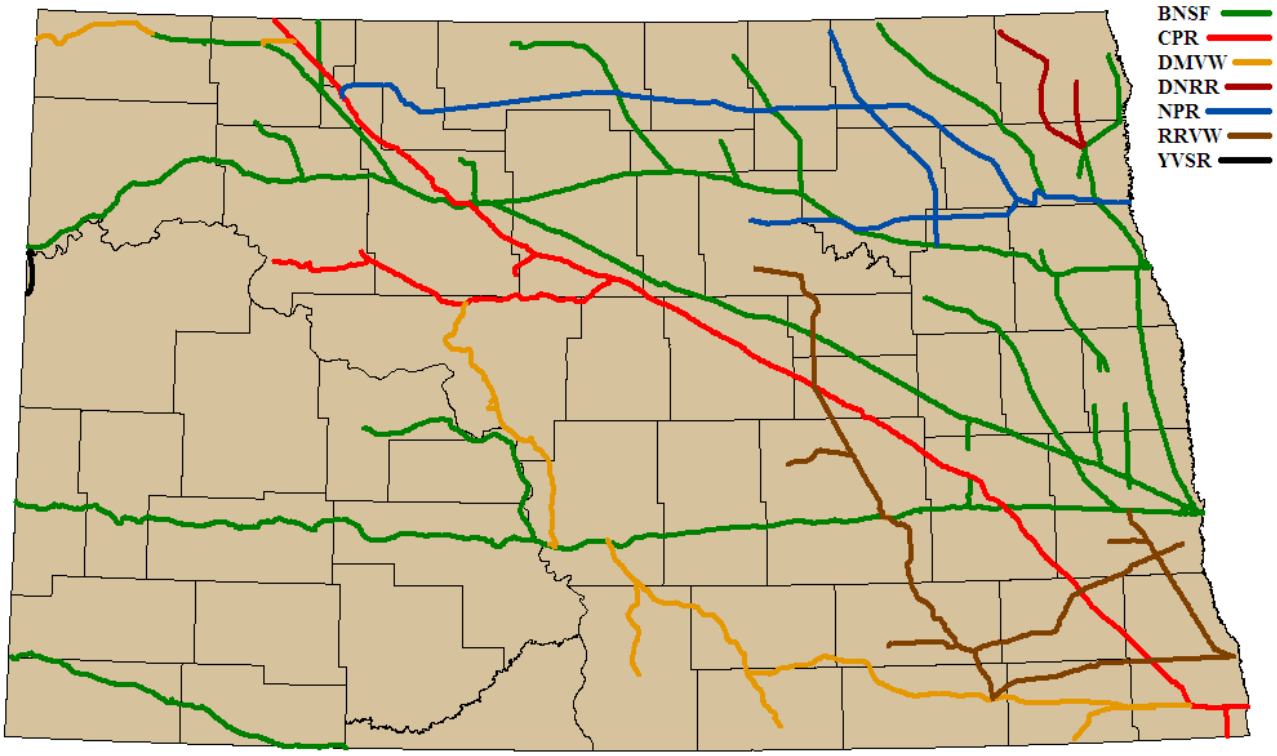
NORTH DAKOTA
STATE RAIL PLAN



Prepared by
UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

for

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
Bismarck, North Dakota
Website: http://www.dot.nd.gov

DIRECTOR
Francis G. Ziegler

December 2007

North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

December 2007

Dear North Dakotans:

Significant changes have taken place in the rail industry in the last decade. The 2007 North Dakota rail plan presented here considers these changes as it provides guidance for continued development of the North Dakota rail system. It also contains better, more comprehensive data for rail stakeholders. With this new plan, we are contributing to a safer, more secure, more efficient rail system that offers effective movement of freight and contributes to personal mobility.

It is important to acknowledge that it would have been impossible to develop the new rail plan without the Rail Advisory Group and the input of other individuals, businesses, and agencies. We pledge to continue providing opportunities for meaningful input and participation in the rail planning process.

The 2007 rail plan is a part of our ongoing effort to improve the North Dakota rail transport system. Please continue to share your thoughts and express your suggestions; working together we can make a difference.

Sincerely,

Francis G. Ziegler, P.E.
Director

17/bj

608 East Boulevard Avenue • Bismarck, North Dakota 58505-0700
Information: (701) 328-2500 • FAX: (701) 328-0310 • TTY: (701) 328-4156 • www.dot.nd.gov

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CHANGE/ERRATA SHEET

Provisions in Public Law 110-432 (The Rail Safety Act of 2008) changed the status of Local Rail Freight Assistance (LRFA) funds from federal funds to state funds. Because of this change, Federal Railroad Administration (FRA) approval is no longer required for use of these funds and certain FRA administrative guidelines and regulations that formerly applied to state LRFA programs are no longer in effect. Any reference to FRA requirements regarding the use of these funds, other than LRFA original intent, should be disregarded.

EXECUTIVE SUMMARY

This document is a rewrite of the North Dakota State Rail Plan that was published in 1998. It provides information and guidance for state and local officials, rail users and others affected by railroad transportation, and serves as a guide for state investments in eligible rail lines and related projects.

In this document, the basic plan has been reorganized and shortened, with supporting information moved to appendices. In addition, the section that dealt with regulatory issues has been removed, because regulatory issues are not within the purview of ***NDDOT*** and are not within the scope of the rail plan. This change does not suggest that regulatory issues are unimportant. On the contrary, regulatory issues are very significant, since they can directly impact the largest segment of the North Dakota economy. Rail rates and service affect the cost and timing of commodity movements, which can affect access to markets. These variables directly impact agricultural producers. NDDOT recognizes and acknowledges the significance and importance of regulatory issues, but believes they would be better addressed in a venue other than the rail plan.

The rail plan is organized into the following chapters, with appendices:
Chapter 1 – ND Rail Planning Guidance
Chapter 2 – The North Dakota Rail System
Chapter 3 – ND Rail Assistance and Safety Programs and Guidelines

The state rail plan supports *TransAction II*, North Dakota's strategic transportation plan. *TransAction II*'s mission, vision and goals are stated below.

Mission

"North Dakota will provide a safe and secure transportation system that considers personal choices, enhances business opportunities, and supports economic competitiveness; and promotes the wise use of all resources."

Vision

"North Dakota's transportation system is an important part of regional, national and global systems, developed strategically to help grow and diversify our economy and enhance the state's quality of life."

Goals

1. *Safe and secure transportation for residents, visitors, and freight.*
2. *A transportation system that allows optimum personal mobility.*
3. *A transportation system that allows the efficient and effective movement of freight.*
4. *A transportation system that enhances economic diversity, growth, and competitiveness with consideration of environmental and social impacts.*
5. *Funding sufficient to protect and enhance North Dakota's transportation infrastructure and address future transportation needs*
6. *A transportation environment where communication, cooperation, and collaboration exists.*

TransAction II articulates 12 Strategic Initiatives for improving the North Dakota Transportation system. All 12 Initiatives have direct application to the rail plan.

In accordance with *TransAction II*, the rail plan considers priorities and levels of service appropriate for North Dakota's rail transportation needs. For example:

- The emergence of identity preserved agriculture and the increasing globalization of markets has caused increasing demand for intermodal service.
- The emerging ***biofuel*** industry is impacting movement of bulk agricultural commodities.
- Increased demand for coal will impact rail transportation in North Dakota.

This rail plan is intended to be a working document, a useful and practical resource, as we work through these and other challenges to transportation in North Dakota.

Administrative Note:
Terms included in the Glossary are bolded and italicized with first use in the document.

RAIL PLAN OVERVIEW

Chapter 1 – Introduction, Purpose, Scope and Use, and Goals and Strategies

Chapter 1 provides guidance for rail planning in ND. It contains the rail plan's purpose, scope, use, and planning goals and strategies. It also identifies trends that have potential to affect the ND rail transportation system.

A Rail Advisory Group (RAG), representing a cross-section of railroad, shipper, and public organizations, was tasked with developing a vision, with goals and implementation strategies, for rail transportation in North Dakota. The group met four times, with one meeting being a joint North Dakota – Minnesota planning and coordination session. Detailed information from these meetings is in Appendix D.

Chapter 2 – The North Dakota Rail System

Chapter 2 provides an overview of the state railroad system and related information. There is a brief history of North Dakota railroads followed by summary profiles of the seven freight railroads operating in the state. Rail crossing characteristics are presented, as are characteristics of shipper facilities. There is an overview of shuttle loader facilities, and a map of their locations. Also included is an overview of passenger rail service and traffic levels. Commodity and freight flows are addressed. Chapter 2 also provides an overview of the abandonment process.

Chapter 3 – North Dakota Rail Freight Assistance Programs and Guidelines and Crossing Safety Programs

Chapter 3 provides a description of the North Dakota rail freight assistance revolving loan funds and the state's railroad–highway grade crossing safety efforts.

Rail Assistance
North Dakota has two revolving loan funds for freight rail assistance; ***Local Rail Freight Assistance (LRFA)*** and ***Freight Rail Improvement Program (FRIP)***. The LRFA fund was established with money from a federal grant program. The FRIP loan fund was created with state dollars. LRFA and FRIP are presently the only state railroad assistance programs available in ND for rail line construction and rehabilitation projects.

Crossing Safety
The federal railroad-highway grade crossing safety program began in 1973, when Congress authorized expenditure of funds from the Highway Trust Fund for crossing improvements on the Federal Aid Highway System (FAS). In 1976, Congress extended funding to crossing improvements on all public highways, not just roads on the FAS, and has renewed the program in all subsequent surface transportation acts.
North Dakota's rail-highway crossing program began in 1978 and complements the federal program. The funds are used for signal installation and upgrade, other safety upgrades, and crossing closures.

Operation Lifesaver
In 1991, Congress directed the Secretary of Transportation to set aside $300,000 each fiscal year to support a public information and education program to help reduce motor vehicle accidents, injuries, and fatalities and improve driver behavior at railroad–highway crossings. The money has been used to support Operation Lifesaver. NDDOT continues to work with Operation Lifesaver and other safety groups to promote an awareness of grade crossing hazards and driver responsibility.

Quiet Zones
The state is aware that train horns create noise impacts in communities and encourages continued research into ways to mitigate noise impacts without compromising safety. FRA has established certain criteria for quiet zones, where train horns are not sounded. Fargo, in cooperation with Moorhead, MN, established the first quiet zone in ND, along the BNSF mainline that runs through both communities. There are presently several ND communities that have implemented quiet zones or are in the process of doing so. NDDOT affirms that quiet zones are a local issue and decisions regarding them should be made at that level

Rail Advisory Group Members

Bill Binek
ND Public Service Commission

Jim Boyd
ND Department of Commerce

Bob Bright
Fargo-Moorhead MetroCog (MPO)

Steve Busek
Federal Highway Administration

Edward D. Dahlby
Canadian Pacific Railway

Chuck Fleming
ND Department of Agriculture

Earl Haugen
Grand Forks, East Grand Forks MPO

Larry Jamieson
Northern Plains Railroad

D.B. Messmer
Federal Railroad Administration

Dennis Ming
Dakota Missouri Valley & Western Railroad

Ray Morrell
ND Department of Emergency Services

Steve Saunders
Bismarck-Mandan MPO

Mark Sovig
Regional Councils

Brian Sweeney
BNSF Railway

Tanya Wisnewski
Operation Lifesaver

Dan Zink
Red River Valley & Western Railroad

CHAPTER 1 - ND RAIL PLANNING GUIDANCE

This chapter contains the Rail Plan's purpose, scope, and use; planning goals with implementation strategies and action items; and trends that have potential to impact rail transportation.

Purpose, Scope, and Use

Purpose

- Develop a shared vision for North Dakota's rail system.
- Provide broad strategic direction for collaborative rail system enhancement efforts.
- Develop and maintain an inclusive and ongoing strategic rail planning process.
- Communicate information regarding the existence and availability of rail assistance programs.

Scope

The rail plan scope is broad. It engages public and private sector providers and users, all levels of government, and multiple modes of transportation. It identifies strategic rail transportation issues.

The rail plan examines strategic rail transportation roles and responsibilities across all levels of government and the private sector. It recognizes and respects the functions of the private sector and the prerogative of local governmental units and tribal governments to develop their own rail transportation plans and projects.

The rail plan also explores and identifies opportunities for public-private partnerships and collaborative efforts by identifying strategic goals and strategies.

Use

- Promote cooperation and collaboration between jurisdictions and between the public and private sectors.
- Improve communication between the public and private sectors and between railroads and rail system users.
- Promote understanding of the strategic importance of rail transportation in North Dakota.
- Enable North Dakota to achieve its shared rail transportation vision.

Goals and Strategies

The Rail Advisory Group (RAG) developed 11 primary vision statements for North Dakota's rail system. Specific categories within each vision were identified. Action items, or strategies, were then developed. The strategies were further refined to ensure that the proposed actions were within the scope of the rail plan. The vision statements and strategies were then distilled into four planning goals with supporting strategies and

action items. These goals, strategies and action items are the fundamental planning guidance for ND rail transportation. They are listed below. Implementation strategies to accomplish an annual work plan will be developed.

Detailed information from the RAG sessions, including the vision statements and strategies discussed at the meetings, is in Appendix D.

Goal 1. A safe and secure railroad system.

Strategy 1. Support efforts to improve rail safety and security.

- Broaden Operation Lifesaver target audience.
- Review best rail safety and security practices and determine applicability in North Dakota.
- Maintain a current rail crossing inventory.
- Continue to provide incentives to close low volume and non-essential public rail crossings.
- Support enforcement of rail crossing laws.
- Review the NDDOT rail crossing signal program for appropriate modification.
- Support federal, state and local incentives to regional and local railroads for implementing federal mandates.

Strategy 2. Initiate discussion to identify and prioritize rail safety and security issues.

- Encourage local governments to include rail crossing issues in the planning process.
- Seek private industry input on rail crossing issues.
- Review ND law regarding railroad safety and security to identify potential revisions, deletions or additions.
- Broaden the perspective of safety and security to include freight, vehicles, infrastructure and personal security issues.

Goal 2. A rail system (integrated with other transportation modes) that is capable of meeting current and future service needs.

Strategy 1. Initiate dialog with railroads, private industry and local governments to determine current and future rail service needs in the state.

- Initiate discussion with railroads to improve strategic planning for use of resources such as rail loan funds.
- Survey industry to determine service and capacity needs for the future.
- Evaluate ND rail system accessibility.
- Identify areas that would benefit from increased truck access to rail.
- Identify criteria to develop a means of measuring levels of freight and passenger service.
- Promote annual meetings between railroads and rail use stakeholders to discuss issues, needs and solutions.

Strategy 2. Identify what is needed to achieve an integrated rail network.

- Identify problems with freight transition between ***Class I Railroads*** and ***Regional Railroads*** and ***Local railroads.***
- Identify bottlenecks, pinch-points and other deficiencies on the rail system.
- Develop a formal mechanism for information exchange to determine adequate service levels between Class I and Regional/Local railroads.
- Consider the effect that rail infrastructure projects will have on the overall transportation network of the state.

Strategy 3. Provide assistance to improve infrastructure and enhance system capacity and efficiency.

- Solicit public comment on rail infrastructure projects.
- Develop/refine procedures and selection criteria for rail loan fund projects.
- Emphasize system improvement as a criterion for allocation of state rail assistance funds.
- Support an economically viable railroad system that is profitable and allows for reinvestment in rail equipment and infrastructure.
- Support a favorable business and regulatory climate for rail investment and business development.
- Support public–private partnerships that promote business development and economic growth.
- Identify and monitor legislation that may have impact on rail policies, infrastructure or operations.

Goal 3. Railroad operations that enhance mobility and quality of life.

Strategy 1. Initiate an ongoing dialog between railroads, governmental entities and rail stakeholders to identify and mitigate negative impacts of railroad operations and activities.

Strategy 2. Encourage local governments to solicit participation by railroads in planning and zoning activities.

Strategy 3. Assess opportunities for use of abandoned rail line right-of-way.

Goal 4. A coordinated inter/multimodal facilities network that provides access to national and international markets.

Strategy 1. Facilitate discussions between governmental entities, business owners, shippers and transportation providers to identify and ensure adequate transportation access to inter/multimodal facilities.

- Implement ND rail freight strategy for ***intermodal*** and ***transload*** facilities.
- Serve as an information source regarding rail access for proposed inter/multimodal facilities.
- Support public–private partnerships that enhance development of an inter/multimodal network.

Trends

Trends can force us to take new directions. Some trends present opportunity; others present challenges. To make effective transportation decisions, we need to identify the possible implications of trends. It is also important to remember that some trends can be influenced and changed.

The following trends appear to have important implications for rail transportation.

Continuing Long–Term Trends

- ND farmers have always grown and shipped large volumes of bulk agricultural commodities.
- Railroads have always been the main mode of transportation for grain and oilseeds leaving the state.
- Production agriculture is a primary component of the ND economy.
- Federal regulations and environmental issues have significantly impacted transportation, in some situations positively and in others negatively.
- Over the long term, energy costs have risen, accompanied at times by intermittent supply disruptions and price instability.
- Funding authorization for Amtrak is year to year and there is no guarantee that funds will be authorized. The future of the Empire Builder, the only passenger rail service in ND, is sometimes in doubt because of this.

