound goods shipped **by all respondents, by only rail-user respondents, and non-rail user respondents**. Four measures were used for each category: the minimum tonnage for 2004 that any single respondent received inbound or shipped outbound, the maximum tonnage that any single respondent received inbound or shipped outbound, the mean tonnage received inbound or shipped outbound by all respondents in each category, and the total tonnage received inbound or shipped outbound by all respondents in each category.

**Inbound: Question 5**

**All respondents:** Out of 43 respondents, only 16 answered this question.

**Rail respondents:** Eleven of the 16 total respondents were rail users.

**Non-rail respondents:** Four of the 16 respondents were non-rail users.

**Outbound: Question 9**

**All respondents:** Out of 43 respondents, only 17 answered this question.

**Rail respondents:** Out of 43 respondents, only 17 answered this question.

**Non-rail respondents:** Of the 17 respondents who answered this question, only 2 were non-rail users. **Note\*** *The outbound shipment data for non-rail users in question 9 are subject to a high degree of non-response error. Only 2 of the 15 non-rail respondents to the survey answered the question.*

## Questions 6 & 10: Percentage Total Volume Moved by Mode

	All Respondents		Rail Users		Non-Rail Users	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Truck	74.90%	72.54%	51.77%	63.39%	100.00%	100.00%
Rail	24.62%	27.17%	39.77%	36.22%	0.00%	0.00%
Water	0.48%	0.00%	8.46%	0.00%	0.00%	0.00%
Air	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pipeline	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%

**All Respondents:** *All Respondents: Total does not add to 100% since survey respondent #33's totals added up to only 93%.*

**Rail Users:** *Note\* This slide relates to rail user respondents who answered questions 6 and 10. Twelve of the survey questionnaires did not include these questions. Total does not add to 100% since survey respondent #33's totals added up to only 93%.*

**All Respondents:** *Twelve of the survey questionnaires did not include these questions.*

Figure 6.6

## Questions 7 & 11: Who Controls the Freight?

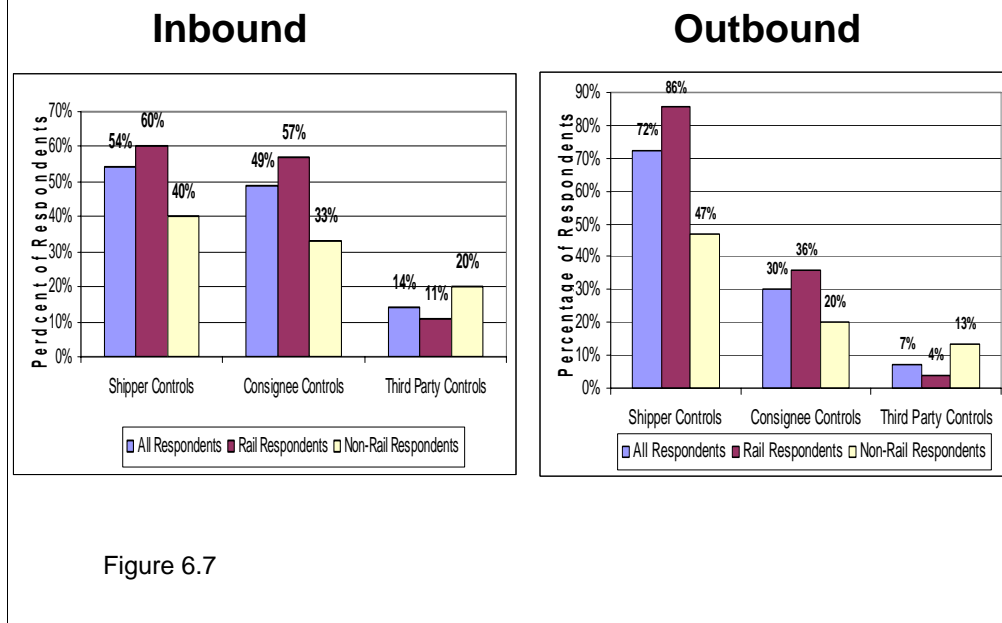


Figure 6.7

Note\* Totals **across fields** can exceed 100%, because the questionnaire allows respondents to “check all that apply”. Here again, for questions 7 and 11, the slide compares both inbound and outbound shipments, and is divided into three categories for each: **all respondents**, **rail users only** (those who answered “yes” to question 13), and **non-rail users only** (those who answered “no” to question 13.)

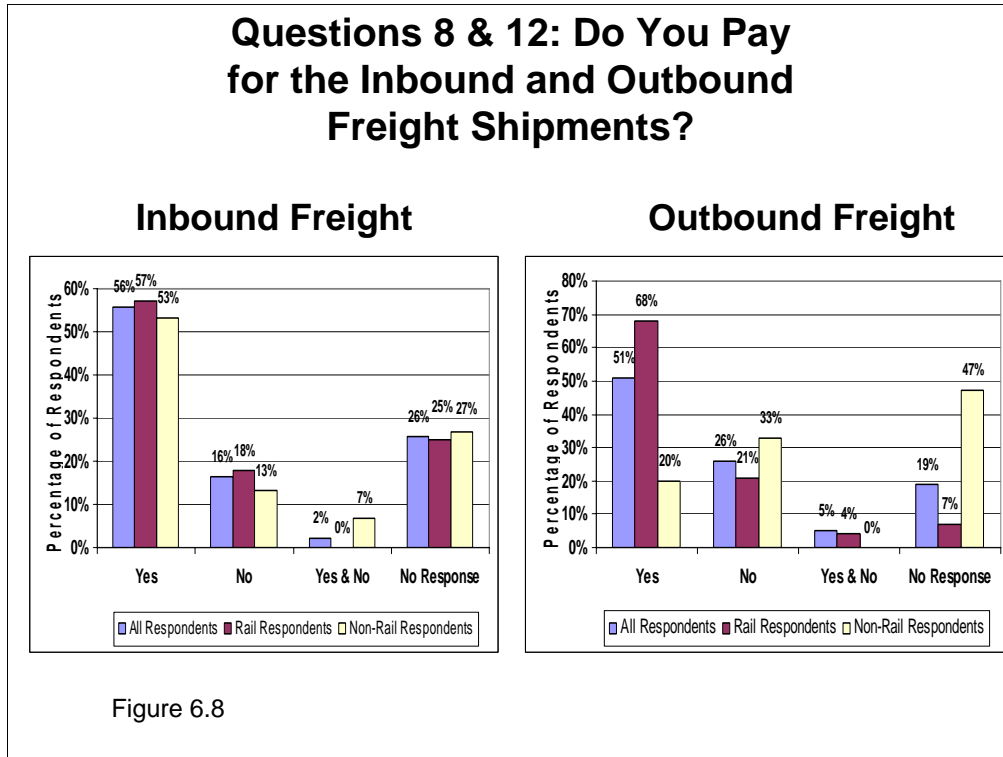
### Inbound: Left Side Chart

- 54% of all 43 respondents, stated that the shipper controls the inbound freight, 49% stated the consignee controls the freight, and 14% stated that third parties control the freight. (This seems to imply that some respondents felt that for some shipments, the shipper controls and for others the consignee controls, etc., so they checked more than one box.)
- 60% of all 28 rail respondents stated that the shipper controls the inbound freight, 57% stated the consignee controls the freight, and 11% stated that third parties control the freight.
- 40% of all 15 non-rail respondents stated that the shipper controls the inbound freight, 33% stated the consignee controls the freight, and 20% stated that third parties control the freight.

### Outbound: Right Side Chart

- 72% of all 43 respondents, stated that the shipper controls the outbound freight, 30% stated the consignee controls the freight, and 7% stated that third parties control the freight.
- 86% of the 28 rail respondents stated that the shipper controls the outbound freight, 36% stated the consignee controls the freight, and 4% stated that third parties control the freight.
- 47% of the 15 non-rail respondents stated that the shipper controls the outbound freight, 20% stated the consignee controls the freight, and 13% stated that third parties control the freight.

## Questions 8 & 12: Do You Pay for the Inbound and Outbound Freight Shipments?



### INBOUND FREIGHT SHIPMENTS

**All Respondents (All Respondents columns):** 56% of respondents answered “yes” they pay for the inbound freight shipments; 16% answered “no”; 2% answered both “yes” and “no”. Apparently, they paid for some shipments and not for others. 26% did not answer the question (probably because they did not know, and there was “do not know” box to check)

**Rail Respondents (Rail Respondents columns):** 57% answered “yes”; 18% answered “no”; 0% answered “yes” and “no”; and 25% did not answer the question.

**Non-Rail Respondents (Non-Rail Respondents columns):** 53% answered “yes”; 13% answered “no”; 7% answered “yes” and “no”, and 27% did not answer the question.

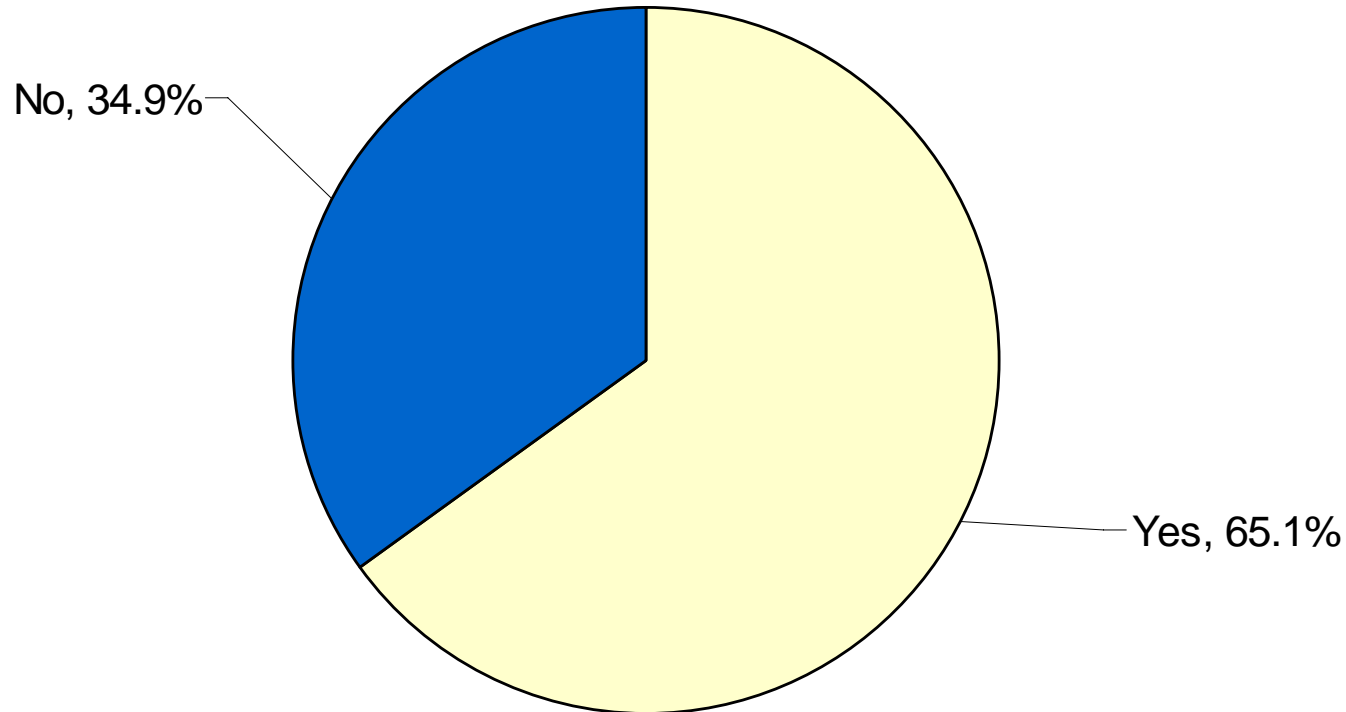
### OUTBOUND FREIGHT SHIPMENTS

**All Respondents (All Respondents columns):** 51% of respondents answered “yes” they pay for the outbound freight shipments; 26% answered “no”; 5% answered both “yes” and “no”, and 19% did not answer the question.

**Rail Respondents (Rail Respondents columns):** 68% answered “yes”; 21% answered “no”; 4% answered “yes” and “no”; and 7% did not answer the question.

**Non-Rail Respondents (Non-Rail Respondents columns):** 20% answered “yes”; 33% answered “no”; 0% answered “yes” and “no”, and 47% did not answer the question.

## Question 13: Do you currently ship by Rail?



*This is a pivotal question because it helps us to partition the database between rail users and non-rail users. This partition helps us better understand the characteristics that distinguish a company that uses rail from a company that does not use rail.*

*Note\* This slide shows that 34.9% of all survey respondents stated that they do not currently ship by rail (which does not mean that they have never shipped by rail,) while 65.1% stated that they do currently ship by rail (even though they could also ship by truck, water, etc.)*

## Question 14: How Many Days per Week is Your Facility Switched by the Railroad? (Rail Users Only)

Co. X	RESPONSE
2	7
3	7
16	99
17	5
18	16
19	N
20	N
21	N
22	N
25	N
26	N
27	N
28	N
30	N
31	2x/week to daily
32	5
33	7
35	0
36	99
37	5
38	1-3 per week per mill
39	99
40	5
41	3
42	7
43	3

**99 = No Response**

**N = Surveys in which this question was not asked.**

*Note\* The verbatim responses to this question are listed on the slide just as they appear in the database. We could have looked at the mean, median, and modal days per week, but there was too much missing data. As you can see, surveys 19 through 30 did not include this question.*

Figure 6.9

## Question 15: How Many Rail Cars do You Ship a Week by Type?

### Rail Users

	Inbound				Outbound				
	Minimum	Maximum	Mean	Total	Minimum	Maximum	Mean	Total	
Tanker	3	24	9.25	37	6	6	6	6	
Boxcar	6	25	13.75	55	4	1923	284.63	2277	
Flatcar	3	70	40.00	148	0	20	8	32	
Gondola	5	20	12.50	25	2	12	7	14	
Hopper-Uncovered	35	35	35.00	35	42	42	42	42	
Hopper-Covered	2	14	7.00	21	28	80	54	108	
Other	1	20	7.30	22	5	216	91	454	
<b>TOTAL</b>				<b>343</b>	<b>TOTAL</b>				<b>2933</b>

OTHER CARS:

**PD, Wood/Logs, Chip Cars, Inter-modal, Rack, Side Stake**

Figure 6.10

Note\* Question 15 is not really analyzable due to insufficient response data (see actual survey questionnaires.) This is also true for the trend increase or decrease in shipments since 2001. Other data sources may be more accurate and complete for this purpose.

Based on the small amount of data the respondents actually entered, the slide includes both inbound and outbound data, and compares the minimum, maximum, mean, and total number of cars both **received inbound** or **shipped outbound** per week. All figures are stated in “numbers of cars per week” received inbound or shipped outbound. Of significance is the difference between the total number of inbound and outbound cars.

**Note\*** The outbound maximum number of weekly boxcar shipments of 1923 rail cars/wk. was reported by a manufacturer in Chicago, Illinois who ships both paper and consumer goods products. This same shipper reported total outbound shipments in question 9 of 7,800,343 tons during 2004, which comes out to around 2000 rail cars per week.

## Question 16: If You Have Decreased Your Rail Usage in the Past Year, Please Explain Why? (Rail Users Only)

Co. X	RESPONSE	EXPLAIN
2	2	
3	99	
16	99	
17	99	
18	99	
19	99	
20	1	Last three years in some cases rail is the high cost mode
21	1	Poor car availability
22	1	Unreasonable rate increases
25	1	Pricing changes in some mills
26	99	
27	1	Using larger payload cars and rate increases
28	99	
30	99	
31	99	
32	1	In the past 6 months I have decreased rail car shipment by 90% due to lack of cars
33	1	Poor Service, predating pricing, lack of equipment
35	2	
36	1	Lack of trucks available
37	2	
38	2	Usage is about the same; recent rate increases may cause future declines
39	1	Cannot get rail cars
40	1	Lack of Rail Car Availability
41	99	
42	2	
43	2	
		<b>RESPONSE: 1 = YES; 2 = NO; 99 = No Response</b>

*Note\* Question 16 is a text question. The verbatim entries are shown for each survey questionnaire above.*

## Question 17: If You Have Increased Your Rail Usage in the Past Year, Please Explain Why? (Rail Users Only)

Co. X	RESPONSE	EXPLAIN
2	1	Receiving more pulp by rail
3	1	Truck availability
16	99	
17	99	
18	99	
19	2	We are a new business opened in 3/2004
20	99	
21	99	
22	99	
25	2	
26	1	New Products, and different customers
27	99	
28	99	
30	99	
31	1	Change of specie mix at the mill, Rising fuel cost, competition
32	99	
33	99	
35	1	Increased log purchases
36	2	
37	1	Increased capacities at mill/volumes
38	2	Usage is about the same
39	2	
40	99	
41	1	We have picked up a new customer that we run off of an inventory program
42	1	To reduce truck traffic; Have also had operational changes.
43	1	Production Improvements
		<b>RESPONSE: 1 = YES; 2 = NO; 99 = No Response</b>

*Note\* Question 17 is a text question. The verbatim entries are shown for each survey questionnaire above.*

Figure 6.11

**99 = No Response**

## Questions 18 & 19

Co. X	RESPONSE to Question 18	RESPONSE to Question 19
2	Better service at lower cost-more available switches	Unknown
3	Better service to rail sidings, better car availability, better price, and better customer service	50+Cars 99
16	99	50%
17	Less expensive customers with rail access	15%
18	Better service and competitive rates	99
19	99	99
20	Lower Pricing	99
21	Rail Competitive Rates/ car supply	30-40%
22	Lower Rates, Better Car Availability	Hard To say- Could Double
25	Pricing Change-Big Driver	80 Cars
26	Increase customer base	99
27	Better service and lower rate	99
28	99	We could receive 2-5 per week
30	Easier access to rail rates and service Reps. Better rates our siding would have to be rehabed- has not been used for 10 years.	20% increase by 6 cars a week
31	Increase in the number of pulpwood rack cars in the system, Consistent service, Reasonable rates	15-30% 100%
32	Need More Cars	Double
33	better service, competitive pricing, equipment	25%
35	1) decrease rail rate, 2) improve car availability, 3) improve car reliability	10-20%
36	More Railcars Available	99
37	Decrease freight rates / more car availability	Unknown
38	Increased availability of cars and Lower rates	10%
39	Better rail service	20%
40	Better Car Supply - Competitive Rates	99
41	Competitive pricing and better service would be two key factors	99
42	Better Service, and Lower Rates	99
43	Improve infrastructure and Costs	99

*Note\* Questions 18 & 19 are basically text questions. The slide shows the verbatim entries for each survey questionnaire.*

**Figure 6.12**

## Question 20: Who Owns the Rail Cars You Use?

	Inbound			Outbound		
	% Private	% System	% Foreign	% Private	% System	% Foreign
<b>Tanker</b>	15	0	0	8	4	0
<b>Boxcar</b>	4	12	12	4	9	0
<b>Flatcar</b>	4	12	0	4	15	4
<b>Gondola</b>	8	12	0	4	0	0
<b>Hopper-Uncovered</b>	8	12	0	0	4	0
<b>Hopper-Covered</b>	8	4	4	0	4	0
<b>Other</b>	8	0	0	5	5	0

Note\* Question 20 is not really analyzable due to insufficient response data (see actual survey questionnaires). The question itself does not ask for a “number of cars” response. It only asks the respondent to designate ownership for each type of rail car.