Emerging Trends

- Global terrorism threatens national security, international relations and petroleum production, distribution and market stability world-wide.
- Transportation safety and security are becoming more integrated into the war on terror.
- Class 1 railroads are becoming capacity constrained, while the demand for rail transportation is increasing. This is causing upward pressure on rates and influencing service decisions.
- Demand for identity preserved, non-genetically modified organisms, organic, and pulse crops will require enhanced intermodal rail service.
- Growth will continue in the areas of e-commerce, just-in-time delivery, product and food safety, security concerns, and intermodal container movements.
- ***Biofuel*** plants will influence the movement of agricultural commodities, especially corn and oil seeds, in and out of North Dakota.
- Biofuel plants will place an additional burden on the state's transportation system, both rail and highway.
- Coal shipments into the state will increase.
- There may be significant intrastate coal movement to biofuel plants.
- More cities are expressing interest in Quiet Zones
- Additional transload facilities, either rail to highway or highway to rail, may be needed.

Policy Statements

NDDOT has a limited number of policy statements related to rail transportation. They are stated here.

NDDOT:

- Will not own or operate rail lines
- Will not subsidize railroad operations
- Regards Quiet Zones as a local issue.
- Supports continued evaluation of Intelligent Transportation System solutions to grade crossing safety and urban congestion problems.
- Supports removal or mitigation of obstructions to visibility at grade crossings as cost-effective hazard mitigation.
- Supports evaluation of at grade crossings where highway curvature or alignment near the crossing might make it difficult for a driver to see an oncoming train.

CHAPTER 2 - THE NORTH DAKOTA RAIL SYSTEM

Brief History[1]

Development of the North Dakota rail system was influenced primarily by the Northern Pacific Railway (NP); the St. Paul, Minneapolis and Manitoba Railway – the Manitoba – and its successor, Great Northern Railway; and the Minneapolis, St. Paul and Sault St. Marie Railway (the Soo Line). They are briefly described below.

The Northern Pacific Railway was chartered by Congress in 1864 and given a 50 million acre land grant to construct a railroad from Duluth to the Puget Sound. The NP founded the city of Fargo in 1871 and brought rail service to North Dakota June 6, 1872, when construction of a bridge across the Red River linking Fargo and Moorhead, MN, was completed. The NP continued building its rail line west across the state, crossing the Montana border just west of the City of Beach.

The Manitoba, which was formed in 1879 with James J. Hill (the Empire Builder) as its general manager, reached Fargo in 1880. A line from Fargo to Grand Forks was completed in 1881, and construction continued toward the Canadian border. The Manitoba also built a line west from Grand Forks, reaching Devils Lake in 1883 and Minot in 1886. Construction continued west and the line crossed the Montana border near Williston in 1887. Several ***branch lines***, known as the "Finger Lines" were built along the Grand Forks – Montana route, primarily to move grain. The Manitoba became the Great Northern Railway Company in September of 1889. The Northern Pacific and Great Northern operated in North Dakota until 1970, when they became part of what is now BNSF Railway. See the BNSF carrier profile for more detail.

The Soo Line[2] was formed in 1888 with the consolidation of the Minneapolis, Sault Ste. Marie & Atlantic Railway, the Minneapolis & Pacific Railway, the Minneapolis & St. Croix Railway and the Aberdeen, Bismarck & North Western Railway. In 1893, the Soo Line completed a diagonal route across North Dakota, from Fairmount to Portal, where it interchanged with the Canadian Pacific Railway (CPR). CPR was by then a transcontinental railroad, having completed construction of a line across Canada in November of 1885. The Soo Line next built a branch line network south and east of Bismarck, connecting to Fairmount via Oakes. Finally, between 1905 and 1912, the

[1] The main sources for this section are: (1) Thoms, William E. and R. J. Tosterud. *West of the Red—The Role of Transportation in the Development of North Dakota*, UGPTI, Reprinted, 1996; (2) Robinson, Elwyn B. *History of North Dakota*, University of Nebraska Press, 1963; and (3) various newspaper articles and railroad press releases.

[2] The Soo Line Railroad later became part of Canadian Pacific Railway. In describing historical events in the rail plan, the name of the railroad company at the time of the event is used unless the current or successor railroad company also was involved in the event or transaction.

"Wheat Lines", which run across much of northern North Dakota, were constructed. The Soo Line became a subsidiary of the Canadian Pacific Railway when CPR participated in its financial restructuring in the late 1940s. After the restructuring, CPR held 56% of Soo Line common stock. CPR purchased 100 percent of Soo Line stock in 1990, making it a wholly owned subsidiary.

Several other railroad companies have owned or operated track in North Dakota. They include the Milwaukee Road, Chicago & Northwestern, Dakota, Minnesota & Eastern and the Midland Continental. Of these, only the Dakota, Minnesota & Eastern still exists as an operating railroad, but it no longer owns or operates track in ND.

According to North Dakota Public Service Commission data, miles of railroad track (also known as ***miles of road***) in North Dakota peaked in 1920, at nearly 5,400. By the end of the decade, the system it was down to about 5,300 miles. It fluctuated between about 5,100 and 5,250 miles during the 1940s, 50s and 60s. There have been 1774 miles of track abandoned in ND since 1936 (Appendix B). The ND rail system has approximately 3,700 miles of road today. Miles of road is a primary indicator of system coverage.[3]

North Dakota Railroad System Today

There are currently seven railroad companies operating 3,667 miles of road in North Dakota. Two are Class I carriers, three are regional railroads and two are local railroads.

The Surface Transportation Board (***STB***) classifies railroads as ***Class I, II, or III*** on the basis of annual revenue.[4] Miles of road is not considered in STB classification.

The Association of American Railroads (***AAR***) has a classification system that considers both annual revenue and miles of road. AAR classifies railroads as Class I, ***Regional Railroad*** and ***Local Railroad***. The seven railroads operating in ND, with classification, are named below.

BNSF and CPR are Class I railroads by both AAR and STB classification standards. The Dakota, Missouri Valley & Western Railroad (DMVW), the Northern Plains Railroad (NPR), and the Red River Valley & Western Railroad (RRVW) are defined as regional railroads by AAR classification standards because they operate more than 350 miles of road. The Yellowstone Valley Railroad (YSVR) and Dakota Northern Railroad (DNRR) are both local railroads because they fall below the AAR regional railroad criteria.[5]

[3] Miles of road excludes side tracks, crossovers and yard tracks. The term is synonymous with *route miles*.

[4] Class I: =>$250 million adjusted annual operating revenue for three consecutive years
Class II: $20 million - $249,999,999.99 - Class III: <$20 million

[5] A regional railroad is defined by the Association of American Railroads as a company that operates 350 miles of railroad and/or earns $40 million in annual revenues. Mileage is based on total system miles, which may include track in more than one state. A local railroad is one that falls below regional railroad criteria.

Table 1 lists the miles of ***main line*** and branch line track in North Dakota by operating railroad. BNSF miles of road are about 66% main line, while CPR has about 73% main line. The Class I carriers operate 60% of the total miles operated in North Dakota.

Table 1 - North Dakota Railroad System Mileage (2009)[6]

Railroad	Main line	Branch Line	Trackage Rights	Total Miles Operated
BNSF	1,107	609	16	**1732**
CPR	353	121	8	**482**
DMVW	-	424	51	**475**
NPR	-	361		**361**
RRVW	-	453	87	**540**
DNRR	-	68		**68**
YSVR	-	9		**9**
TOTAL	**1,460**	**2,045**	**162**	**3,667**

Table 2 summarizes the overall system characteristics of the two Class I railroads. BNSF operates more than 32,000 route miles. CPR operates nearly 13,200 miles. Both carriers operate in the United States and Canada. BNSF's North Dakota lines comprise 5.4% of BNSF's system miles, while the CPR's North Dakota lines comprise 3.7% of the CPR's system miles. The information is the most recent available.

Table 2 - Select System Statistics for BNSF (2010) and CPR (2008)[7]

Plant and Equipment	BNSF System	CPR System
Miles of road operated	32,266	13,199
Miles of road owned	23,733	9,300
Freight cars in service	220,000	55,424
Locomotives in service	6,600	1,700

Commodity movement information by railroad is presented in the carrier profiles that follow. More information is contained in Appendix A.

[6] Source: Annual Reports by the railroads to the North Dakota Public Service Commission; breakdown between branchline and mainline miles is from the railroads, as the Annual Report lists only total miles and trackage rights.

[7] Source: Annual Reports to NDPSC; Association of American Railroads; railroads. Most recent data available.

Carrier Profiles – Class I Railroads

BNSF Railway (BNSF)[8]

The BNSF Railway system, the second largest in North America, is the result of a series of mergers and acquisitions. In 1970, the Great Northern, the Northern Pacific, and the Chicago, Burlington & Quincy merged to form the Burlington Northern Railroad. In 1980, the Burlington Northern merged with the St. Louis & San Francisco railroad (the "Frisco" line). The company name remained Burlington Northern. In September of 1995, the merger of Burlington Northern Inc., parent company of Burlington Northern Railroad, and Santa Fe Pacific Corporation, parent company of the Atchison, Topeka and Santa Fe Railway, created the Burlington Northern Santa Fe Railroad Company. The Burlington Northern Santa Fe Railroad Company became BNSF Railway in 2005. Detail for BNSF operation in ND is presented in Appendix C.

BNSF Railway currently operates 32,266 route miles in 28 states and two Canadian provinces. Its network covers the western two-thirds of the United States, stretching from major west coast ports in the Pacific Northwest and southern California to the Midwest, Southeast and Southwest, and from the Gulf of Mexico to Canada. BNSF operates 1,148 miles of main line, 568 miles of branch line, and 16 miles of trackage rights in North Dakota, for a total of 1,732 miles of road in the state.

Figure 1 illustrates the BNSF North Dakota commodity mix using the two-digit Standard Transportation Commodity Code (***STCC***). The chart is based on the BNSF 2010 annual report to the North Dakota Public Service Commission (NDPSC), which reflects 2009 traffic data. As the chart shows, coal shipments comprised 26% of total carloads handled by BNSF in North Dakota. Other major commodities transported by the BNSF included: farm products (20.7%), food and kindred products (6.5%), chemicals (2.1%) and transportation equipment (2.3%). Appendix A provides more traffic details, listing the carloads and tons originated and terminated for principal Standard Transportation Commodity Codes. Only commodities that comprise at least 1% of total carloads are shown.

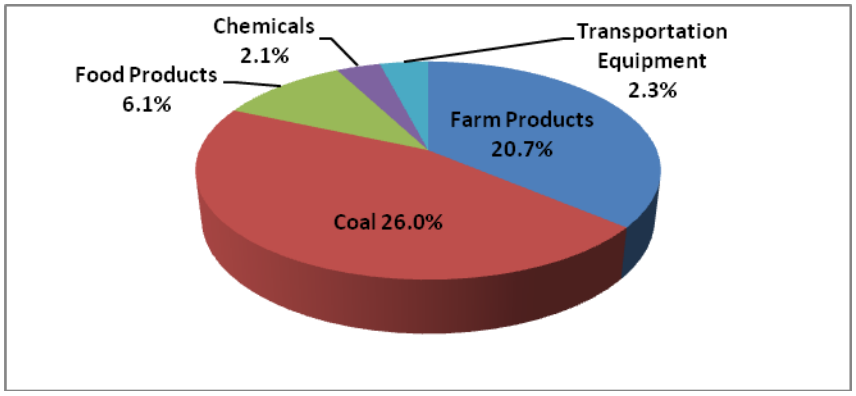

Figure 1. Principal Commodities Handled by BNSF in North Dakota (2009)

[8] Sources for the BNSF profile: Annual Report to the North Dakota Public Service Commission, Annual Report to Stockholders, and press releases by BNSF officials.

Canadian Pacific Railway (CPR)[9]

The CPR is the seventh largest railroad system in North America. Based in Calgary, Alberta, it is a wholly owned subsidiary of Canadian Pacific Limited which also is the owner or has majority interests in Pan Canadian Petroleum, CP Hotels, and Fording Inc.

CPR operates 13,199 route miles on a combined railway network that extends from St. John, Newfoundland, to Vancouver, British Columbia in Canada, throughout the U.S. Midwest and Northeast, and as far south as Louisville, KY. CPR has direct connections with all Class I railroads in the United States and Canada. It also has connections to many US and Canadian regional and local railroads. In North Dakota, CPR currently operates 353 miles of main line, 121 miles of branch line, and 8 miles of trackage rights for a total of 482 miles or road in the state.

The CPR markets its services throughout North America under the Canadian Pacific Railway name, but there are four different railroads that handle the company's business. They are: CPR, St. Lawrence & Hudson Railway, Delaware & Hudson Railway and Soo Line Railroad Company. Soo Line handles business for CPR in North Dakota, and in Minnesota, Wisconsin, Illinois, Indiana, and Michigan. Detail for CPR operation in ND is presented in Appendix C.

Figure 2 illustrates CPR's commodity mix using the two-digit STCC. The chart is based on CPR's 2010 annual report to the NDPSC, which reflects 2009 traffic data for the Soo Line system. ND carloads were not reported separately. As the chart shows, farm products comprise 20.2% of total carloads handled by the Soo Line. Other major commodities transported by the CPR subsidiary include: Coal (13.2%), food products (8.5%), chemicals and allied products (10.1%), and petroleum & coal products (2.8%). Only commodities that comprise at least 1% of total carloads are shown. Appendix A provides more traffic details.

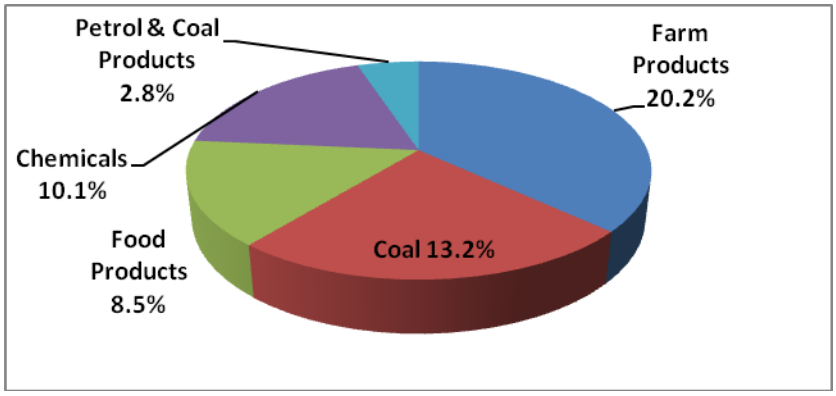

Figure 2. Principal Commodities Handled by CPR in North Dakota (2009)

[9] Sources for the CPR profile: Annual Report to NDPSC, Annual Report to Stockholders, Company Profile and various press releases as posted at the CPR web site.

Carrier Profiles – Regional Railroads

Dakota, Missouri Valley & Western (DVMW)[10]

DMVW began operation September, 1990, on track and trackage rights leased from Canadian Pacific Railway. DMVW is headquartered in Bismarck, North Dakota and currently operates 424 miles of track and 51 miles of trackage rights, for a total of 475 miles of road in the state, along with limited operations in Montana and South Dakota. The railroad interchanges with CPR at the ND cities of Flaxton, Hankinson, and Max. DMVW also has interchange capability with BNSF at Bismarck, ND. DMVW system detail is presented in Appendix C.

Figure 3 illustrates the commodity mix for DMVW North Dakota traffic. The chart is based on the railroad's 2010 annual report to the NDPSC, which reflects 2009 traffic data. DMVW handled 38,527 total carloads in ND in 2009, including bridge traffic. As shown in Figure 3, wheat, corn, soybeans, and durum comprise nearly 63% of the railroad's total carloads in ND. Miscellaneous shipments account for just under 26%. Ethanol, DDG, flyash, lime, and ballast are the largest contributors to the miscellaneous category. More traffic details are presented in Appendix A. Only commodities that comprise at least 1% of total carloads are shown.

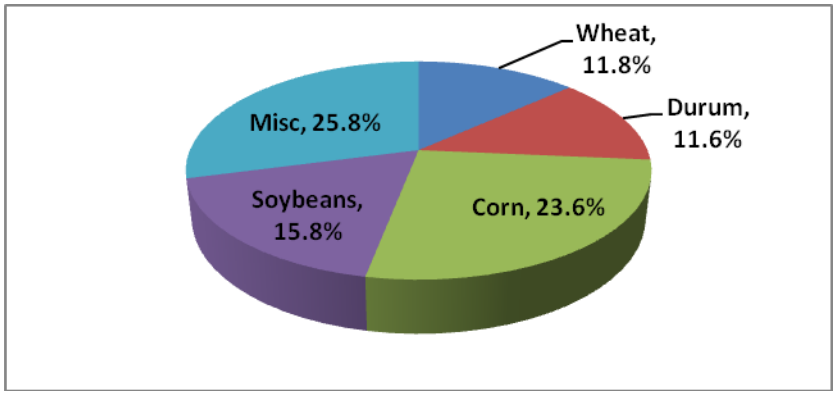

Figure 3. Principal Commodities Handled by DMVW in North Dakota (2009)

[10] The primary sources of the DMVW profile are a company profile provided by railroad officers and the DMVW annual report to NDSPC.

Northern Plains Railroad (NPR)[11]

NPR began operation January, 1997 over 383 miles of track leased from Canadian Pacific Railway. NPR is headquartered in Fordville, ND and currently operates 361 miles of road in ND. NPR also operates track in Minnesota, from Oslo to Thief River Falls. NPR interchanges with CPR in North Dakota at Kenmare. NPR system detail is presented in Appendix C.

Figure 4 illustrates the NPR North Dakota commodity mix. The chart is based on NPR's 2010 annual report to the NDPSC, which reflects 2009 traffic data. NPR handled 17,134 carloads in 2009, including bridge traffic. As shown in Figure 4, wheat, soybeans, barley and durum comprised 87% of NPR carloads in North Dakota in 2009. Miscellaneous other shipments, including aggregate, fertilizer, and other grains and oilseeds, accounted for most of the remaining carloads. More traffic details are presented in Appendix A. Only commodities that comprise at least 1% of total carloads are shown.

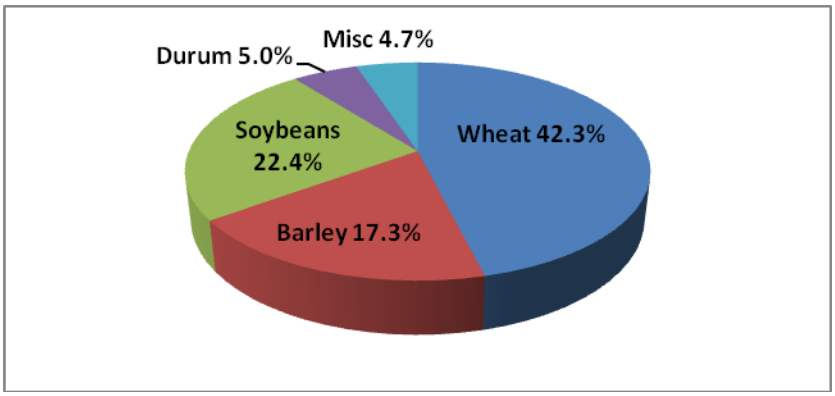

Figure 4. Principal Commodities Handled by NPR in North Dakota (2009)

[11] The primary sources for the NPR profile was compiled from newspaper articles and CPR press releases and the NPR annual report to the NDPSC.

Red River Valley & Western Railroad (RRVW)[12]

RRVW began operations July 19, 1987, over track acquired from BNSF Railway (then Burlington Northern Railroad). RRVW is headquartered in Wahpeton, ND and currently operates 453 miles of track and 87 miles of trackage rights, for a total of 540 miles of road in ND, with additional operations in Minnesota. RRVW interchanges with BNSF at Breckenridge, MN, and Casselton and New Rockford, ND. RRVW has interchange capability with CPR in ND at Carrington, Enderlin, and Oakes. RRVW system detail is presented in Appendix C.

Figure 5 illustrates the RRVW North Dakota commodity mix. The chart is based on RRVW's 2010 annual report to the NDPSC, which reflects 2009 traffic data. In 2009, RRVW handled 48,103 carloads in North Dakota. Farm products shipments comprised just over 62% of the railroad's traffic base, but the base is more diversified than that of the other regional carriers. Corn, wheat, corn syrup, soybeans, and feed & mill by-products account for a combined total of 78% of traffic. Figure 5 illustrates overall traffic percentages. More traffic details are shown in Appendix A. Only commodities that comprise at least 1% of total carloads are shown.

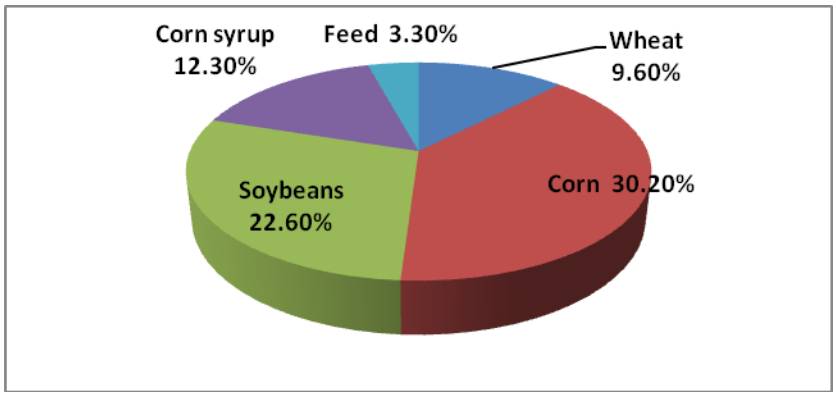

Figure 5. Principal Commodities Handled by RRVW in North Dakota (2009)

[12] The primary sources of the RRVW profile are a company profile provided by railroad officers and the RRVW annual report to the NDSPC.

Carrier Profiles – Local Railroads

Dakota Northern Railroad (DNRR)[13]

DNRR began operation February 5, 2006, on 70 miles of branch line leased from BNSF. The railroad is headquartered in Crookston, MN and is owned by KBN Group, Inc., a Minnesota corporation. DNRR currently operates 68 miles of road in North Dakota and interchanges with BNSF at Grafton. DNRR operates only in ND. The railroad's system detail is presented in Appendix C.

Figure 6 illustrates the DNRR's commodity mix. The chart is based on DNRR's 2010 annual report to the NDPSC, which reflects 2009 traffic data. In 2009, DNRR handled 2,821 carloads. Alcohol, potatoes and transportation equipment (shown as Miscellaneous on the chart) comprised just over 43% of the railroad's traffic volume. Corn, wheat, coal, other grains and oilseeds, and fertilizer account for a combined total of nearly 57% of traffic. Figure 6 illustrates overall traffic percentages. More traffic details are shown in Appendix A. Only commodities that comprise at least 1% of total carloads are shown.

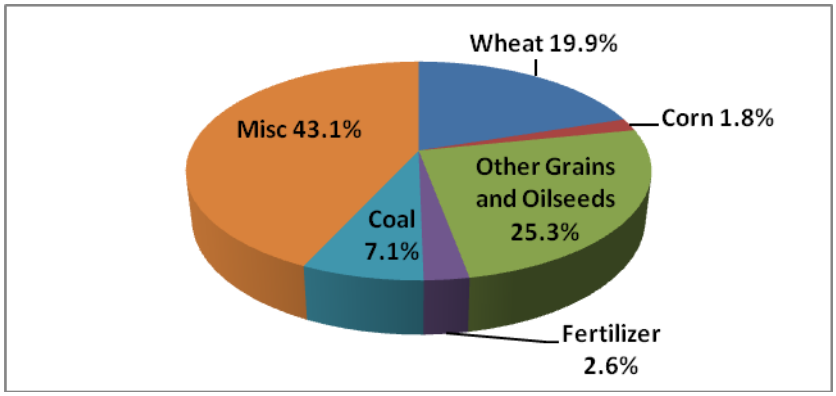

Figure 6. Principal Commodities Handled by DNRR in North Dakota (2009)

[13] The primary sources for the DNRR profile are the BNSF web site, the Surface Transportation Board and the DNRR annual report to the NDPSC.

Yellowstone Valley Railroad (YSVR)[14]

YSVR began operation August 15, 2005, over track leased from BNSF. YSVR is headquartered at Sidney, MT. It is one of 17 ***short line*** railroads owned by Watco Companies Inc., a Kansas corporation. YSVR is comprised of two segments totaling 171 miles. The northern segment, known as the Scobey Line, runs between Bainville and Plentywood. The southern segment, known as the Sidney line, runs between Glendive and Snowden.

The YSVR runs entirely in Montana, except for where the Sidney Line crosses into North Dakota near Fairview and runs north for 8.7 miles before crossing back into Montana. YSVR interchanges with BNSF in Montana at Glendive, Snowdon, and Bainville. YSVR system detail is presented in Appendix C.

Figure 7 illustrates the YSVR's North Dakota commodity mix. The chart is based on YSVR's 2010 annual report to the NDPSC, which reflects 2009 traffic data. In 2009, YSVR handled 79 carloads in North Dakota. Petroleum and petroleum products comprised more than 91% of the railroad's ND carloads. Figure 7 illustrates overall traffic percentages. The Miscellaneous category was not defined in the railroad's annual report. More traffic details are shown in Appendix A.

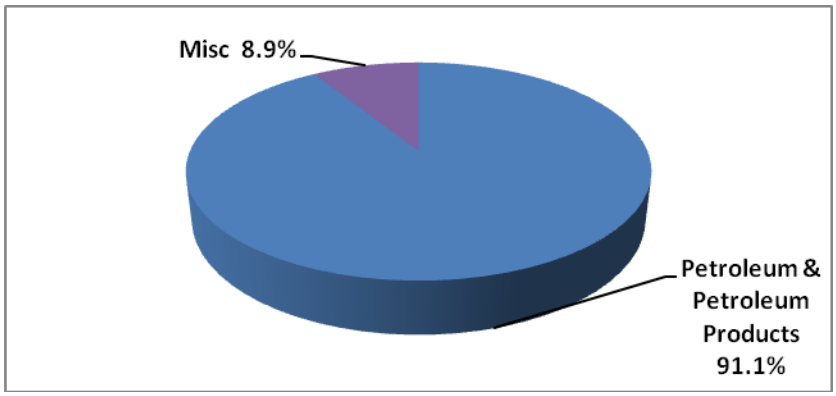

Figure 7. Principal Commodities Handled by YSVR in North Dakota (2009)

[14] The primary source for the YSVR profile is the company web site and the YSVR annual report to the NDPSC.

Railroad Network Characteristics

Track Condition and Quality Indicators

Several aspects of the railroad network are important to rail planning, but track speed limits and maximum car weights in particular impact efficiency of line operations. Collectively, they indicate where railroads have concentrated investments and where investments may be necessary for continued integration of branch lines and main lines traffic.

Train speed is governed by ***track classification,*** which is established by FRA. A line's track classification is a proxy for track condition and train operating costs. Freight operations over Excepted and Class 1 track are restricted to 10 mph; freight operations over Class 2 track are restricted to 25 mph. Regional railroads view speed restrictions differently than Class I carriers. Because of flexible work rules and lower overhead costs, regional railroads feel less economic pressure to operate at higher speeds. However, the slower train speeds on long branch lines with Excepted or Class 1 track may cause crew related labor cost to be higher than normal for those lines.

The gross weight limit of a line is another indicator of track quality. It is also provides an indication of the ability of a segment to interchange traffic with other segments. In the 1970s, much of the branch line network was restricted to gross car weights of 220,000 pounds, which allowed net loads of 70 to 80 tons. However, the need for effective use of 100-ton hopper cars resulted in branch line capacity limits being raised to 263,000 pounds. Today, the main line track of Class I railroads supports 286,000 pound cars, which permits cargo loads of 110 to 115 tons, depending on the commodity density and the ***tare weight*** of the rail car. There are some railroads operating 315,000-pound cars in designated main line corridors. These high capacity cars permit net loads of 125 tons.

Larger capacity rail cars are more efficient for railroads because a higher net to tare weight ratio generally means more railroad revenue per car without increasing the cost per bushel for the shipper. But higher carload rates for higher capacity cars may have economic consequences for shippers beyond the rate itself. With a carload rate structure, shippers pay for the total capacity of the car regardless of whether they fully use it. For example, at $4,000 per carload, a shipper who loads 111 tons on the car pays $36 per ton. A shipper who loads the same car with 100 tons pays $40 per ton.

Figure 6 shows the average gross weight limit for each railroad in tons. The values reflect the controlling limit for each segment, weighted by the segment length. The chart shows the DMVW system is limited to 134-ton cars or 100 tons of cargo (exceptions are permitted). Much of the RRVW system is subject to similar limits. However, NPR's system is unrestricted, even though much of it consists of light weight rail. This anomaly may reflect the substantial amount of tie and ballast work done on the Wheat Lines between 1983 and 1997, when approximately $11 million of rail assistance funds were invested. It should be noted that track weight limits are set by the railroads and are subject to change. Weight limits are a compromise based on economics and engineering judgment.

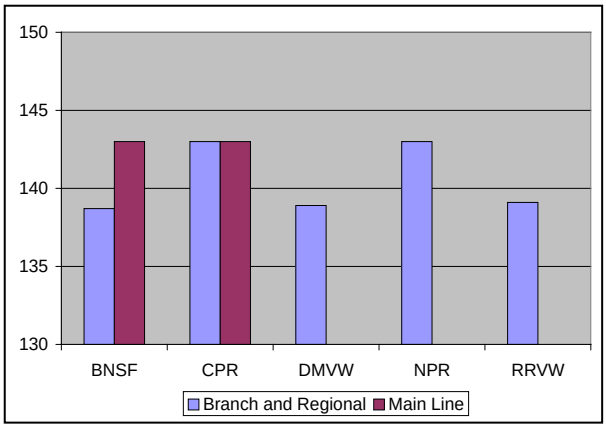

Figure 6. Average Gross Weight Limit in Tons, Weighted by Segment Length

Figure 7 shows the average train speed limit for each carrier's system. The underlying individual values reflect the controlling speed for each segment, weighted by the segment length. As the chart shows, all of the DMVW system is restricted to 10 mph (exceptions are permitted under special orders). The average train speed limit on NPR is 15.3 mph; while on RRVW it is 25 mph. Both NPR and RRVW systems have both Class 1 and Class 2 track, but RRVW is mostly Class 2. As Figure 7 shows, average speed limits are higher for the Class I railroads; 45.5 mph and 43.5 mph for CPR and BNSF, respectively.

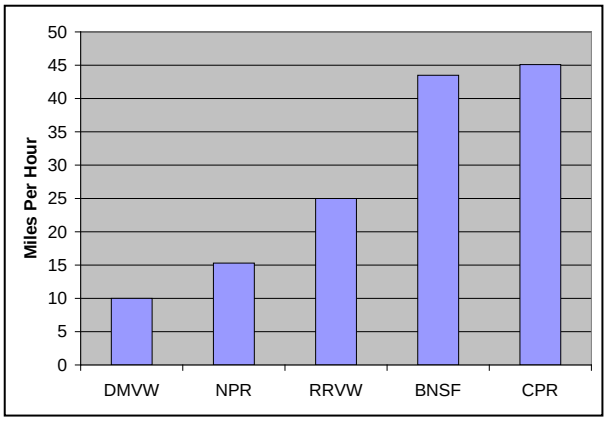

Figure 7. Average System Speed Limit, Weighted by Line Length.

As Figure 8 shows, considerable differences exist between branch line and main line speed limits. The controlling train speed on CPR branch lines is 25 mph, as opposed to 49 mph on main lines. A similar difference in maximum speed exists on the BNSF system, where main line speeds are 30 mph greater than branch line average speeds.

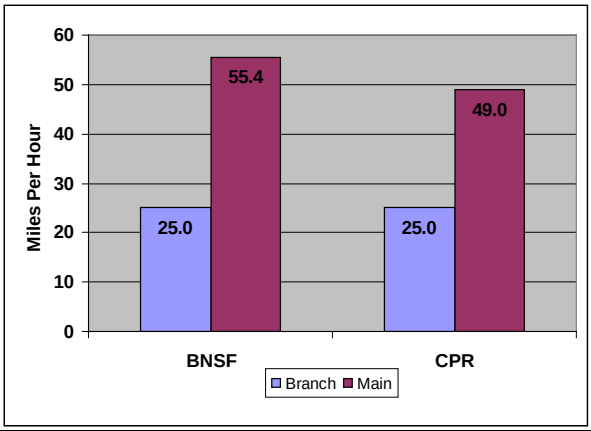

Figure 8. Average Class 1 Speed Limit, Weighted by Line Length.

Rail Grade Crossing Characteristics

The Federal Railroad Administration (FRA) Office of Safety Analysis reported 15 highway-rail incidents in North Dakota in 2009. This compares with 14 incidents in 2008, 13 in 2007, and 12 in 2006. Crash data is presented graphically on page 45.

Public roads with ***at grade crossings*** have warning signs to alert motorists that they are approaching a rail crossing. The crossings themselves have warning devices to alert motorists to watch for approaching trains. The devices are either passive or active. Passive devices typically include crossbucks and signs. Active devices typically include automated flashing lights and crossing gates.

The ***AADT*** on the highway and the number of trains per day on the rail line are generally the dominant criteria for determining the type of warning devices used at a crossing. Several other factors may be considered as well, such as sight distance, school bus traffic, proximity to schools, local traffic patterns or unusual hazards. In North Dakota, state and federal highways with AADT of 100 or more, that cross main line railroad tracks at grade, have active warning devices. Other crossings have active devices based on review of the hazards present at the location.