Respondents were also confused about whether to enter a number, or a “ + ” or “ - ” for columns 2 and 4. Some entered numbers and some made “ + ” and “ - ” entries (see actual survey questionnaires). Most of the boxes were left blank which means that the respondents did not know or did not have the time to answer the questions asked, and there was no “cannot answer” box that the respondent could check to communicate that response.

Tabular behemoths like questions 15 and 20 are almost certain to involve a lot of non-response error.

Based on the small amount of data the respondents actually entered, the slide compares both inbound and outbound shipments, and is restricted to rail-user respondents. The question does not ask the respondent to break down ownership into three mutually exclusive categories, so the survey results show only the frequency of respondents who answered that a particular type of car they use was either privately owned, system owned, and foreign owned.

### **Inbound:**

- a) About 15% of rail user respondents stated that the tanker shipments they receive inbound were privately owned. 0% of respondents stated the inbound tanker cars they receive were system owned, and 0% of respondents stated the inbound tanker cars they receive were foreign owned. About 4% of rail user respondents stated that the boxcar shipments they receive inbound are privately owned, 12% of respondents stated the inbound boxcars they receive were system owned, and 12% of respondents stated the inbound boxcars they receive were foreign owned.
- b) About 4% of rail users stated that the flatcar shipments they receive inbound are privately owned, 12% of respondents stated the inbound flatcars they receive were system owned, and 0% of respondents stated the inbound flatcars they receive were foreign owned.
- c) The rest of the inbound numbers for the rest of the cars are interpreted in the same manner.

### **Outbound:**

- a) About 8% of rail user respondents stated that the tanker cars they use in their outbound shipments are privately owned. 4% of respondents stated their outbound tanker cars were system owned, and 0% of respondents stated their outbound tanker cars were foreign owned.
- b) About 4% of rail user respondents stated that the boxcars they use in their outbound shipments are privately owned. 9% of respondents stated their outbound boxcars were system owned, and 0% of respondents stated their outbound boxcars were foreign owned.
- c) About 4% of rail user respondents stated that the flatcars they use in their outbound shipments are privately owned. 15% of respondents stated their outbound flatcars were system owned, and 4% of respondents stated their outbound flatcars were foreign owned.
- d) The rest of the outbound numbers for the rest of the cars are interpreted in the same manner.

Question 21: Would you consider rail car ownership, leasing or pooling in the future?

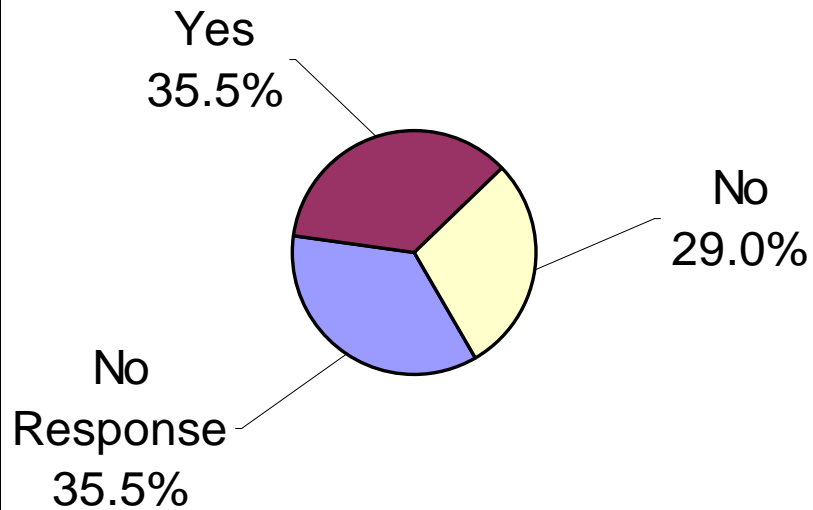


Figure 6.13

Question 22: Do you need assistance in planning for the purchase, pooling or lease of rail cars?

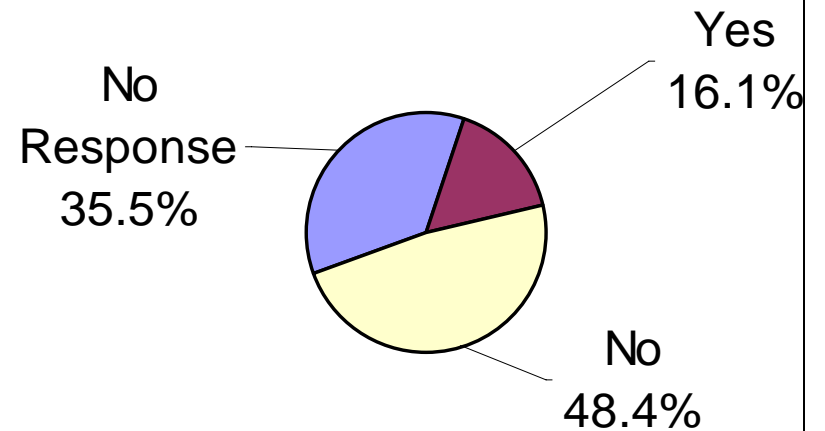
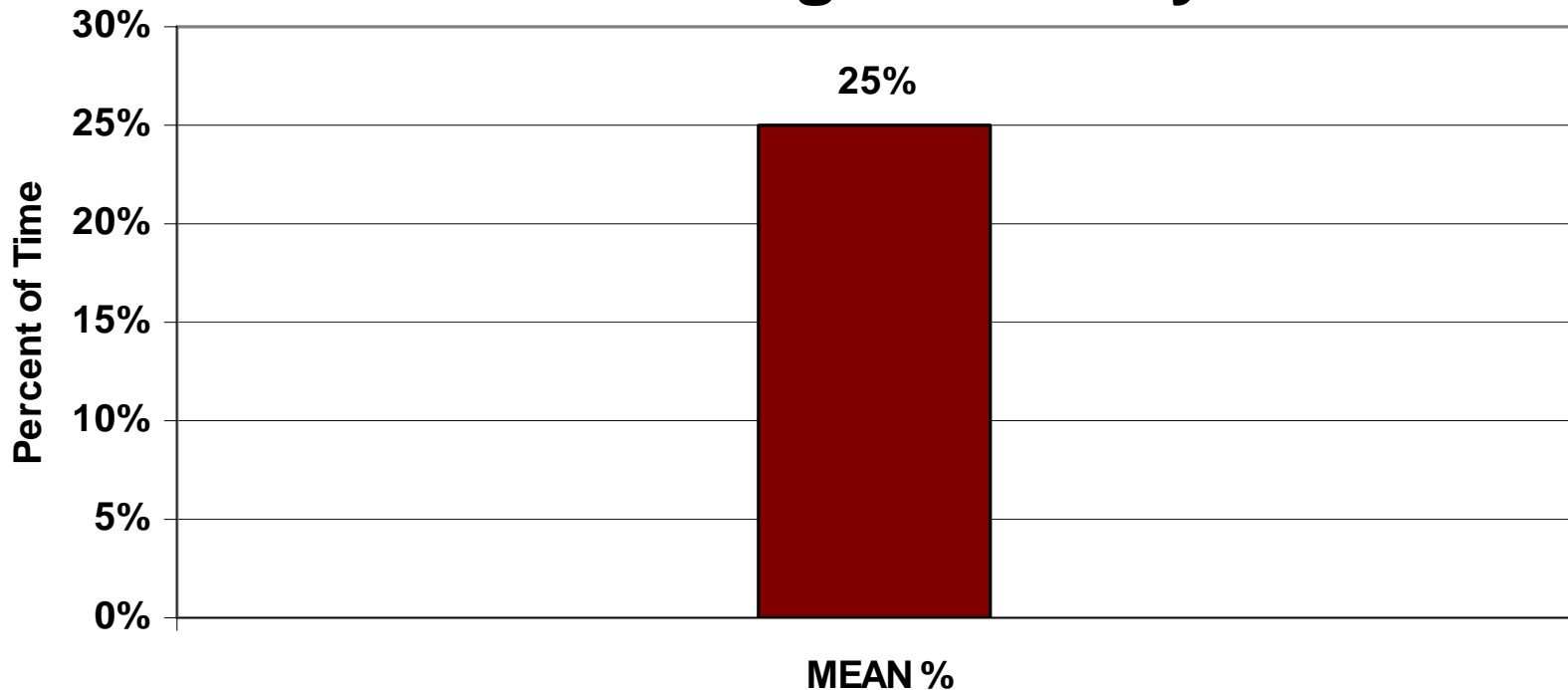


Figure 6.14

*Out of 43 respondents, 12 of the 43 questionnaires did not include these two questions and were filtered out.*