Characteristics of Shipper Facilities

Storage Capacity

Farm product shipments comprise approximately 64% of the railroad traffic originating in North Dakota. Therefore, the organization and characteristics of grain elevators are of particular importance to the rail plan. There is discussion in this section about whether North Dakota elevators are strategically organized and possess the plant configurations to take full advantage of trends in railroad transportation, such as ***shuttle train*** rates.

In the 1990s BNSF introduced shuttle train rates for grain movements in the Northern Plains. To obtain these rates, shippers typically have to be able to load 110 or more 111-ton covered hopper cars within 15 hours, sometimes as often as three times per month. This requirement makes on-site storage capacity a significant issue. As a point of reference, a 110-car train of 111-ton covered hopper cars would require about 400,000 bushels of wheat.

Under the strict time limits imposed, 800,000 bushels may be the minimum storage capacity necessary for an elevator to function effectively in the shuttle train program.[15] There are 206 grain elevators located on the BNSF system in North Dakota; 29% (60) of them currently possess as much as 800,000 bushels of storage capacity. 46% (95) have less than 500,000 bushels of available capacity; they might find it difficult to consistently load three 100-car trains a month.[16] The rest have less than 250,000 bushel capacity and could at best fill only about 69 cars without re-supply.

Side Track Capacity

Side track capacity of shipper facilities impacts railroads and the logistical efficiency of the rail system. Side track capacity is measured in equivalent rail cars. For example, a Trinity Industries 286,000-pound gravity-discharge covered hopper car is approximately 60 feet in length between coupling faces. It takes about 6,600 feet of track to hold 110 of them. The total amount of track required for a 110-car train might exceed 7,000 feet, considering the additional space required for dedicated power and spotting clearances.

[15] This minimal capacity value is approximately equal to two 110-car shuttle trains. There are several rationales underlying this estimate. First, an elevator would probably need some of its storage for specialty commodities, blending, or other functions. Thus, the full capacity of an elevator may not be available for loading a given shuttle train. Second, to participate in the shuttle program, an elevator may have to load as many as three trains per month. With a 10-day interval between trains, any shortage of grain on hand could result in the elevator missing a shuttle train. Finally, it may be risky for the elevator to plan on accumulating a trainload from farms or nearby elevators by truck within 15 hours, particularly during periods of inclement weather or load limits. In many respects, storage provides a buffer against uncertainties in supply.

[16] This value is computed from the BNSF Grain Elevator Directory available via the Internet at *bnsf.com*.

Fewer than 15% (31) of the elevators on the BNSF system in ND have track capacity for an unbroken string of more than 100 cars.

Shuttle Train Elevators

Shuttle train rates have caused a proliferation of shuttle loading facilities. The requirements vary by railroad, but a shuttle train is typically a 100 or 110-car train of 111-ton covered hopper cars. Shuttle trains usually have dedicated power, with the locomotives and cars remaining together as they move back and forth between shipper and destination. Elevators must have adequate track and grain storage capacity, as mentioned above, to be able to take advantage of shuttle rates and service.

BNSF Railway Requirements

BNSF defines a shuttle facility as one "that can accept 110-cars in one string and can load or unload them in 15 hours without ***fouling the main line***. Shuttle facilities on the RRVW network meet these requirements. Products shipped in the BNSF shuttle program include corn, wheat, and soybeans.

CPR Requirements

The CPR refers to shuttle trains as ***efficiency trains.*** CPR efficiency trains have 100 cars, usually with dedicated power. An efficiency train elevator is required to be able to load 100 cars within 24 hours without fouling the mainline. All efficiency train facilities on the CPR and DMVW networks meet these requirements. The requirement for NPR lines is listed below. Wheat is the primary commodity shipped on CPR efficiency trains.

CPR allows two exceptions to the 100 car efficiency train requirement in North Dakota. One is for trains originating on NPR lines. NPR restricts train length to a maximum of 75 cars so elevators on NPR lines load 75 car trains. 75 car trains are allowed eastbound from NPR lines. Trains destined for western Canada and PNW are brought to 100 cars when they reach the CPR mainline. The other exception is a pooling arrangement where two elevators each load a certain number of cars which are later combined to make up a 100 car train.

Even though there are relatively few shuttle loaders in ND compared to the total number of elevators in the state, their grain handling ability is adequate for present ND crop production and movement requirements if they are operated at capacity. More shuttle loader facilities may be established, but, as the shuttle impact analysis that follows indicates, it will likely be for reasons other than the need for more crop handling capacity absent a significant change in ND crop production or distribution.

NDDOT SHUTTLE AND BIOFUEL PLANT IMPACT ANALYSIS

Shuttle Loaders

Shuttle loading facilities influence commodity movement by rail, both in and out of state. They also impact the highway system. Trucks must move commodities to the shuttle facility for rail loading. There is often a shift of highway traffic from one road to another as shippers and producers begin transporting grain to the shuttle loaders instead of other elevators they had used before. Because shuttle loading facilities have substantial impact on the transportation system, it is important to monitor and periodically review the state's shuttle loading system. The emerging biofuel industry will also impact the transportation system, perhaps in ways similar to those of shuttle facilities, but it is unknown at this time to what extent. A brief analysis follows.

Assumptions and data:

- 286,000 lb. capacity cars are used in shuttle trains[17]
- Car payload is 224,000 lbs. (112 tons).[18]
- Throughput capacity calculations assume shipment of wheat or soybeans. Throughput for corn is about 7% higher.[19]
- BNSF shuttle trains have 110 cars.
- CPR shuttle trains have 100 cars.
- A facility can ship a maximum of 30 shuttle trains per year.[20]
- The crops most commonly shipped by shuttle are corn, hard red spring wheat and soybeans.

Table 3. ND Crop Production 2004 – 2006 (bushels x 1,000):

Crop	**2004**	**2005**	**2006**	**3 Year Avg**
Corn (for grain)	120,750	154,800	154,020	143,190
Wheat	243,950	224,400	212,350	226,900
Soybeans (for beans)	82,110	107,300	99,900	96,437
Total Production	**446,810**	**486,500**	**466,270**	**466,527**

[17] 286,000 lb. capacity cars are assumed since they are the most widely used. In reality, not all shuttle trains are made up entirely of 286,000 lb. cars. Smaller 268,000 lb. cars are sometimes used during peak demand times when there are not sufficient larger cars available. When this happens, trains might have a mix of 286,000 lb. and 268,000 lb. cars.

[18] Trinity Industries covered hopper, a widely used car. Gross loaded weight: 286,000 lbs.; tare weight: 62,000 lbs.; load capacity: 224,000 lbs.

[19] Wheat and soybeans are 60 lbs. per bushel. Corn is 56 lbs. per bushel. 286,000 lb. car capacity is 3700 bushels of wheat or soybeans or 4000 bushels of corn. BNSF shuttle trains carry 400,000 bushels of wheat or soybeans or 440,000 bushels of corn. CPR shuttle trains carry 370,000 bushels of wheat or soybeans or 400,000 bushels of corn. Numbers are rounded down to even hundreds.

[20] Based on normal round trip duration for shuttles to Pacific Northwest (PNW) ports.

Theoretical annual throughput capacity, ND shuttle loader elevators:
BNSF:[21]

- Wheat and Soybeans = 288 million bushels
- Corn = 316 million bushels

CPR:[22]

- Wheat and Soybeans = 266 million bushels
- Corn = 288 million bushels

Analysis

There are 48 facilities in ND with shuttle loading capability. They are distributed along rail mainlines and branchlines. Most are north and east of the Missouri River, serving areas where shuttle crop production tends to be greatest. The theoretical annual throughput capacity of these facilities is 554 million bushels of wheat or soybeans, or 604 million bushels of corn.[23] That capacity is not being fully used at present, and is not likely to be unless there is a substantial increase in crop production. Over the last three years, ND averaged 466.5 million bushels per year in total production of corn, hard red spring wheat and soybeans.

Theoretical throughput numbers are higher than the actual shuttle system working capacity, since calculations assume ideal conditions.[24] However, real world data indicate that the system can handle more throughput than it presently does. For example, elevators with track capacity of 95 or more cars handled 228.8 million bushels of ND corn, soybean and wheat movements in 2005. If the movements had all been shuttle shipments, which they were not, they would have used less than half of the shuttle system theoretical throughput capacity.

According to these data, new shuttle loading facilities will probably not be constructed in ND to increase capacity, unless there is a substantial increase in production of crops for export or a significant change in where they are grown. But shuttle loading facilities are sometimes constructed for reasons having little to do with capacity. Other factors, such as competition between railroads or elevators for market share, can determine if shuttle facilities are built, and when and where. Therefore, it's not safe to say no new shuttle facilities will be built. We may, however, be approaching a point where new facilities will have a greater impact on existing ones than has previously been the case.

Biofuel Plants

Nearly all biofuel plants in North Dakota, whether operating, planned or under construction, are ethanol plants. For that reason, this discussion pertains mostly to ethanol plants.

[21] 24 facilities x 30 trains @ 400,000 bushels (wheat and soybeans) and 440,000 bushels (corn).
[22] 24 facilities x 30 trains @ 370,000 bushels (wheat and soybeans) and 400,000 bushels (corn).
[23] Total BNSF + CPR carrying capacity.
[24] Theoretical throughput calculations assume product and rail service is available for each facility to ship 30 trains per year.

Until recently, ethanol production in North Dakota was been limited to facilities at Grafton and Walhalla. Their combined capacity is 34 million gallons per year.[25]
The recent strong demand for alternatives to petroleum based energy sources, coupled with tax incentives, has stimulated this industry. The resurgence of the industry will have an impact on the ND transportation system. Consider the following:

- A 50 million gallon[26] ethanol plant began operation at Richardton in January, 2007.
- A 50 million gallon ethanol plant began operation at Underwood in February, 2007.
- Construction has begun on a 100 million gallon ethanol plant at Hankinson.
- A 100 million gallon ethanol plant will be built at Casselton.
- There is discussion underway regarding a 100 million gallon ethanol plant to be built near Spiritwood.
- A 50 million gallon ethanol plant is being considered for siting near Williston.
- Archer Daniels Midland is adding an 85 million gallon biodiesel plant to their existing canola crushing facility at Velva.[27]
- Biofuel plants can function as shuttle train and ***unit train*** unloading and loading facilities.

Biofuel plants consume large amounts of raw material, and may have an impact on the transportation system similar to that of shuttle loading facilities. For example, a 100 million gallon ethanol plant will consume approximately 35.5 million bushels of corn annually; a 50 million gallon biodiesel plant will consume approximately 460,000 tons of canola annually.

For economic reasons, it is likely most inbound raw material to ethanol plants will be by rail. For example, BNSF has established shuttle rates for corn to the ethanol plant at Richardton. However, since trucks compete favorably with trains for hauls of 300 miles or less, it is likely that most of the raw material grown within ND that biofuel plants use will be shipped to them by truck. However, there will be some intrastate movement of raw material by rail. For example, the Underwood ethanol plant is receiving some corn grown in southeast ND via rail.

Biofuel plants in ND will likely be powered by coal or natural gas. The Underwood facility is an exception. Ethanol production there will be fueled by heat from the Coal Creek Station generating plant, located nearby. In the future, ethanol plants might use distilled grain solids (DGS), a by-product of ethanol production, for fuel. Biodiesel plants might use the meal that is a by-product of vegetable oil production as a fuel source.

Fueling biofuel plants with natural gas will not impact the ND highway or rail system. Fueling them with coal, on the other hand, will. The Richardton ethanol plant, for example, uses lignite trucked from a mine near Center, ND, which causes substantial impact to the highway network in that area.

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[25] ND Agriculture Commissioner Roger Johnson in testimony before the ND Senate Finance and Taxation Committee, February 1, 2005.
[26] Design annual production capacity.
[27] The existing facility has been producing vegetable oil for other than fuel purposes. Total capacity will be 85 million gallons.

Depending on the number and location of coal using plants, it is possible that coal transload facilities will serve them. The Crystal Sugar operation in eastern ND models the concept. There, coal for use by the Crystal Sugar beet plants in eastern ND and western MN is delivered to a transload facility at Ardoch, ND by rail. From there it is loaded on trucks for delivery to the beet plants. Before the Ardoch facility was built, coal was delivered directly to the plants by rail. The change has significantly impacted highways and traffic patterns in the affected area.

Most ethanol produced in ND will be shipped by rail to out of state destinations. Some might move within the state by rail or truck, such as to the Mandan refinery. Ethanol plants also have a DGS by-product that will be shipped via highway or rail.

Conclusions:

- It appears that the shuttle loading system in ND is mature in terms of capacity.
- New facilities may be constructed for reasons other than the need for additional capacity.
- It seems unlikely that there will be major changes in the shuttle facility network unless there is a substantial increase in crop production or a significant change in production location.
- There are insufficient data at present to predict how or to what extent the biofuel industry will influence commodity production and movements in ND.
- The biofuel industry will cause increased movement of coal into and/or within ND.
- To the extent it occurs by truck, coal movement will increase costs to the public due to more frequent maintenance and construction requirements for the state's highway system.
- Biofuel production will cause increased traffic on the state's rail system, both for raw material to the plants and product transportation out.
- Increased demand for rail service from the biofuel industry could affect rates and service to other market segments.

Figures 9-11 show the locations of shuttle and efficiency train elevators in North Dakota. The maps are overlaid on crop layers representing production levels across the state. Four types of elevators are included: BNSF 110-car shuttle elevators, CPR Efficiency Elevators, CPR Efficiency Pooling Elevators, and the 75-car limited NPR Efficiency Elevators. Figure 12 shows existing and proposed ethanol plant locations overlaid on a corn production layer. Figure 13 shows existing and proposed biodiesel locations overlaid on a canola production layer. Canola is the crop of choice for most biodiesel production, although biodiesel can be produced from soy beans or sunflower seeds as well.

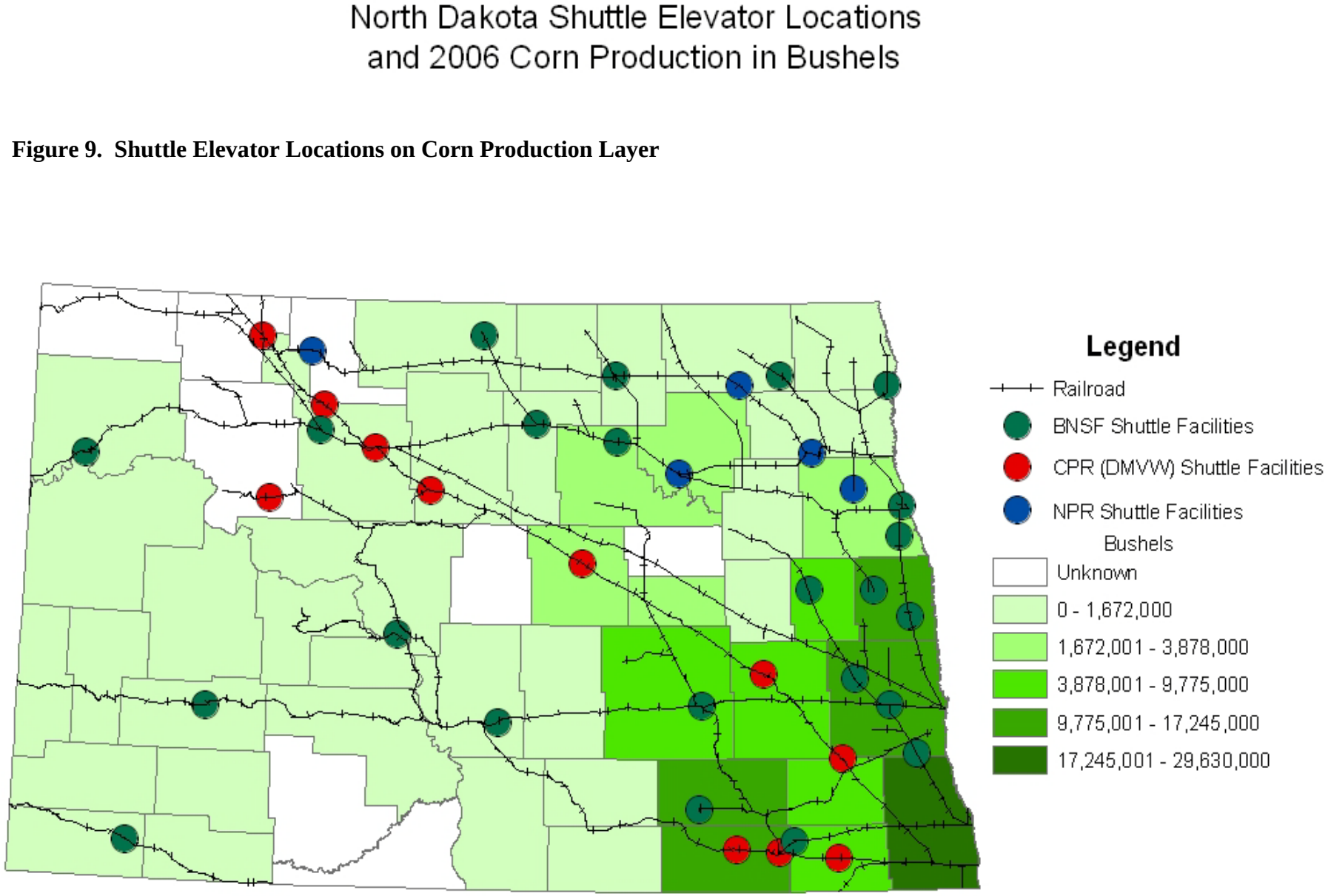

Figure 9. Shuttle Elevator Locations on Corn Production Layer

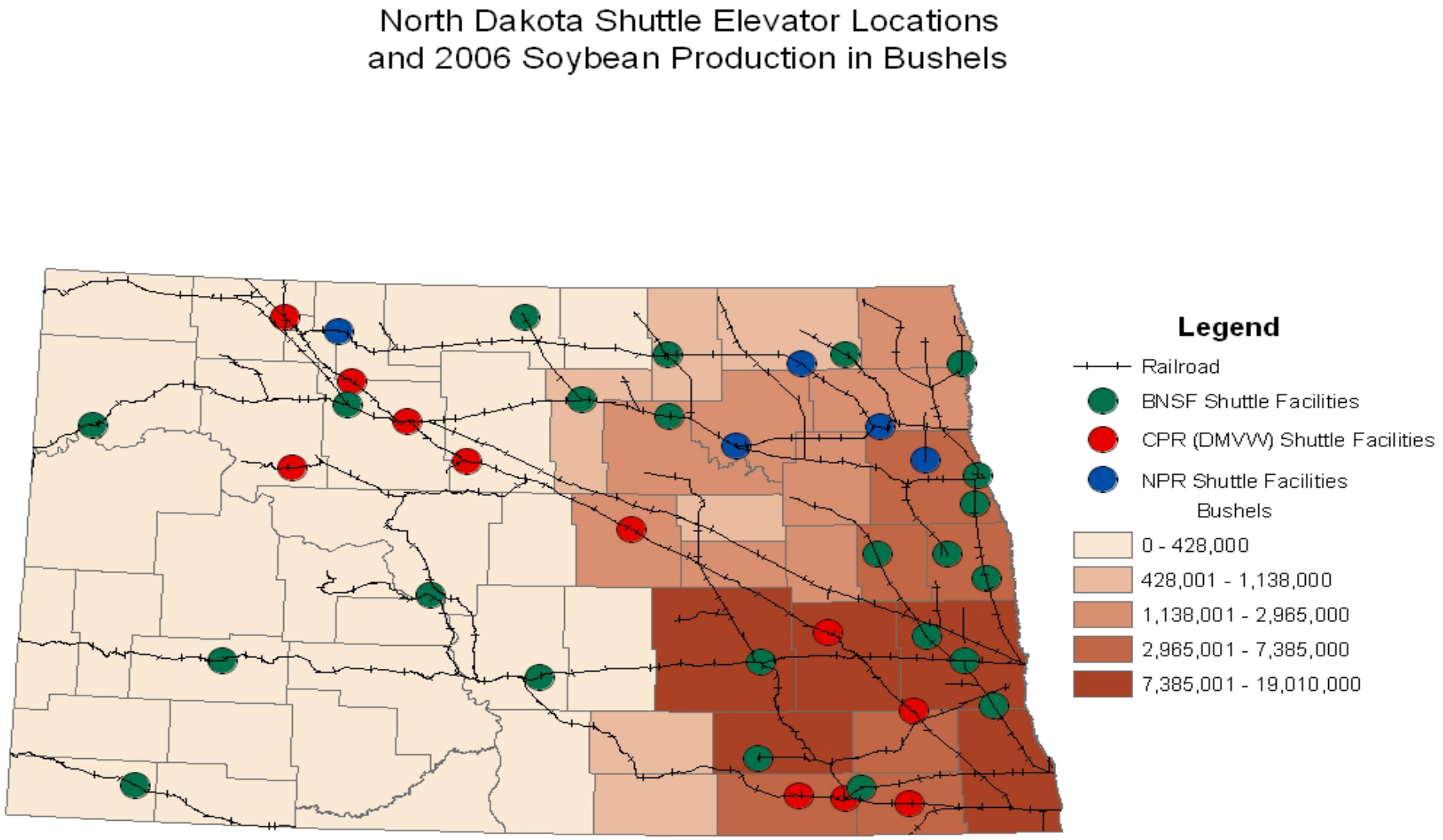

Figure 10. Shuttle Elevator Locations on Soybean Production Layer

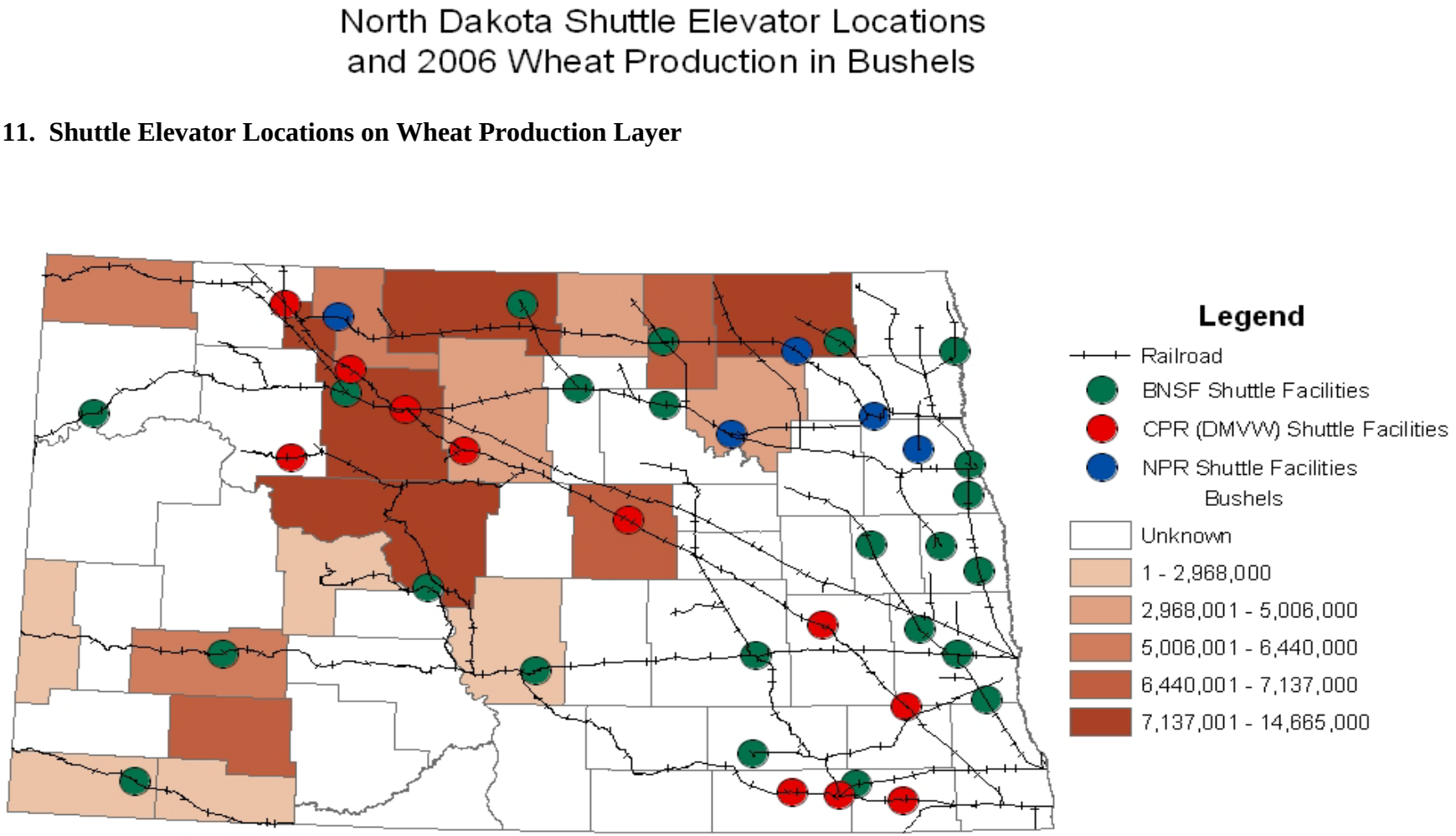

Figure 11. Shuttle Elevator Locations on Wheat Production Layer

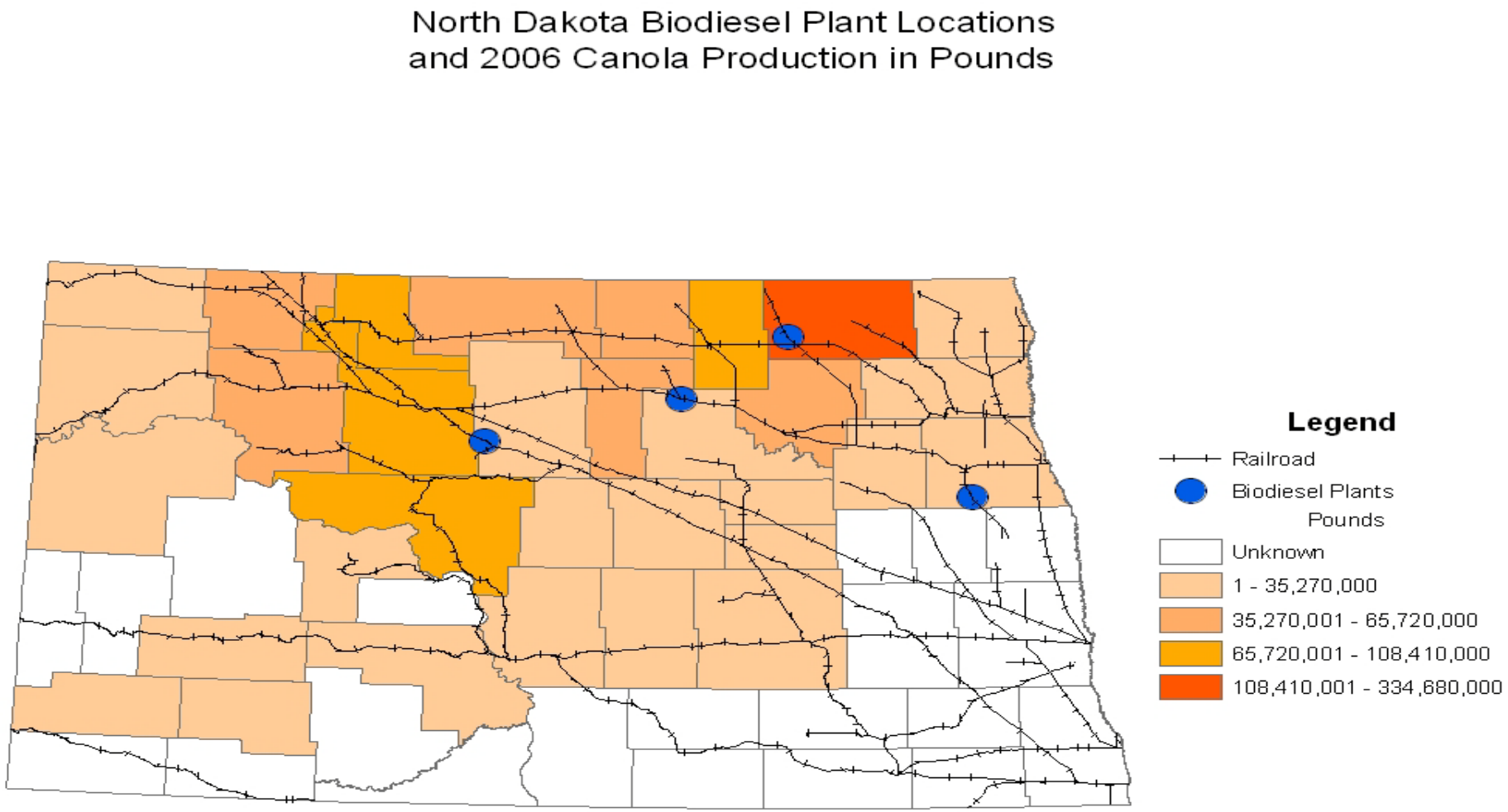

Figure 12. Biodiesel Plants on a Canola Production Layer

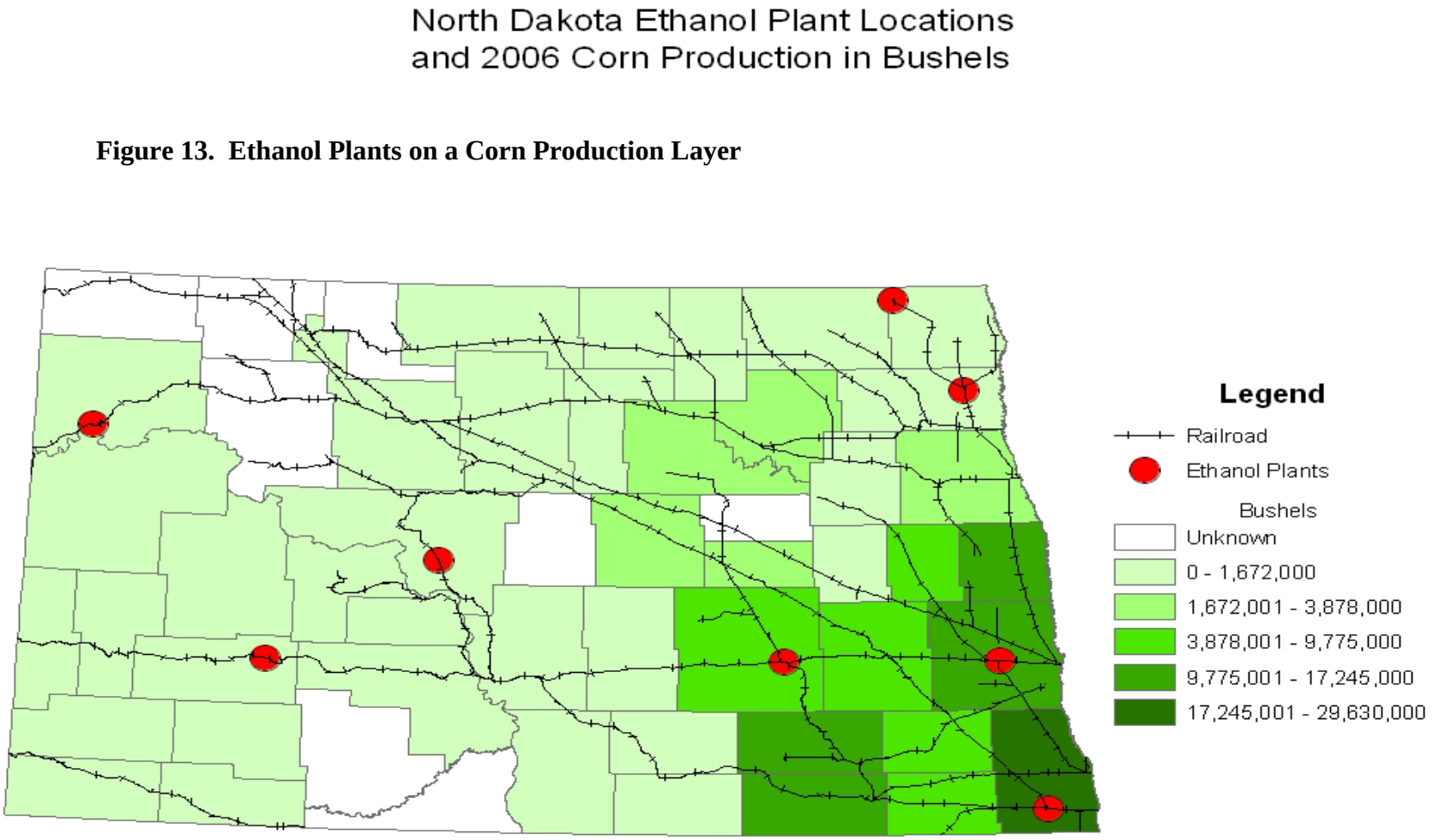

Figure 13. Ethanol Plants on a Corn Production Layer

Rail Passenger Service and Traffic Levels

The only passenger rail service in North Dakota is Amtrak's Empire Builder, which runs from Chicago, Illinois to Seattle, Washington and Portland, Oregon. In ND, the Empire Builder operates on the BNSF main line from Fargo to Grand Forks, then west to near Fort Buford, where it crosses into Montana. The train stops at Fargo, Grand Forks, Devils Lake, Rugby, Minot, Stanley, and Williston. Service is twice daily, with one train in each direction.

Figure 14 illustrates ND Amtrak ridership graphically. Table 4 lists ridership statistics by station. As Figure 14 shows, ridership has trended upward since 2002, except for 2009. The reduced numbers in 2009 may have been due to the economic downturn during that year.