# Question 23: What Percentage of the Time Are You Able to Provide a Backhaul Shipment for a Carrier Making a Delivery?



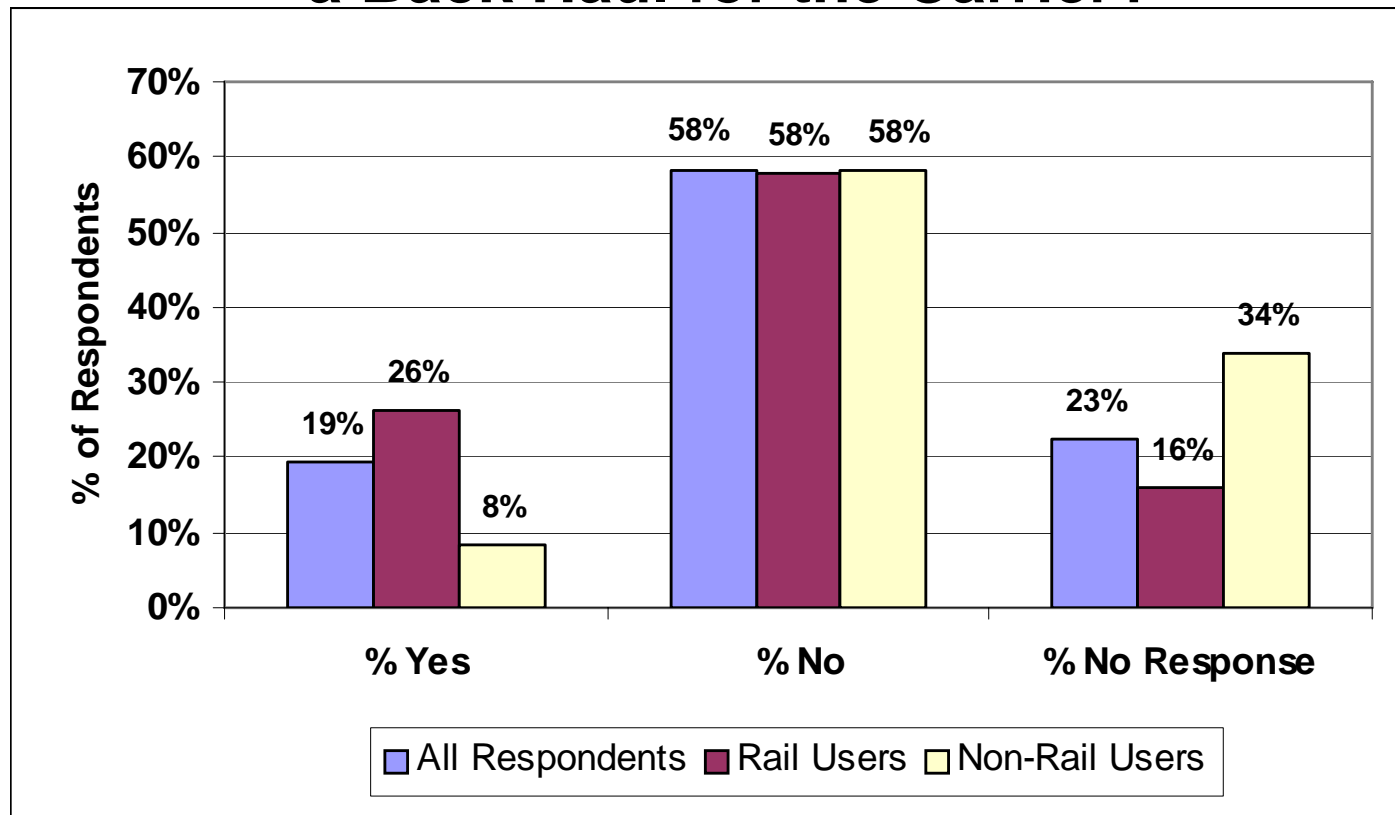
QUESTION 23: What percent of the time are you able to provide a backhaul shipment for a carrier making a delivery?

Out of 43 respondents, 12 questionnaires did not include this question. Eight responses were 99's (no answer,) 13 were 0%'s, and 10 were meaningful percentage responses. A descriptive analysis of these 10 responses is shown in the column chart above. The mean percentage of time is 25%. This means that respondents were able, on average, to arrange a backhaul shipment about 25% of the time.

If we add in the 13 respondents who entered "0%", then the **mean percentage of time drops to 10.86%**.

Figure 6.15

## Question 24: If You are Unable to Provide a Back Haul Shipment for the Carrier Making a Delivery to You, Do You Coordinate with Other Local Companies to Provide a Back Haul for the Carrier?



*All Respondents: Out of 43 responses, 12 were N's (Question not included on their surveys-about 28% of all respondents) and were deleted from the analysis, 7 were 99's (No response,) 18 were "No", and 6 were Yes) A descriptive analysis of these responses is shown in the column chart above.*

Figure 6.16

# Question 25: What are Your Top Five Inbound Freight Origins? (Rail Users)

## TRUCK ORIGINS

## RAIL ORIGINS

Appleton, WI	Neenah, WI		Caffey	Park Falls, MI
Ashland, WI	New York, NY		Cloquet, MN	Pecton, Nova Scotia
Crawfordsville, IN	Newberry, MI		Dollarville, MI	Prince Albert, D.C.
Dubuque, IA	Oshkosh, WI		Gordon, GA	Quinnesec, MI
Duluth, MN	Pembine, WI		Green Bay, WI	Sadnersville, GA
Gaylord, MI	Polar, WI		Hartford, WI	Sault St. Marie
Grandville, MI	Quinnesec, MI		Heiton, B.C.	Seney, MI
Houghton, MI	Roseville, MI		Kelowna, SC	Soo, ON
Ironriver, MI	Soo, ON		Kinross, MI	St. Genevieve, MO
Ironwood, MI	Stanbery, WI		L'Answ, MI	Stanbery, WI
Marquette, MI	Superior, WI		Lornia, WI	Superior, WI
Monaska, WI	Troy, MI		Macon, GA	Sussex, WI
	Waukausha, WI		Mississippi	Taft, LA
	Windabitt, MI		Newberry, MI	Wichita, KY

*The freight origins listed by rail users were too numerous and too diverse to be meaningfully ranked. Respondents did not list any Marine origins.*

Figure 6.17

# Question 25: Top Inbound Freight Origins (Non-Rail Users)

## TRUCK ORIGINS

Appleton, WI

Berun, WI

Blaine, MN

Chicago, IL

Dayton, OH

Detroit, MI

Effingham, IL

Grafton, WI

Green Bay, WI

Milwaukee, WI

Nashville, TN

Sturgeon Bay, WI

Toledo, OH

Viola, WI

*No meaningful ranking is possible. Twelve of the questionnaires did not include this question. The listings are taken verbatim from the questionnaires.*

## Question 26: Top Outbound Freight Destinations (Rail Users)

### TRUCK DESTINATIONS

### RAIL DESTINATIONS

Alpena, MI	Ithaca, NY		Allston, MA	Park Falls, WI
Birmingham, AL	Kiaukuana, WI		Canton, OH	Parkland, WI
Boston, MA	Lomira, WI		Concord, ON	Plains, MI
Chicago, IL	Manitowoc, WI		Corinth, MS	Pomona, CA
Cincinnati, OH	Menomonee, WI		Fifield, WI	Quinnesec, MI
Dallas, TX	Minneapolis, MN		Fondulac, WI	Randville, MI
Detroit, MI	Oakland, CA		Gulliver, MI	Sappi, MN
Effingham, IL	Sagola, MI		Hamilton, OH	Sartell, MN
Escanaba, MI	Sartell, MN		Hartford, WI	Stevens Point, WI
Escanaba, MI	Shakopee, MN		Kaukauna, WI	Stora Enso, WI
Grand Rapids, MI	Wasau, WI		Lincoln, NE	Waseca, MN
Green Bay, WI	Waupaca, WI		Lomina, WI	Wausau, WI
Hartford, WI	Wheeling, IL		Martinsburg, WV	
Indianapolis, IN	Wing Prarie, MN		Minneapolis, MN	

*The freight destinations listed by rail users were too numerous and too diverse to be meaningfully ranked. Twelve of the 43 returned survey questionnaires did not include this question.*

Figure 6.18

# Question 26: Top Outbound Freight Destinations (Non-Rail Users)

## TRUCK DESTINATIONS

<b>Appleton, WI</b>
<b>Chicago, IL</b>
<b>Dodge Center</b>
<b>East Coast</b>
<b>Ft. Wayne, IN</b>
<b>Grafton, WI</b>
<b>Green Bay, WI</b>
<b>Kalamazoo, MI</b>
<b>Midwest</b>
<b>Milwaukee, WI</b>
<b>Minnesota</b>
<b>Oshkosh, WI</b>
<b>South East</b>
<b>Sturgeon Bay, WI</b>
<b>Viola, WI</b>

*No meaningful ranking is possible. Twelve of the questionnaires did not include this question.*

# Questions 27 & 28: Rail Performance Metrics (Rail Users)

	Satisfaction Rating (Mean Score)	Importance Rating (Mean Score)	Satisfaction / Importance Ratio (Percentage Score)	Must Fix Ranking	Grade
Transport Costs	2.96	9.29	31.9%	1	F
Equipment Availability	3.81	9.57	39.8%	2	F
Ease of Doing Business	4.00	8.90	44.9%	3	F
Reliability (Consistency) of Service	4.43	9.76	45.4%	4	F
Final Customer Satisfaction	4.38	9.05	48.4%	5	F
Scheduled Service	5.00	8.62	58.0%	6	F
Total Transit Time	5.29	8.10	65.3%	7	D
Accuracy of Billing	6.57	9.19	71.5%	8	C-
Claims / Damage History	6.43	7.10	90.6%	9	A-
Cargo Tracking	7.29	7.71	94.6%	10	A