ND AMTRAK RIDERSHIP 2001-2010

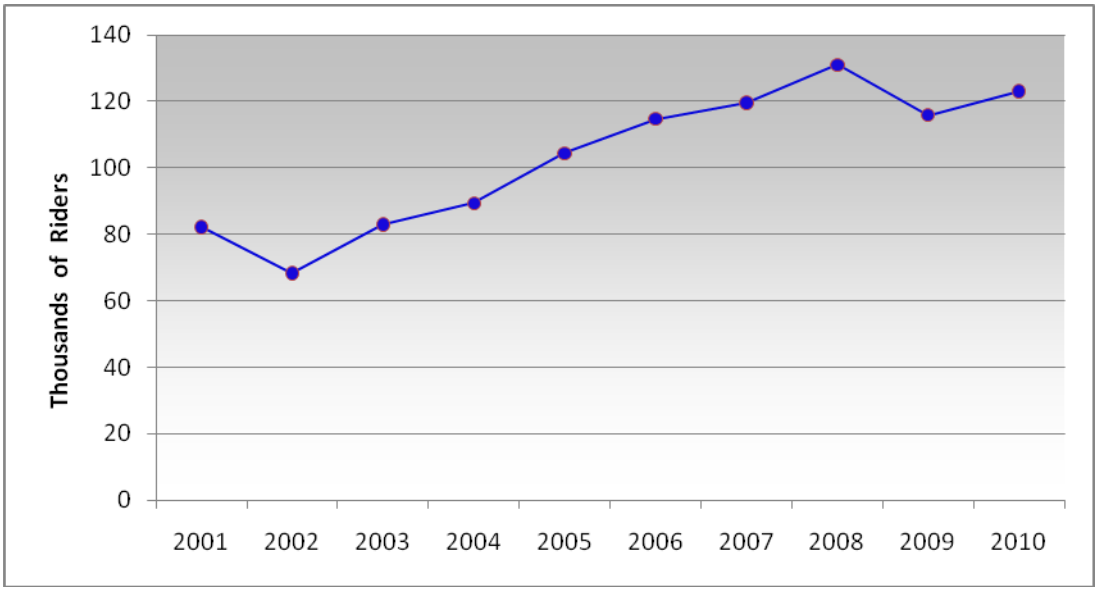

Figure 14. Total Amtrak Ridership in North Dakota 2001-2010[28]

[28] Source: Amtrak

As Table 4 shows, Minot generates the most riders of any North Dakota station by quite a large margin. The reason is not readily apparent.

Table 4. Amtrak Ridership Statistics for North Dakota by Station[29]

City	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Devils Lake	4,713	3,974	4,726	4,834	6,039	6,272	6,536	6,860	5,740	6,148
Fargo	14,738	11,637	13,869	15,546	18,812	22,771	22,259	24,142	21,514	21,286
Grand Forks	12,923	10,481	13,024	14,638	17,847	19,574	19,916	22,842	17,928	19,751
Minot	26,169	22,522	27,493	29,511	33,314	35,829	38,254	42,801	39,136	40,360
Rugby	5,304	4,179	4,940	5,533	6,272	5,975	6,783	7,048	5,906	6,409
Stanley	2,104	2,112	2,678	2,688	2,694	3,018	3,190	3,694	3,921	4,549
Williston	16,320	13,328	16,196	16,659	19,504	21,300	22,648	23,619	21,793	24,586
Totals	**82,271**	**68,233**	**82,926**	**89,409**	**104,482**	**114,739**	**119,586**	**131,006**	**115,938**	**123,089**

[29] Source: Amtrak. Figures are for the federal fiscal year (October 1 through September 30).

CHAPTER 3 - RAILROAD FREIGHT ASSISTANCE PROGRAMS AND GUIDELINES

Brief History

In 1982, NDDOT established a revolving loan fund with dollars from its Local Rail Service Assistance (LRSA) federal grant. LRSA became Local Rail Freight Assistance (LRFA) in 1989 when Congress modified the program and changed its name. LRFA loan funds retained their federal identity until October of 2008, when a change in federal law gave control of these funds to the states.

In 1995, NDDOT established a second revolving loan fund, called the Freight Rail Improvement Program (FRIP) fund, using interest from repaid LRFA loans as a funding source. FRIP is similar in purpose to LRFA, and generally follows LRFA guidelines, but the funds have always been state funds.

Both LRFA and FRIP rail loan funds make available reduced-interest loans, primarily for infrastructure projects on short line railroads.[30] They were created to keep the state rail assistance funds from being depleted and to provide railroads with an alternative to commercial lending sources. The low interest rate and 10-year repayment period help improve the borrower's cash flow.

The LRFA account is funded with the principal from repaid loans, plus the interest the LRFA account itself bears. The FRIP account is funded with the principal and interest from repaid FRIP loans, interest from repaid LRFA loans, and the interest the account itself bears.

NDDOT freight rail assistance presently consists of the LRFA and FRIP loan funds. There is no way for them to grow, other than the interest sources already mentioned. LRFA and FRIP are described in greater detail in the next section.

North Dakota Local Rail Freight Assistance Program

While LRFA funds are now considered state funds, the legislation that gave control of the funds to the states says that the original intent for use of the funds should be followed. These guidelines indicate that LRFA funds may be used for:

- rail line acquisition.
- rail line rehabilitation.
- construction of new facilities.
- improving and rehabilitating rail property (to the extent necessary to allow adequate and efficient transportation on the line).
- Construct or improve intermodal freight terminals.

[30] The interest rate on the loans is typically several points below the prime commercial lending rate.

- Construct or improve rail sidings or spurs.
- Construct or improve rail bridges.
- Relocation of existing rail lines.
- Establishing new connections between existing rail lines.

LRFA loan application instructions are in Appendix F.

North Dakota Freight Rail Improvement Program

FRIP loan guidelines generally mirror those of LRFA. Eligible FRIP applicants include counties, cities, railroads, and current or potential users of freight railroad service. An eligible project generally is one in which the line related to the project has carried less than five million gross ton-miles of freight per mile in the year previous to the year of application and which accomplishes any of the following objectives: rehabilitates a segment of rail line, results in economic development, improves transportation efficiency, promotes safety, promotes the viability of the state freight rail system, assists intermodal freight movement, or provides industry access to the national railroad system. The Director may waive the five million gross ton-miles requirement for a project if is determined that a significant public interest exists.

FRIP project applications are evaluated on the basis of six criteria, each with a weighted value. The rating system generates a score for establishing project qualification and ranking. The six criteria are:

1. Benefit-cost ratio.
2. Line traffic density (same as LRFA).
3. System connectivity enhancement.
4. Enhancement to North Dakota's economy.
5. Safety and security enhancement of the ND rail system.
6. Environmental and community impacts.

FRIP loan application instructions are in Appendix G.

Benefits of Rail Freight Assistance Programs

NDDOT has provided more than $26 million in assistance since 1979 to rehabilitate more than 500 miles of rail line in the state and to help improve rail-related facilities. Without state assistance, some of the rehabilitated lines would have been abandoned. Preservation of the lines has helped maintain rail access for many North Dakota producers and manufacturers, resulting in transportation cost savings for them.

Although safety benefits are difficult to quantify, it is clear that state rehabilitation funding assistance has had a positive effect on both railroad and public safety by reducing the probability of derailments on many miles of improved lines. In addition, the

preservation of rail lines has helped slow the increase of heavy truck axle loads on the state's highways, particularly the rural collectors. Finally, the freight rail assistance programs have allowed some rural communities to maintain connectivity with the national freight rail system, helping to maintain the economic base of rural areas of the state.

Rail assistance projects are shown in Appendix H.

Highway-Rail Grade Crossing Safety Programs

About every 90 minutes someone in America is hit by a train.[31] Tragically, most of those occurrences are avoidable. Most crossing accidents occur because motorists ignore warning signs, signals or safety gates. Many people seem unaware that it takes a train traveling at 50 mph approximately a mile and half to stop.

This chapter describes federal and state programs and related activities aimed at improving grade crossing safety. The chapter begins with a brief history of the programs, followed by a discussion of federal and state safety improvement activities.

Brief History

In 1970, Congress passed the Federal Railroad Safety Act and the Highway Safety Act. Provisions in these laws required comprehensive studies of issues related to safety at highway-rail at grade crossings on the federal aid highway system (FAS). Agencies were to make recommendations for appropriate action to increase safety at these crossings for both the public and the railroads.

The Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA) subsequently prepared a report for Congress. Based on the report's recommendations, Congress established a program to eliminate hazards at rail crossings. Section 203 of the Highway Safety Act of 1973 authorized $175 million from the Highway Trust Fund for crossing improvements on the FAS. A 1975 inventory revealed that 77 percent of highway–rail crossings were located off the FAS and thus were not eligible for improvement with Section 203 funds. In 1976, Congress provided funding for all public crossings.

Congress established a general hazard elimination program in the Surface Transportation Assistance Act of 1978. The hazard elimination program – described in 23 U.S.C. 152 – provides funds to each state to "identify hazardous locations...and establish and implement a schedule of projects for their improvement."[32] Hazard elimination funds may be used for improvement of rail crossings. The cost share is typically 90% federal,

[31] Estimate by Federal Railroad Administration

[32] Funds authorized to carry out this section can be expended on any public road, other than a highway on the Interstate System. The federal cost share under this section is ninety percent.

10% non-federal.[33] These funds may also be used to support crossing closures and crossing eliminations, such as ***grade separations***.[34]

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 established the Surface Transportation Program. The Surface Transportation Program provides funds for a variety of purposes including rail-highway grade crossings safety and hazard elimination. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005 (SAFETEA-LU) continues funding for rail-highway grade crossing safety and hazard elimination.

Driver education and enforcement programs are major elements of federal and state highway safety improvement programs. Operation Lifesaver (OL) is perhaps the best known grade crossing educational program. OL began with a cooperative agreement between the Union Pacific Railroad and the state of Idaho in 1972. Other state programs followed. In 1978, the National Safety Council was designated as the national coordinator for individual state efforts and charged with the "development, implementation, and evaluation of a national Operation Lifesaver program."[35] In ISTEA 1991, Congress directed the Secretary of Transportation to set aside $300,000 each fiscal year for support of OL.[36] Funding for OL has been renewed with each subsequent transportation bill and is continued under SAFETEA-LU.

U.S. Department of Transportation (*USDOT*) Action Plan

According to the FRA, the hazard elimination program has saved more than 10,500 lives and prevented 51,000 injuries since its inception in 1974. Since 1994, grade crossing safety efforts have resulted in a 48% reduction in the number of crossing fatalities despite steadily growing exposure.[37]

In 1994, USDOT formulated a Rail Highway Crossing Safety Action Plan designed to build on early successes of safety efforts. New and improved technologies and engineering solutions were an essential part of the plan, addressing three dimensions or systems:

1. onboard systems, such as train horns
2. highway systems, such as traffic control devices
3. multimodal communication links between highway and rail systems.

[33] The railroad share of projects that eliminate crossings at which active traffic control devices are in place, or are scheduled to be installed is five percent. Generally, railroads cannot be required to contribute to other types of improvement projects financed with federal funds. The railroad share, if any, of the cost of grade crossing improvements shall be determined in accordance with 23 CFR part 646, subpart B (Railroad-Highway Projects).
[34] Crossing eliminations include new grade separations, relocation of highways, relocation of railroads, and other crossing closures that occur without construction.
[35] U.S. Dept. of Transportation. Railroad-Highway Grade Crossing Handbook, 2nd Edition, 1986.
[36] The ISTEA amended 23 U.S.C. section 104(d) to provide for Operation Lifesaver funding.
[37] Estimate by Volpe Center, U.S. DOT.

The safety action plan set forth strategies related to enforcement, engineering, education, research, and public awareness – all crucial aspects of grade crossing safety. The goal was to achieve at least a 50% reduction from 1994 grade crossing accident and fatality levels by 2003. The plan was also designed to instill an attitude of "zero tolerance" for highway rail crossing collisions, fatalities, and injuries.[38]

Onboard Railroad Warning and Sounding Devices[39]

Research continues regarding the cost-effectiveness of alternative onboard warning devices. Although the relative cost-effectiveness of the train horn has not been established, a 1995 nationwide study by FRA suggests that silencing train horns increases crash risks by 84%.[40] Moreover, a study of local whistle bans on the Florida East Coast Railway found that crashes at crossings with flashing lights and gates tripled when train horns were banned.[41] This finding led FRA to issue Emergency Order No. 15 in July, 1991, which required railroad operators to "sound the horn." Subsequently, in the Federal Railroad Safety Authorization Act of 1994, Congress directed FRA to require the use of train horns at highway rail crossings.[42] FRA was given authority to allow exceptions where supplementary safety measures fully compensated for the absence of the train horn. Also, the sounding of locomotive horns at public crossings was subject to applicable state and local laws, and many local governments legislated whistle bans, (quiet zones), within their communities.

FRA interprets the 1994 statute to mean that "at a minimum, flashing lights and gates should be provided at crossings where train horns are silenced."[43] In evaluating exceptions to the train-horn rule, FRA also judges "what supplementary measures, provided by local traffic control or law enforcement authorities, will be sufficient to compensate for loss of the train horn on corridors already equipped with flashing lights and gates."[44]

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[38] Testimony of Jolene M. Molitoris, Federal Railroad Administrator, before the House Committee on Transportation and Infrastructure, Subcommittee on Railroads, April 1, 1998.

[39] This section is summarized from: (1) the 1994 "Rail-Highway Crossing Safety Plan," by FRA, (2) testimony of Jolene M. Molitoris, FRA, before the house Committee on Transportation and Infrastructure, Subcommittee on Railroads, April 1, 1998, and (3) Volpe Center, *Highway-Rail Grade Crossing Safety Research Publication*, 1998.

[40] Testimony of Jolene M. Molitoris, Federal Railroad Administrator, before the House Committee on Transportation and Infrastructure, Subcommittee on Railroads, April 1, 1998.

[41] Ibid.

[42] Specifically, Title 49, U.S.C 20153 states that: *the Secretary may except from the requirement to sound the locomotive horn any categories of rail operations or categories of highway-rail grade crossings (by train speed or other factors specified by regulation) – (A) that the Secretary determines not to present a significant risk with respect to the loss of life or serious personal injury; (B) for which use of the locomotive horn as a warning measure is impractical; or (C) for which, in the judgment of the Secretary, supplementary safety measures fully compensate for the absence of the warning provided by the locomotive horn.*

[43] Testimony of Jolene M. Molitoris, Federal Railroad Administrator, before the House Committee on Transportation and Infrastructure, Subcommittee on Railroads, April 1, 1998.

[44] Ibid.

In 2005, in response to a legislative mandate, FRA issued a Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings. The Rule became effective June 24. It pre-empted state and local laws regarding train horn use, but allowed the creation of quiet zones if specified criteria were met. The rule also detailed actions communities with existing whistle bans could take to meet the new standards and preserve the quiet zones they had become accustomed to.

In North Dakota, the city of Fargo, in cooperation with Moorhead, MN, has established a Fargo-Moorhead Quiet Zone (QZ) along the BNSF mainline that runs through the downtown areas of both cities. Implementation of this QZ required supplemental safety measures at some crossings and closure of others. FRA also approved a one-crossing QZ in Mandan, which has been implemented. Eleven other ND cities are in the process of establishing Quiet Zones, or have expressed interest in doing so.

Conspicuous Locomotives

Visual warning of an on-coming train is especially important at crossings with passive warning devices. In 1991, FRA began researching conspicuous locomotives. It later published rules to encourage the industry to adopt changes to make locomotives more visible to motorists and pedestrians.[45] Subsequently, railroads installed auxiliary lights, called Locomotive Alerting Lights (LAL), or "ditch lights" on locomotives. LAL are mounted low on the front of the locomotive, one on each side. The LAL and main headlights form a triangular pattern when viewed from the front. The triangular pattern and increased light output makes the train more visible and provides motorists and pedestrians with better perception of the size and speed of the approaching locomotive. A FRA benefit/cost analysis claims that installation of ditch lights has reduced grade crossing accidents in the range of ten percent for locomotives so equipped.[46]

Reflectorized Rolling Stock

While warning of an on-coming train is important, additional warning is needed at passive warning crossings. Since there are no gates or flashing lights, drivers sometimes don't see that a train is occupying the crossing until it is too late to avoid hitting it. These kinds of crashes cause deaths and injuries each year. After conducting research into increasing the visibility of locomotives and rail cars, FRA developed regulations requiring railroads to place reflective material on rolling stock. The requirements and compliance standards are stated in the Code of Federal Regulations (49 CFR, Part 224). Generally, railroads are required to have all locomotives in compliance by 2010 and all freight cars in compliance by 2015.

[45] FRA issued the first interim regulation on this subject in 1994 to encourage early installation. The requirement for Locomotive Alerting Lights became fully effective Dec. 31, 1997. LAL are now required by law.

[46] Testimony of Jolene M. Molitoris, Federal Railroad Administrator, before the House Committee on Transportation and Infrastructure, Subcommittee on Railroads, April 1, 1998.

Highway System Engineering and Enforcement Innovations

A long-term goal of USDOT is to separate or close crossings on the National Highway System. For other at-grade crossings, USDOT describes several highway engineering improvements that warrant further research and debate, include the following:

- median barriers to keep motorists from going around gates;
- paired one way streets with gates extending across all lanes;
- four quadrant gates that block all lanes of travel;
- temporary closure of roads during whistle ban hours.

Electronic enforcement, such as automated photographic identification, may prove to be an effective deterrent to those who drive around crossing gates or ignore other warning devices. Moreover, low cost options may be useful at crossings that lack automated warning devices.

Enhancements of Highway Railroad Interface

At many locations, linking grade crossing warning systems and highway traffic signals is of critical importance. With this arrangement, automated crossing warning devices are coordinated with traffic signals to help reduce the chance vehicles will be caught in traffic on or dangerously near the crossing. Demonstration projects are sometimes used to test such systems.

Obstruction of Visibility

Removing or modifying obstructions to visibility at highway rail crossings is a low-technology solution that can have large payoffs. However, solutions to visibility problems frequently require communication and coordination among railroads, property owners, and public authorities.

State Grade Crossing Safety Programs

The North Dakota rail-highway crossing program complements the federal plan and continues an on-going grade crossing improvement program that began in 1978. Since then, the state has spent more than $30 million participating in approximately 600 grade crossing safety improvement projects.

ND develops an annual list of crossing safety projects. Initially, state efforts were concentrated on signal installation on Class I railroad main line crossings because of the higher number of trains and greater train speeds. Presently, Class I main line crossings on state and federal highways with AADT of 100 or more are signalized. The emphasis has now shifted to crossings on branch lines and other crossings with safety concerns.

The grade crossing program has positively impacted safety in North Dakota. There were approximately 97 motor vehicle accidents at ND railroad crossings in 1977. In 2009,

there were 14 – a reduction of about 86% compared to 1977. The ND grade crossing crash history from 1977 – 2009 is portrayed graphically in Figure 15 on page 45.

The state is aware of the noise impacts of train horns on communities and encourages continued research into alternative audible train warning devices. However, substantial evidence exists that banning train horns in the absence of other effective warning devices increases the risks of crossing accidents. The state does not support additional exceptions to the train horn under 49 U.S.C. 20148 unless the Secretary of Transportation determines that silencing the train horn will not pose a significant risk and supplementary safety measures exist which fully compensate for absence of the horn.

If the cost-effectiveness of alternative onboard or wayside warning devices can be established, NDDOT encourages railroads to adopt new and effective warning technologies that will mitigate community noise impacts. However, the state is opposed to the substitution of new train warning devices for train horns if such substitutions would diminish safety levels.

NDDOT believes that the removal or mitigation of obstructions to visibility at highway rail crossings can reduce the risk of accidents and may be a cost-effective way to reduce hazard. The state encourages proper vegetation planning and control by railroads and other property owners in the vicinity of grade crossings.

Operation Lifesaver[47]

In 1972, a concerned Union Pacific Railroad employee, working with the support of many Idaho communities, established a state-wide public education program called Operation Lifesaver (OL) in an effort to reduce the numbers of crashes, injuries and fatalities occurring at highway-rail at grade crossings. The crossing fatality rate in Idaho dropped 43 percent in the first year of OL. In 1973, the same education program was started in Nebraska, where there was a 26 percent reduction in the collision rate at rail crossings. In recent years, OL has placed increased emphasis on reducing and preventing injuries and fatalities caused by people trespassing on railroad property, in addition to the effort to reduce crashes at highway crossings.

Operation Lifesaver is now active in the 49 continental United States and Washington, D.C. In addition, OL is active in Canada, Mexico, Argentina, England and Estonia. Since its inception in 1972, this public education program has been a major factor in the dramatic reduction in injuries and fatalities at rail crossings across the nation.

A cooperative effort involving education, engineering and enforcement continues to make OL successful. Education is provided by OL certified volunteers. Engineering is provided by the professionals who are responsible for improving and maintaining the crossings. Enforcement is provided by state and local law enforcement officers who

[47] This section summarized from the Operation Lifesaver websites: http://www.oli.org and http://www.ndsc.org/lifesaver.asp.

patrol the public highways and by railroad police officers who guard railroad right-of-way and other property against trespassers.

Operation Lifesaver conducted 161 grade crossing safety presentations in ND in 2009, along with 36 training events and 23 special events. OL also serves as a resource for grade crossing safety educational materials and statistics in the state. NDDOT provides funding support to OL with an annual grant. As Figure 15 shows, there has been a general downward trend in the annual number of crashes at rail crossings in ND since the late 1970s

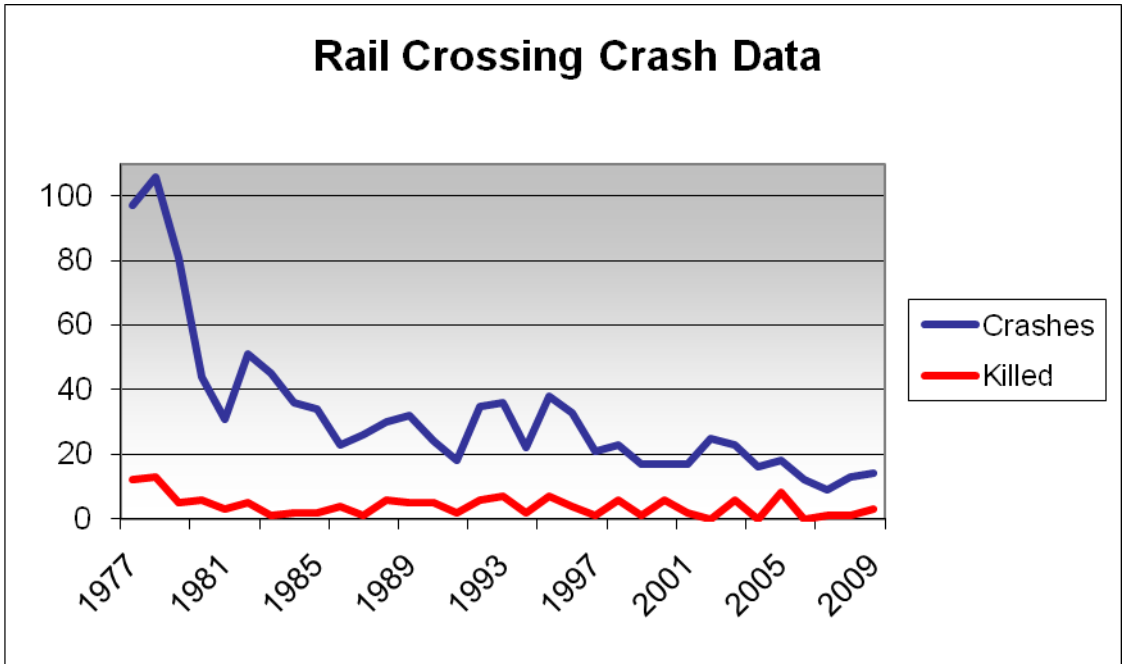


Figure 15. North Dakota At Grade Rail Crossing Crash Data

APPENDIX A

TRAFFIC AND COMMODITY STATISTICS

Railroad Statistics

Table A.1 – BNSF Traffic Originated or Terminated in North Dakota in 2009, by STCC*

STCC	COMMODITY	Carloads Originated in ND	Carloads Terminated in ND	Total Carloads Transported in ND	Percent of Carloads Transported In ND
01	Farm Products	84,913	8,326	315,601	20.7%
11	Coal	35,196	25,947	395,951	26.0%
20	Food and Kindred Products	23,536	786	92,978	6.1%
26	Pulp, Paper, and Allied Products	1	685	24,644	1.6%
28	Chemicals and Allied Products	3,875	7,044	31,577	2.1%
29	Petroleum and Coal Products	3,425	2,672	15,180	1.0%
37	Transportation Equipment	235	766	34,883	2.3%
	Grand Totals, All Traffic	**156,441**	**63,128**	**1,524,813**	

Source: Annual report to the North Dakota Public Service Commission.
* There were 34 STCC Commodities reported. Only those comprising at least 1 percent of total carloads are shown. Grand Totals All Traffic includes all BNSF traffic in ND.

Table A.2 – CPR-Soo Line Traffic Originated or Terminated* in 2009, by STCC**

STCC	COMMODITY	Carloads Originated	Carloads Terminated	Total Carloads Transported	Percent of Carloads Transported
01	Farm Products	90,694	46,756	140,177	20.2%
11	Coal	111	85,538	91,652	13.2%
20	Food and Kindred Products	32,915	8,085	58,829	8.5%
28	Chemicals and Allied Products	13,237	20,069	69,686	10.1%
29	Petroleum and Coal Products	11,101	2,631	19,145	2.8%
32	Stone, Clay, Glass & Conc. Prod.	3,786	6,316	16,829	2.4%
40	Waste and Scrap Materials	7,393	4,522	10,673	1.5%
	Grand Totals, All Traffic	**287,422**	**293,591**	**692,905**	

Source: Annual report to the North Dakota Public Service Commission.
*The report is for the Soo Line system. Numbers represent traffic for the entire system. ND traffic is not reported separately. Soo Line is a wholly owned subsidiary of CPR and handles CPR traffic in ND, MN, WI, IL, IN, and MI.
** There were 28 STCC commodities reported. Only those comprising at least 1 percent of total carloads are shown. Grand Totals All Traffic includes all Soo Line traffic.

Table A.3 – DMVW Traffic Originated or Terminated in North Dakota in 2009*

	Originate ND		Terminate ND		Total Traffic	
Description	**Carloads**	**Tons**	**Carloads**	**Tons**	**Carloads**	**Tons**
Wheat (except durum)	4,287	537,310	0	0	4,534	589,420
Durum	3,038	394,940	0	0	4,488	583,440
Barley	175	22,750	0	0	192	24,960
Corn	8,904	1,157,520	0	0	9,101	1,183,130
Flax	268	34,840	0	0	268	34,840
Soybeans	5,986	77,180	0	0	6,077	799,100
Other Grains & Oilseeds	1,134	147,420	0	0	1,364	177,320
Fertilizer	0	0	366	47,580	373	48,490
Cement	0	0	0	0	360	46,800
Petroleum & Petroleum Products	1,341	174,330	496	64,480	1,837	238,810
Miscellaneous-includes Ethanol, DDG, Flyash, Lime, and Ballast	4,848	630,240	5,083	277,590	9,933	907,830
Total all Traffic	**29,981**	**3,176,530**	**5,945**	**389,650**	**38,527**	**4,634,140**

Source: Annual report to the North Dakota Public Service Commission.
*16 commodities were reported. Commodities with less than 100 total carloads are not shown.

Table A.4 – DNRR Traffic Originated or Terminated in North Dakota in 2009*

	Originate ND		Terminate ND		Total Traffic	
Description	**Carloads**	**Tons**	**Carloads**	**Tons**	**Carloads**	**Tons**
Wheat	562	56,200			562	56,200
Barley	3	300			3	300
Corn	52	5,200			52	5,200
Other Grains and Oilseeds	713	71,300			713	71,300
Fertilizer			74	7,400	74	7,400
Coal			201	20,100	201	20,100
Miscellaneous-includes Alcohol, Potatoes, & Trans Equip	1,216	121,600			1,216	121,600
Total All Traffic	**2,546**	**254,600**	**275**	**27,500**	**2,821**	**282,100**

Source: Annual report to the North Dakota Public Service Commission.
*All commodities reported are shown

Table A.5 – NPR Traffic Originated or Terminated in North Dakota in 2009*

	Originate ND		Terminate ND		Total Traffic	
Description	**Carloads**	**Tons**	**Carloads**	**Tons**	**Carloads**	**Tons**
Wheat (except durum)	5,524	718,120			7,242	941,460
Durum	852	110,760			856	111,280
Barley	2,580	335,400			2,960	384,800
Corn	695	90,350			770	100,100
Flax	122	15,860			122	15,860
Soybeans	2,656	345,280	110	14,300	3,836	498,680
Other Grains & Oilseeds	134	17,420			134	17,420
Fertilizer			408	53,040	408	53,040
Miscellaneous-includes Aggregate and Wind Generator Components			782	101,660	806	104,780
Total All Traffic	**12,563**	**1,633,190**	**1,300**	**169,000**	**17,134**	**2,227,420**

Source: Annual report to the North Dakota Public Service Commission.
*10 commodities were reported. Commodities with less than 100 total carloads are not shown

Table A.6 – YSVR Traffic Originated or Terminated in North Dakota in 2009*

	Originate ND		Terminate ND		Total Traffic	
Description	**Carloads**	**Tons**	**Carloads**	**Tons**	**Carloads**	**Tons**
Petroleum & petroleum products	1	NR	71	NR	72	NR
Miscellaneous	7	NR			7	NR
Total All Traffic	**8**	**NR**	**71**	**NR**	**79**	**NR**

Source: Annual report to the North Dakota Public Service Commission.
***** All commodities reported are shown. YSVR did not report tons on the annual report.

Table A.7 – RRVW Traffic Originated or Terminated in North Dakota in 2009*

	Originate ND		Terminate ND		Total Traffic	
Description	**Carloads**	**Tons**	**Carloads**	**Tons**	**Carloads**	**Tons**
Wheat (except durum)	3,480	348,000	45	4,500	4,640	464,000
Durum	3	300	351	35,100	354	35,400
Corn	12,499	1,374,890			14,551	1,600,610
Soybeans	8,419	926,090			10,891	1,198,010
Barley	329	31,255	7	665	336	31,920
Other Grains	243	24,300			243	24,300
Edible Beans, Peas	217	21,700			217	21,700
Flour	947	94,700			947	94,700
Corn Syrup	5,931	652,410			5,931	652,410
Sugar	1,521	152,100			1,521	152,100
Feed & Mill By-Products	1,565	156,500			1,565	156,500
Beet Pellets	652	61,940			652	61,940
Molasses	211	21,100			211	21,100
Steepwater	129	12,900			129	12,900
Fertilizer			1,247	124,700	1,284	128,400
Coal			1,276	127,600	1,276	127,600
Steel			237	26,070	237	26,070
Scrap	383	38,300	126	12,600	509	50,900
Propane			235	17,625	235	17,625
Chemicals			168	16,800	168	16,800
Gravel			803	80,300	803	80,300
Limestone			336	33,600	336	33,600
Ethanol	717	not given			717	not given
DDG	350	not given			350	not given
Total All Traffic	**37,596**	**3,916,485**	**4,831**	**479,560**	**48,103**	**5,008,885**

Source: Annual report to the North Dakota Public Service Commission

*30 commodities were reported. Commodities with less than 100 total carloads are not shown.

Rail Commodity Movements

This section presents an in-depth analysis of commodity movements and describes the markets for North Dakota shipments. It begins with an overview of the principal commodities transported by railroads in North Dakota, followed by a discussion of major grain destinations and rail share of total shipments. The grain summary is followed by a digest of coal, chemical, and food products traffic data. The value of North Dakota shipments and the impacts of commodity value on mode choice are summarized in conclusion.[48]

Table A.6 shows percent of the tons originated in North Dakota in 2008 by commodity for the top five commodities.

Table A.6 – Top Commodities Originated by Railroads in North Dakota During 2008

Commodity	Tons of Freight	Percent of Total
Farm Products	18,400,110	62
Food Products	4,857,456	16
Coal & Non Metallic Minerals	4,274,357	14
Chemicals	910,192	3
Petroleum & Petroleum Products	546,436	2

Source: Association of American Railroads, from STB *Waybill Sample*.

Table A.7 shows percentage of tons terminated in North Dakota during 2008 by commodity for the top five commodities.

Table A.7 – Top Commodities Terminated by Railroads in North Dakota During 2008

Commodity	Tons of Freight	Percent of Total
Coal	6,385,979	46
Farm Products	3,462,337	25
Chemicals	1,169,948	8
Gravel, Sand, Stone	871,964	6
Cement	510,012	4

Source: Association of American of Railroads, from STB *Waybill Sample*.