*This slide shows the mean satisfaction score and mean importance score assigned by all rail user respondents for each of the 10 performance metrics listed in questions 27 and 28. The scale ranges from “1” which represents “least satisfied” or “least important” to “10” which represents “most satisfied” or “most important”.*

*For transport costs, rail users expressed a mean satisfaction score of 2.96 out of a possible 10. They assigned a mean score of 9.29 out of 10 to its importance. The ratio of satisfaction to importance is  $(2.96 / 9.29) = .319$ , or 31.9%. A perfect score would be 10 / 10, or 100%. Relative to a perfect score of 100%, a score of 31.9% is a failing grade (any score below 60%,) and ranks #1 in the “Must Fix” category for the railroad companies to consider. The next lowest grade is a 39.8% satisfaction/importance rating for “equipment availability”. This ranks #2 in the “Must Fix” category. Respondents gave the highest grade to “Cargo Tracking” which earned a rating of 94.6%.*

Figure 6.19

# Questions 27 & 28: Rail Performance Metrics (Non-Rail Users)

	Satisfaction Rating (Mean Score)	Importance Rating (Mean Score)	Satisfaction / Importance Ratio (Percentage Score)	Must Fix Ranking	Grade
Transport Costs	5.46	9.00	60.7%	1	D-
Total Transit Time	6.83	8.67	78.8%	2	C+
Reliability (Consistency) of Service	7.17	9.00	79.7%	3	C+
Claims / Damage History	6.17	7.67	80.4%	4	B-
Final Customer Satisfaction	7.67	9.33	82.2%	5	B-
Accuracy of Billing	7.83	9.50	82.4%	6	B-
Cargo Tracking	6.50	7.83	83.0%	7	B
Ease of Doing Business	6.67	7.83	85.2%	8	B
Scheduled Service	7.17	8.33	86.1%	9	B
Equipment Availability	6.33	7.33	86.4%	10	B

*Next, select “Analyze”, then “Descriptive Statistics”, then “descriptives”; under “options” specify “mean” for the calculation and then enter all of the satisfaction and importance performance variables. Click OK. Enter mean values on a spreadsheet and copy into the power point slide.*

*The method of interpretation of data for non-rail users in this slide is the same as it was for rail-users in slide 31. It appears that transport costs, total transit time, and reliability of service are major concerns even for non-rail users. It would be interesting to see how these respondents would rate trucking carriers on the same performance metrics.*

Figure 6.20

## Question 29: What Information Would You Want from the Railroad to Consider Future Use? (Rail Users Only)

<b>SURVEY #</b>	<b>WRITTEN RESPONSE</b>
3	Price, Car Availability, how many days of service at the siding
17	Too Expensive to ship to customers serviced by a different Rail Road companies than the one that services U. S.
18	Long Term Plan, service improvement
19	Equipment availability is our number one concern at this time
20	We have already have 9000 lines of communication with the railroads.
21	Better Rates
33	A trusting working partnership, a true partner
35	Car reliability and availability info without weekly recycling info.
36	better railcar availability
37	Log Car Availability (guaranteed car pool). Guaranteed rate contracts with minimum of 1 year.
38	Long - term Commitment; Car Availability; Better rates
39	Better Customer Service
40	That they will provide consistant car supply and competitive rates. Also, that they will remain in our service area.
41	How they would address the concerns brought up in Question 28.
43	why the 30% increase in costs?

*Note\* Question 29 is a text question. The survey numbers and the verbatim responses are shown for each selected survey questionnaire above.*

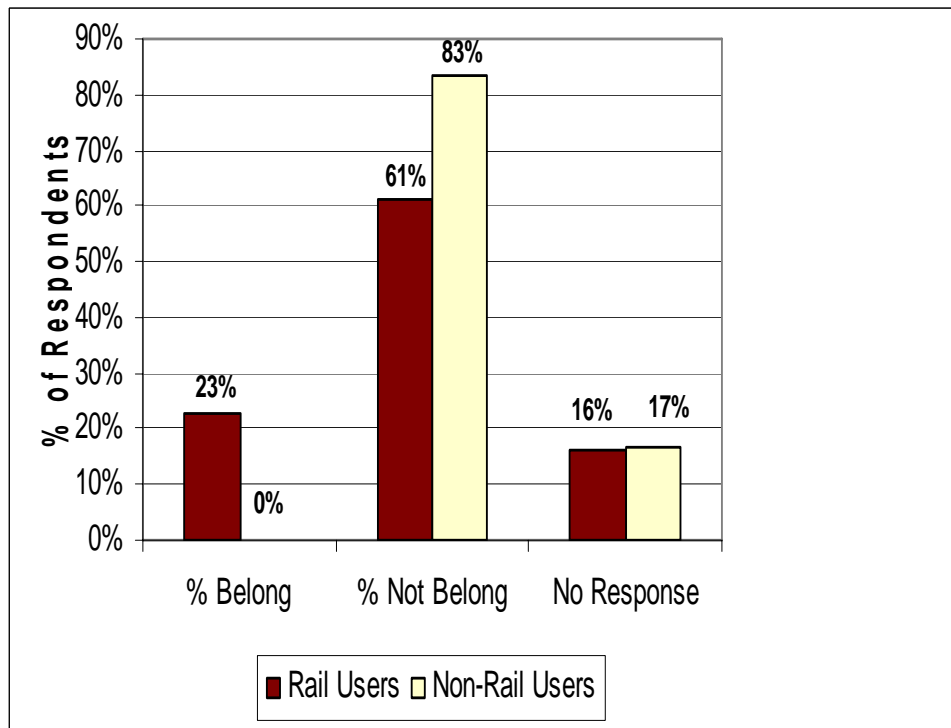
Figure 6.21

## Question 29: What Information Would You Want from the Railroad to Consider Future Use? (Non-rail Users Only)

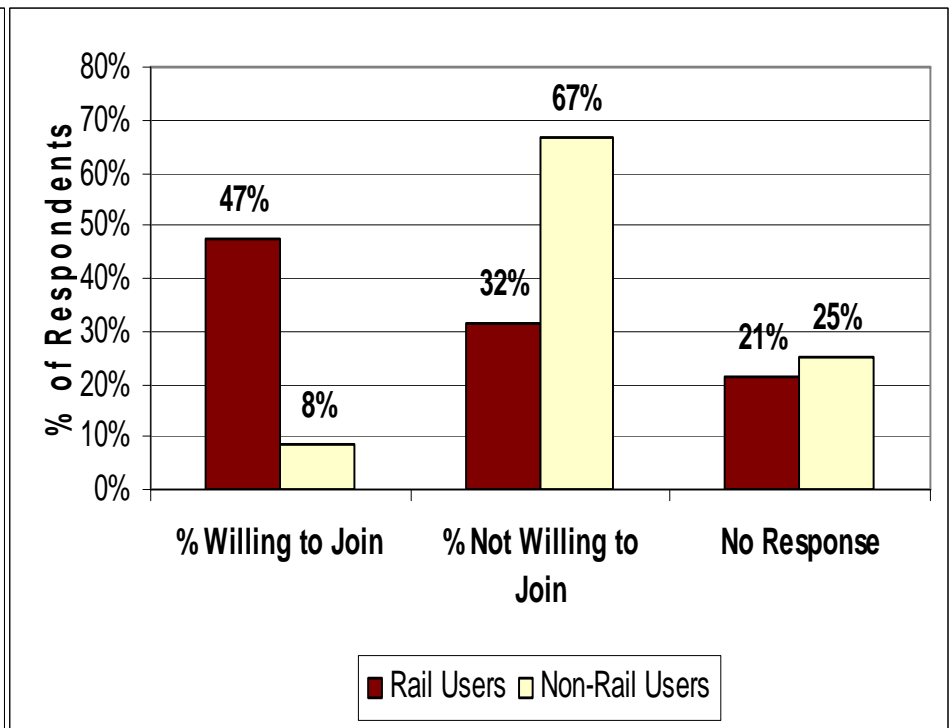
<b>SURVEY #</b>	<b>WRITTEN RESPONSE</b>
<b>1</b>	<b>Our business is not conducive to rail shipment due to small order sizes.</b>
	<b>The key to continued receiving use is service and consistency on delivery</b>
<b>10</b>	<b>Not Applicable</b>
<b>11</b>	<b>Availability from both RR to us and from shipper-cost</b>
<b>12</b>	<b>None</b>
<b>13</b>	<b>None</b>
<b>14</b>	<b>Rail is not practical for our product</b>
<b>24</b>	<b>I am very happy with the information I am getting right now</b>
<b>29</b>	<b>Transit times, cost guarantees. Loading/unloading points and accessibility.</b>

*Note\* Question 29 is a text question. The survey numbers along with the verbatim responses are shown for each selected survey questionnaire above.*

**Question 30:  
Do you belong to a shipper or trade association?**



**Question 31:  
Would you consider joining a shipper association in the future?**



*Twelve of the 43 returned questionnaires did not include questions 30 and 31 and were filtered out.*

Figure 6.22

## **Question 32: Please Include any Other Comments or Information you Think Valuable. (Rail Users)**

<b>Survey #</b>	<b>Written Response</b>
18	Need Rail Competition
26	I don't like the way the CN has changed their recommendations to us. They wanted us to do our own switching for years but when we looked into it they were not willing to help us by leasing us land/truck.
27	Volume Increase (question 19 of the main survey): rates will determine the volume of cars we can ship in the future.
28	Box car quality has decreased due to CN not placing value on quality equipment, not regularly maintained or inspected.
30	It seems difficult to use rail at this time. It seems a waste to have to use truck when rail uses 1/3 the energy. The perception is that rail (at least class one Rail) is not interested in our small volume.
31	This is the pulpwood portion of the business and includes all of our mills in Wisconsin, and all of the sidings.
33	This survey does not include pulpwood. That will be sent by another survey
38	NHLA, Timber Producers, NVPA, Informal groups in WI and MI regarding CN.

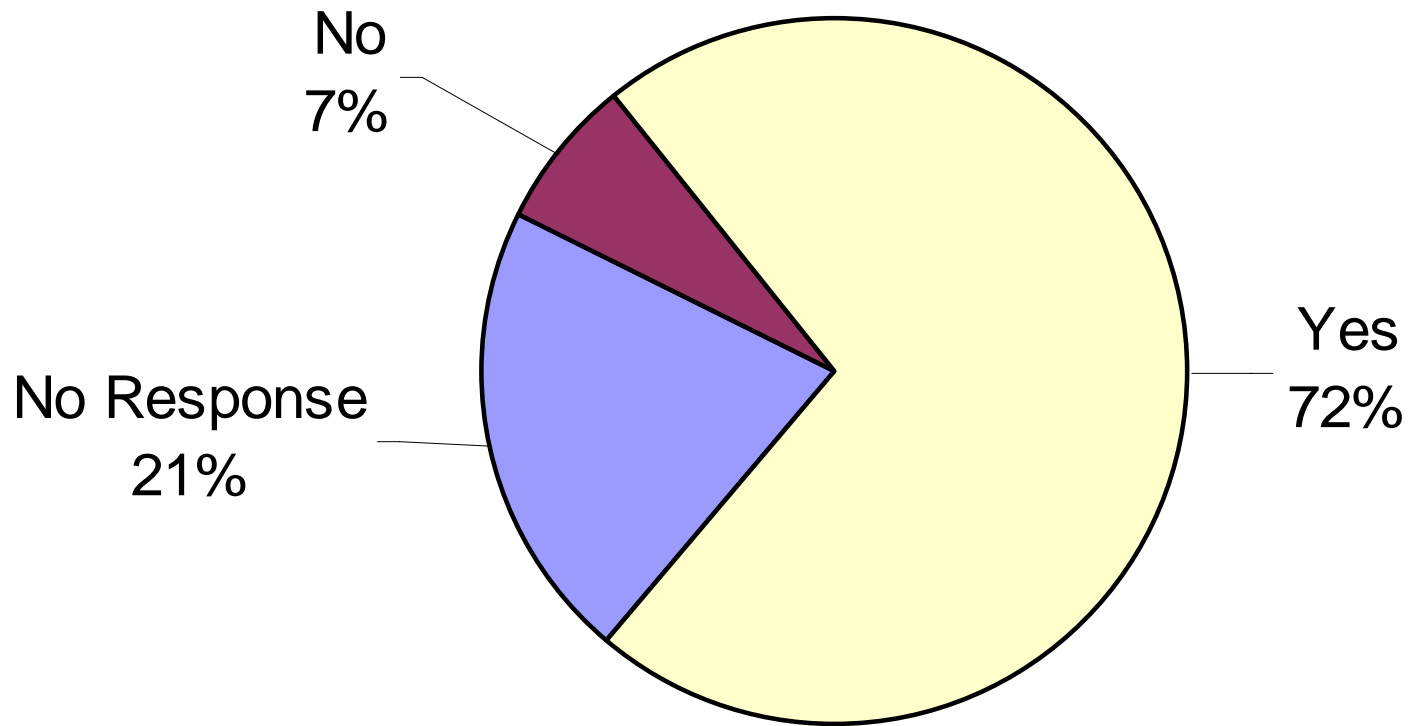
Note\* Question 32 is a text question. The survey numbers and the verbatim responses of rail-users are shown for each selected survey questionnaire above.

## **Question 32: Please Include Any Other Comments or Information You Think Valuable. (Non-rail Users)**

<b>24</b>	<b>We could not be any happier with Progressive Rail.</b>
<b>29</b>	<b>My main concern for using rail is the life of the investment on the infrastructure and the potential failure of the infrastructure due to the growing demand on it.</b>
<b>34</b>	<b>The following need to be improved substantially:</b>
	<b>1) Car orders and placement of cars at sidings.</b>
	<b>2) Demurrage schedule needs to be revised.</b>
	<b>3) overall service needs drastic improvement.</b>

*Note\* Question 32 is a text question. The survey numbers and the verbatim responses of non-rail users are shown for each selected survey questionnaire above.*

# Question 33: Would You be Willing to Provide Additional Information if We Contacted you?



*For all respondents surveyed, 72% were willing to provide additional information, 7% were not, and 21% did not answer the question.*

Figure 6.23

# Appendix 11.5

## GIS Maps and EDA Survey Form

## **Appendix 11.5 GIS and EDA Survey**

### **Name of Development Agency**

Barron County Economic Development Agency  
Rice Lake Chamber of Commerce  
Cameron Development Corporation  
Rusk County Economic Development Corporation  
Bruce Area Comm. Development Group  
Greater Ladysmith Chamber of Commerce  
Ladysmith Community Industrial Development Corporation  
Price County Development Association  
Prentice Industrial Development Corporation  
Park Falls Area of Chamber of Commerce  
Phillips Area Chamber of Commerce  
Lincoln County Economic Development Corporation  
Oneida County Chamber of Commerce  
Rhinelander Economic Development Agency  
Forest County Economic Development Corporation  
Crandon Area Chamber of Commerce  
Marinette Area Chamber of Commerce  
Ashland County Economic Development Agency  
Ashland Area Development Corporation

**Table 1: List of Economic Development Agencies (EDAs) Surveyed**

## **EDA Survey Form**

### ATTRIBUTES OF EACH PROPERTY

Property # Listed

Location

Site Characteristics

**Size:**

**Zoning:**

**Former use:**

**Environmental:**

**Foundations:**

**Comments:**

Buildings<sup>1</sup>

Utilities

Highway / Airports / Ports

Railroad Service

Other Site Services:

Government District

Sale / Lease Availability

Contact

Memo

**Table 2:**

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<sup>1</sup> Refer to the sample for specifics

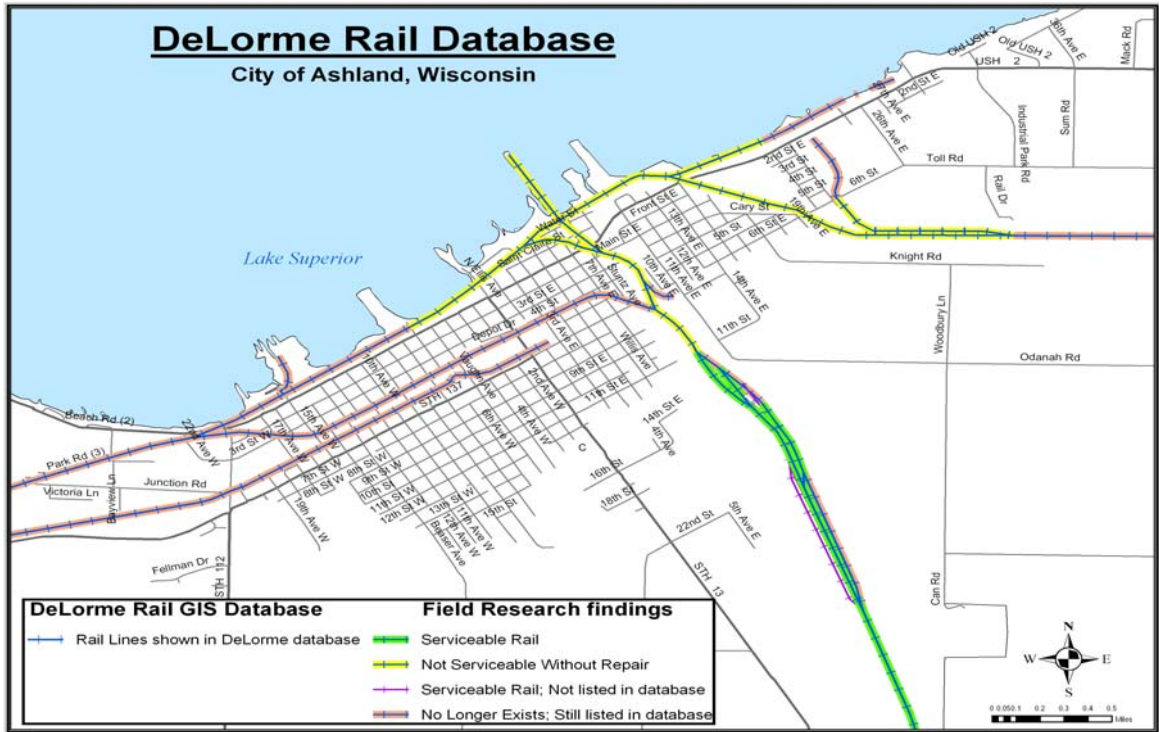


Figure 1a: Verified Railroad Data from DeLorme software

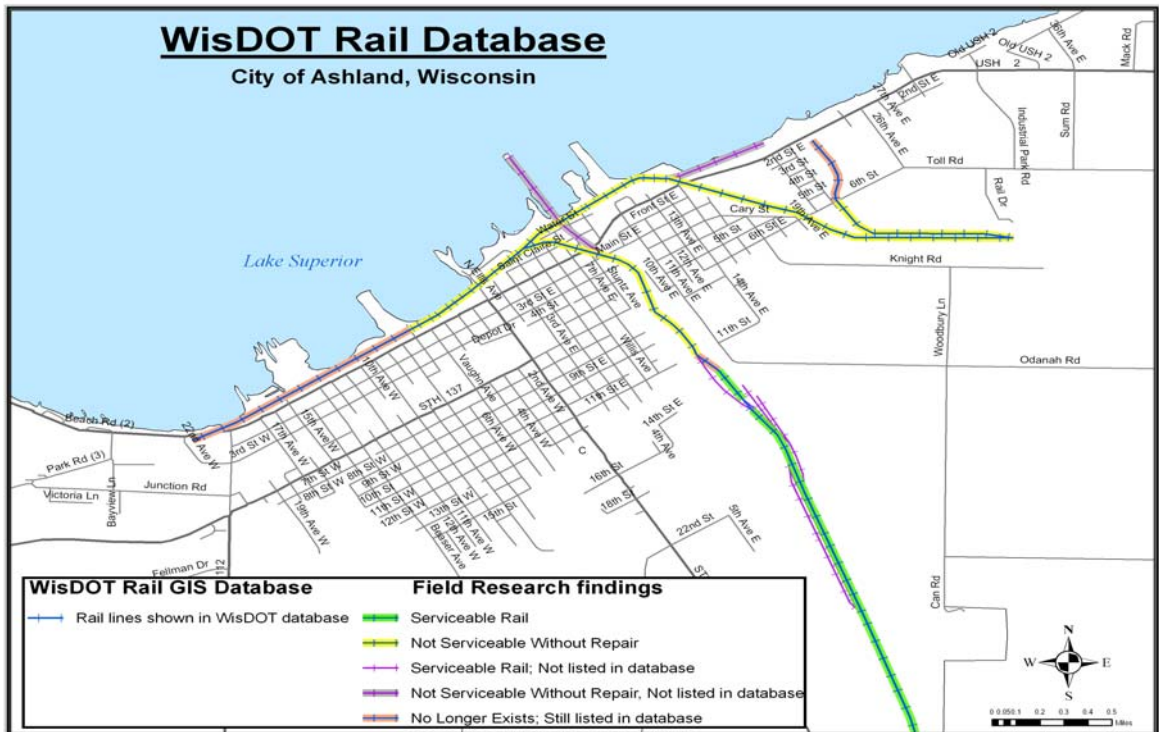


Figure 1b: Verified Railroad Data from Wisconsin DOT

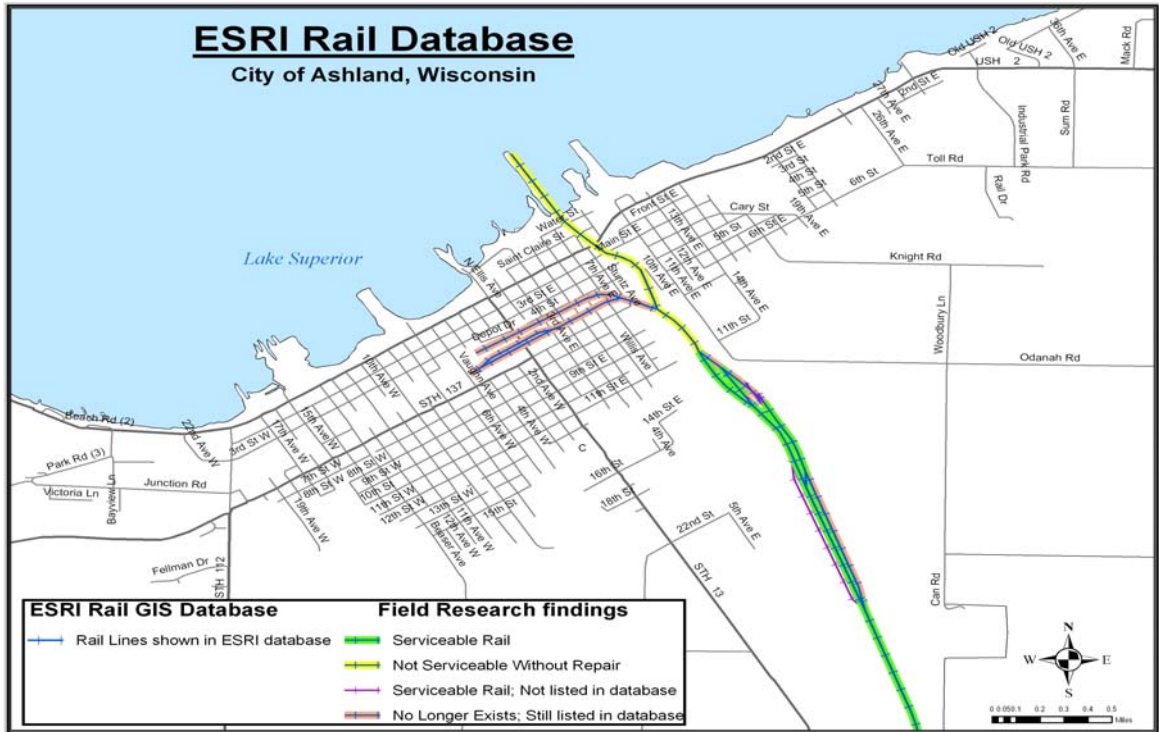


Figure 1c: Verified railroad Data from ESRI software

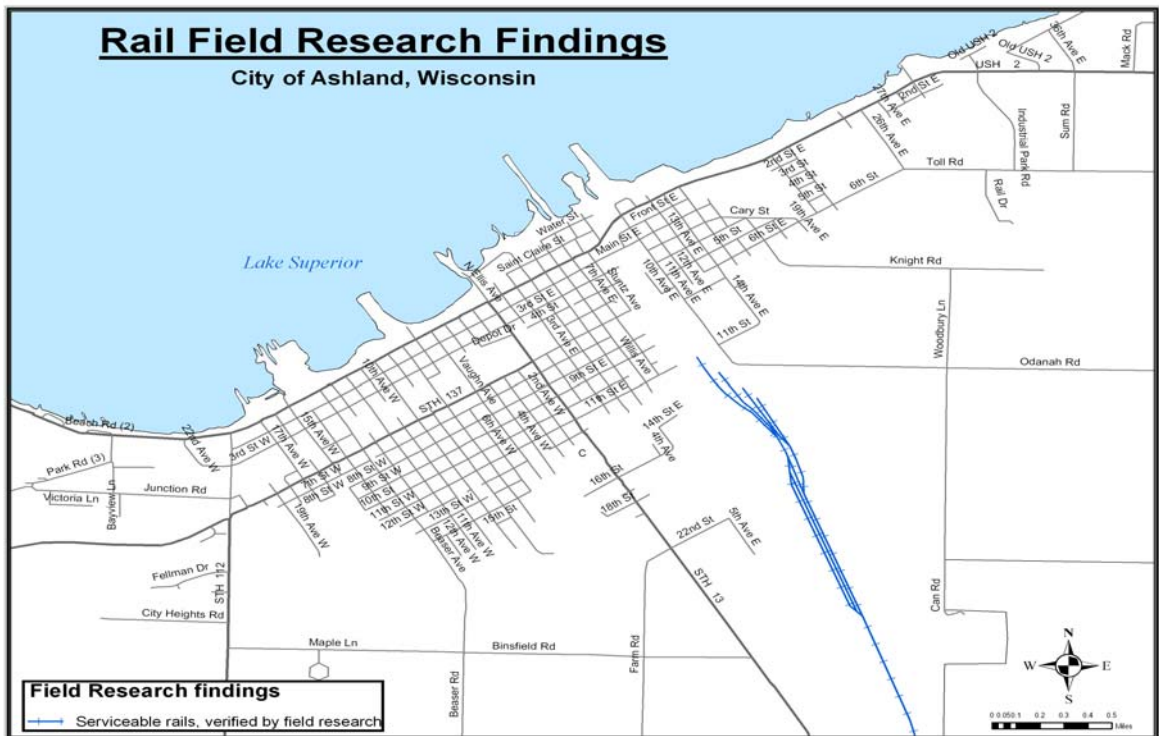
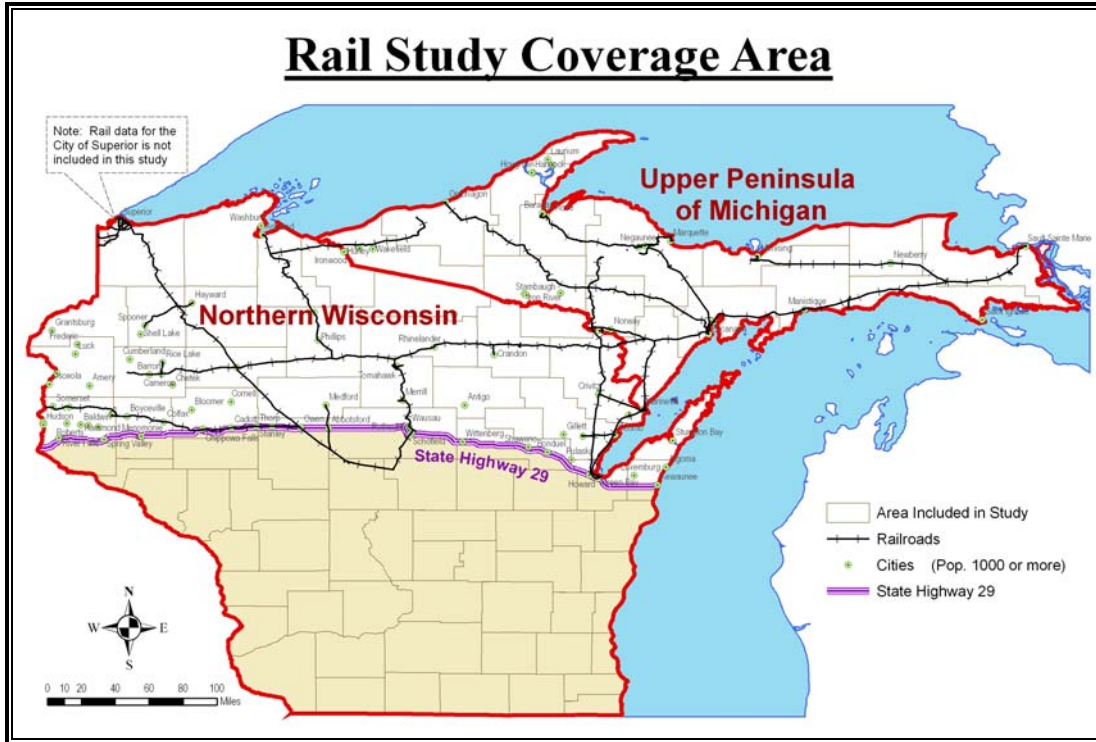
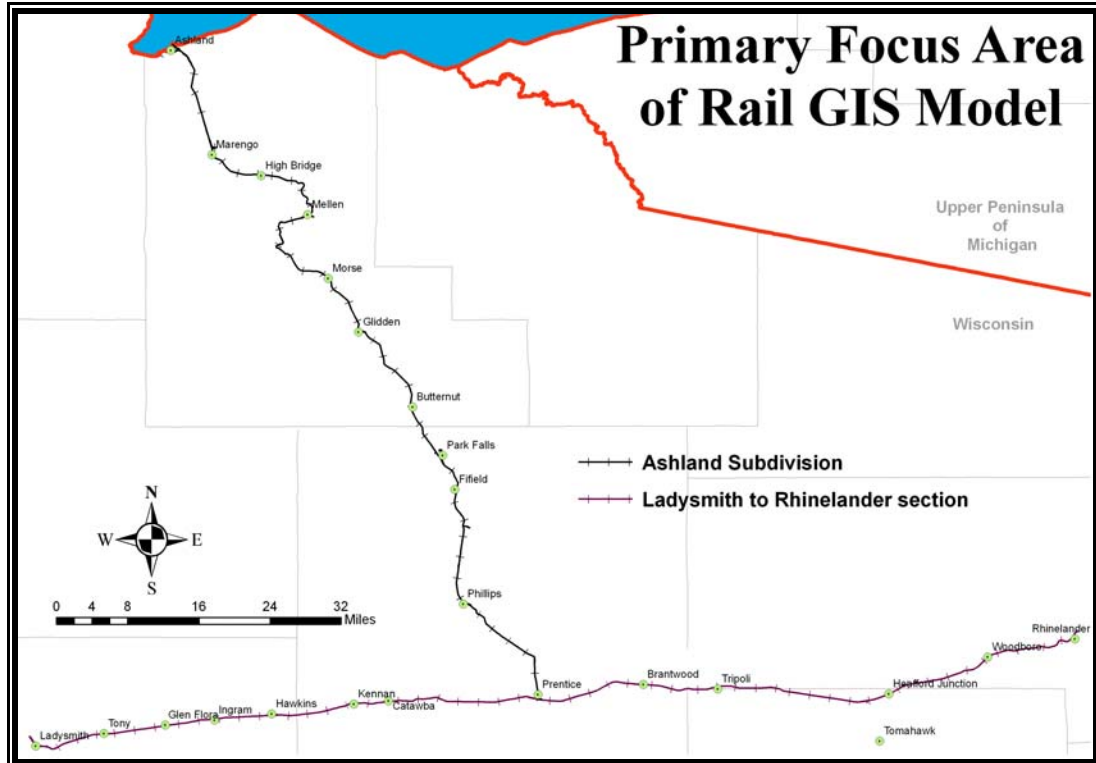


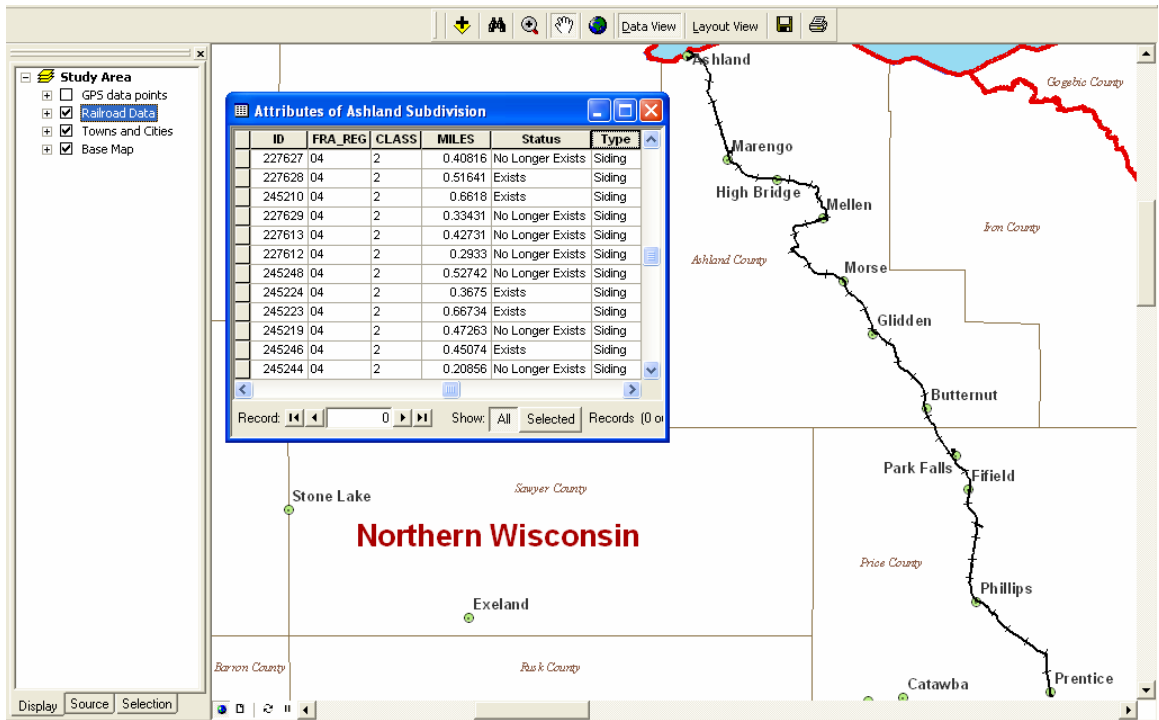
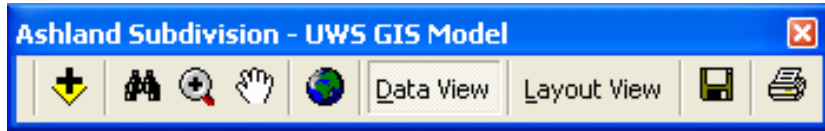
Figure 1d: Actual Functional Railroads in Ashland, Wisconsin



**Figure 2: Coverage Area of the Study**



**Figure 3: Primary Focus Area of the Rail GIS Model**



**Figure 4: Ashland Subdivision GIS Model**

## Comparison of Rail Inventories in GIS Data Sources

<b>(All distances are in meters)</b>	<b>WisDOT</b>	<b>% of database total</b>	<b>DeLorme</b>	<b>% of database total</b>	<b>ESRI</b>	<b>% of database total</b>
Track exists as shown on database and is serviceable without repair (includes sidings and spurs):	3,320 m	25%	4,676 m	16%	4,676 m	40%
Track exists as shown on database and is not serviceable without repair (includes sidings and spurs):	7,563 m	57%	9,281 m	31%	2,098 m	18%
Track does not exist but is shown on database (includes sidings and spurs):	2,469 m	18%	15,762 m	53%	4,966 m	42%
<b>Total amount of rail listed in each database (includes sidings and spurs):</b>	<b>13,352 m</b>		<b>29,719 m</b>		<b>11,741 m</b>	
Distance and percentage of rails listed within each database that actually physically exists:	10,883 m	82%	13,957 m	47%	6,774 m	58%
Track exists but is not shown on database and is serviceable without repair:	4,123 m		3,672 m		3,743 m	
Track exists but is not shown on database and is not serviceable without repair:	1,732 m					

## Comparison of Rail Inventories in GIS Data Sources, with Field Research

<b>(All distances are in meters)</b>	<b>Field Research</b>	<b>WisDOT</b>	<b>DeLorme</b>	<b>ESRI</b>
Track exists as shown on database and is serviceable without repair (includes sidings and spurs):	<b>8,419 m</b>	3,320 m	4,676 m	4,676 m
Track exists as shown on database and is not serviceable without repair (includes sidings and spurs):	<b>9,281 m</b>	7,563 m	9,281 m	2,098 m
<b>Total amount of rail listed in each database (includes sidings and spurs):</b>	<b>17,699 m</b>	<b>13,352 m</b>	<b>29,719 m</b>	<b>11,741 m</b>

**Table 3: Comparison of Rail Inventories in GIS Data Sources**