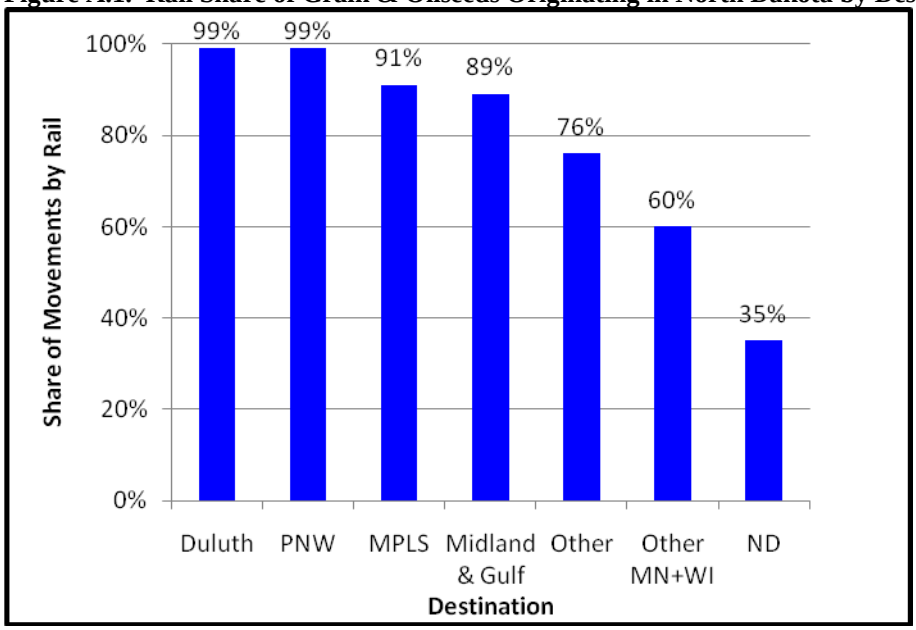
[48] The 2008 data in Tables 6 and 7 are based on Class I railroad QCS Reports to the STB and the AAR survey of local and regional railroads. They represent the most current complete year of state-level data available at the time this section of the rail plan was updated. The relative importance of commodities may change somewhat from year-to-year depending on economic and demand factors.

Farm Products Traffic

Two data sources are used to describe farm products shipments: North Dakota Grain and Oilseed Shipment Statistics and the Railroad ***Waybill*** Sample. The Grain and Oilseed data is based on elevator reports to the North Dakota Public Service Commission, referred to hereafter as grain elevator reports. The grain elevator reports include rail and truck shipments to primary destinations, such as Minneapolis, Duluth, other Minnesota and Wisconsin, the Gulf Coast and the Pacific Northwest (PNW). The Railroad Waybill data is based on a random sample of railroad shipments reported to the STB. In some cases, the waybill sample provides more specific destination information than grain elevator reports. Moreover, the waybill sample includes descriptive information about shipments, such as length of haul, rate, and variable cost. The two data sources complement each other; together, they provide a comprehensive description of North Dakota farm products movements.

According to grain elevator reports, between 75 and 80% of the state's grains and oilseeds are shipped by rail. As Figure A.1 shows, rail share tends to be greatest in distant markets. For example, only 35% of grain shipments terminated in state were moved by rail in 2008. These in-state shipments, destined for processing plants and terminal elevators such as the North Dakota Mill & Elevator, usually cover short distances where trucks are more competitive with railroads. In contrast, 99% of the grain moving to Duluth and 91% of the grain destined for Minneapolis travels by rail. Moreover, railroads transport about 99% of grain shipments to the PNW and 89% of grain shipments to the Gulf.

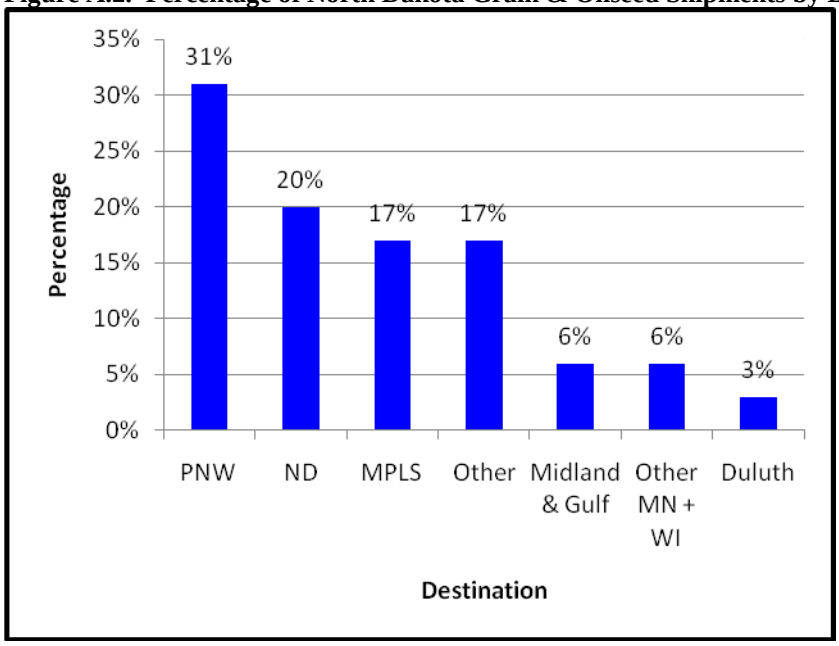
Figure A.1. Rail Share of Grain & Oilseeds Originating in North Dakota by Destination[49]



[49] Source: Upper Great Plains Transportation Institute. Other MN includes movements to WI.

Figure A.2 is also based on grain elevator reports. As the chart shows, approximately 26% of North Dakota grain and oilseed shipments went to Minneapolis, Duluth, or other Minnesota and Wisconsin destinations in 2008-09. Many of the shipments terminated at processing plants or mills in MN and WI. However, some may have been transferred to barges at Minneapolis or re-billed to another destination, such as Chicago. The fact that 20% of ND gain and oilseed shipments were terminated in-state illustrates the importance of the local processing sector of the economy.

Figure A.2. Percentage of North Dakota Grain & Oilseed Shipments by Destination[50]



[50] Source: Upper Great Plains Transportation Institute. Other MN includes shipments to Wisconsin.

Table A.8 is based on the waybill sample. As the table shows, Washington is the top destination state for ND farm products. Most shipments to Washington, Oregon, Louisiana, and Texas were for export. The average distance for interstate rail movements ranged from 414 miles (Minnesota) to 1,762 miles (Gulf Coast). Average distance for PNW shipments was 1521 miles.

Table A.8 – Destination State for Farm Products Originated In ND by Rail and Average Distance of Shipments - 2003[51]

Destination State	Estimated Tons	Average Distance
Washington	2,886,407	1,663
Wisconsin	1,907,100	551
Minnesota	1,702,342	414
Illinois	1,470,065	843
Missouri	932,500	1,093
Oregon	597,773	1,380
North Dakota	526,780	167
Texas	452,197	1,753
Louisiana	332,471	1,771
Alberta	323,498	976

Table A.9 shows the number of elevators making grain and oilseed shipments, the percent using rail service, the percent shipping in various car block sizes, and the percentage of tons shipped under three railroad service levels during 2004.

Table A.9 – North Dakota Grain and Oilseed Shipments by Car Block Size[52]

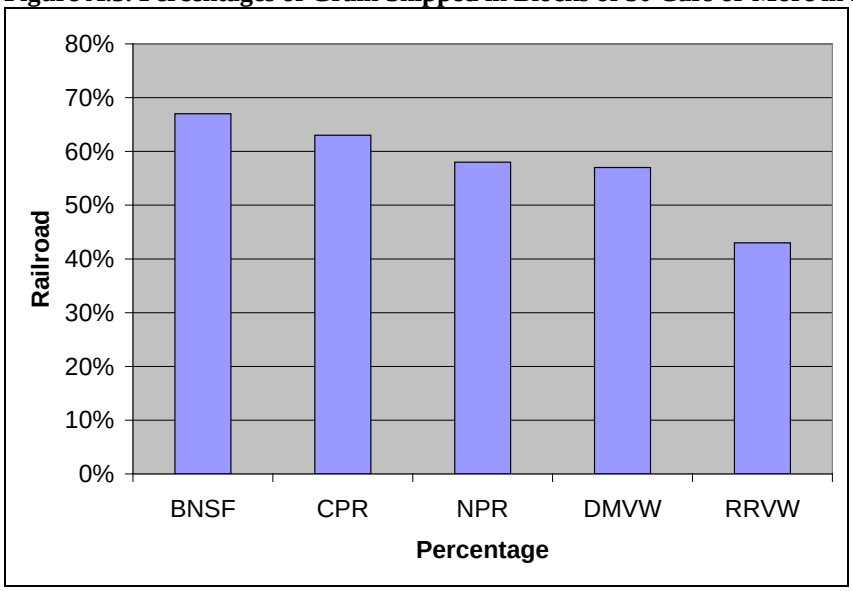
	Number Shipping by Car Block Size (Percent of Elevators With a Shipment in Various Car Size Blocks)			Tons Shipped by Car Block Size (Percent of Rail Tonnage Shipped in Each Car Size Block)		
	1-24 Cars	25-49 Cars	50+ Cars	1-24 Cars	25-49 Cars	50+ Cars
BNSF	123 (51%)	72 (30%)	47 (19%)	761,405 (13%)	1,239,784 (21%)	4,019,229 (67%)
CPR	32 (47%)	23 (34%)	13 (19%)	367,273 (17%)	431,644 (20%)	1,338,240 (63%)
DMVW	17 (37%)	16 (35%)	13 (28%)	277,501 (20%)	314,736 (23%)	787,187 (57%)
NPR	19 (46%)	12 (29%)	10 (24%)	242,297 (23%)	186,487 (18%)	612,226 (58%)
RRVW	30 (53%)	17 (30%)	10 (17%)	443,363 (30%)	403,066 (27%)	631,965 (43%)
DNRR	NA	NA	NA	NA	NA	NA
YSVR	NA	NA	NA	NA	NA	NA

As Table A.9 shows, 30% of RRVW and 20% of DMVW grain shipments moved in l-to-24 car blocks in 2004. Most grain was moved in 50+ car shipments.

[51] Source: 2003 Waybill Sample
[52] Source: Upper Great Plains Transportation Institute

As Figure A.3 shows, about 67% of grain shipments from BNSF elevators consisted of 50 cars or more. Moreover, shipments of 50 cars or more comprised 63% to 43% of grain traffic handled by CPR, DMVW, NPR, and RRVW.

Figure A.3. Percentages of Grain Shipped in Blocks of 50 Cars or More in 2004[53]



Coal, Chemical, and Food Products Traffic

The railroad waybill sample is the only consistent source of information for commodities other than grain. The waybill sample is collected each year by the Surface Transportation Board. The sampling frame is the terminating railroad. All railroads that terminated more than 4,500 revenue carloads of freight during any of the previous three years, or any railroad that terminated more than 5% of the traffic in a given state during any of the previous three years, must participate in the sample. The sampling unit is the waybill, which is created each time a shipment is consigned, with the possible exception of contract movements.

The sampling process uses a stratified random sampling procedure based on the number of cars per shipment. The sampling strata and corresponding rates are: 1-2 cars (1:40), 3-15 cars (1:12), 16-60 cars (1:4), 61-100 cars (1:3), and more than 100 cars (1:2).

In addition to the waybill sample, the Department of Energy (DOE) publishes information regarding coal movements from mines to utilities. According to DOE and waybill data, about 85% of the coal tonnage originated in North Dakota is terminated in-state. The remaining coal movements originated in North Dakota are terminated elsewhere in the northern plains region.

[53] Source: Upper Great Plains Transportation Institute

Destinations for food and kindred products are much more dispersed than are coal or grain destinations. Illinois, Minnesota, Washington, California, Missouri, Texas, and North Dakota were the principal destination states for railroad shipments in 2003 (Table A.10).[54] Average shipment distances ranged from less than 200 miles to more than 2,300 miles. Essentially, all coal, chemical and food products traffic moved in single-car consignments.

More than 78% of farm products traffic terminated in-state in 2003 originated from North Dakota or Montana. Approximately 66% of the chemical shipments terminated in-state in 2003 originated from Alberta, Florida, or Minnesota.

Table A.10 – Major Destinations for Food Products Originated in ND by Rail, 2003[55]

Destination	Estimated Tons	Average Cars Per Shipment	Average Distance
Illinois	1,327,920	1.09	690
Minnesota	524,220	1.70	286
Washington	362,000	1.00	1,598
California	334,056	3.33	2,349
Missouri	305,520	1.21	958
Texas	252,516	2.32	1,502
North Dakota	200,608	10.03	157

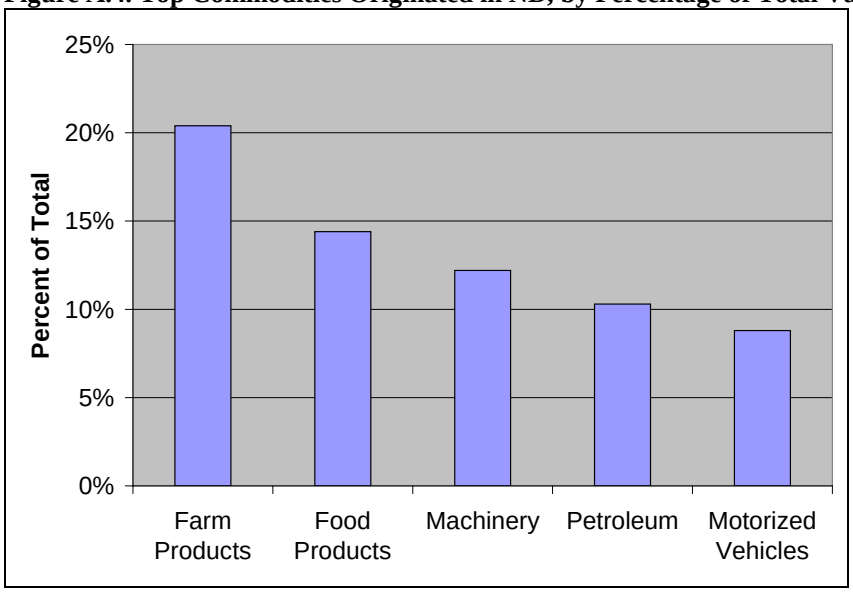
[54] The 2003 waybill sample was the most recent data set available at the time the rail plan was prepared.
[55] Source: 2003 Waybill Sample

Value of North Dakota Shipments

The Bureau of Transportation Statistics (BTS) has published estimates of the value of North Dakota shipments and mode use based on the 2002 Commodity Flow Survey (CFS). The CFS is a survey of 200,000 domestic establishments conducted by the Census Bureau. These establishments were randomly selected from a universe of 800,000 establishments in manufacturing, mining, wholesale, auxiliary warehouses, and other select activities in the retail and service sectors of the economy. Note that CFS is a sample of establishments, not of shipments. Moreover, as sample data, the statistics are subject to potential error when used to estimate population values. However, the data are useful for comparison to other data sources and for analyzing the value of shipments and mode share.

Based on this survey, BTS estimates that about 61 million tons of freight was originated by all modes in North Dakota during 2002, and that the goods were valued at approximately $11 billion. Figure A.4 shows the top five commodities originated in North Dakota during 2002 in terms of value. The 2002 data was the most recent available at time of publication.

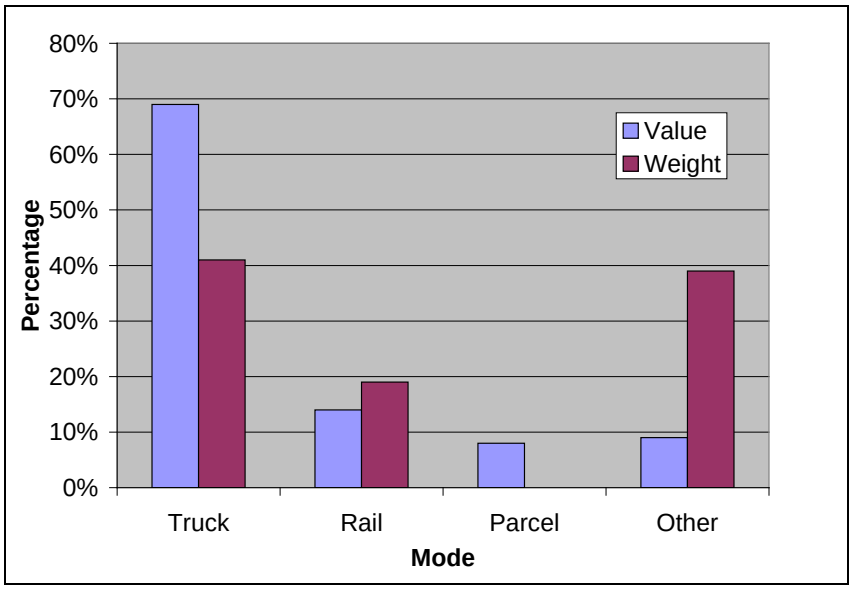
Figure A.4. Top Commodities Originated in ND, by Percentage of Total Value.[56]



[56] Source: 2002 Commodity Flow Survey

Figure A.5 shows the estimated distribution of shipments originated from North Dakota by mode of transport. Trucks moved about 69% of the value of originated traffic during 2002, but only 42% of the weight. In comparison, railroads moved about 18.6% of originated shipments in terms of weight, but only 13.9% in terms of value. The comparisons clearly illustrate the distribution of high-value manufactured and low-value bulk products among the two surface modes, particularly when the value of parcel and small freight shipments are considered. About 38% of the value and 56% of the weight of shipments originated in North Dakota were shipped to destinations within the state. About 62% of the value and 29% of the weight of North Dakota shipments went to other states.

Figure A.5. Distribution of ND Shipments Among Modes Based on Value and Weight[57]



[57] Source: 2002 Commodity Flow Survey

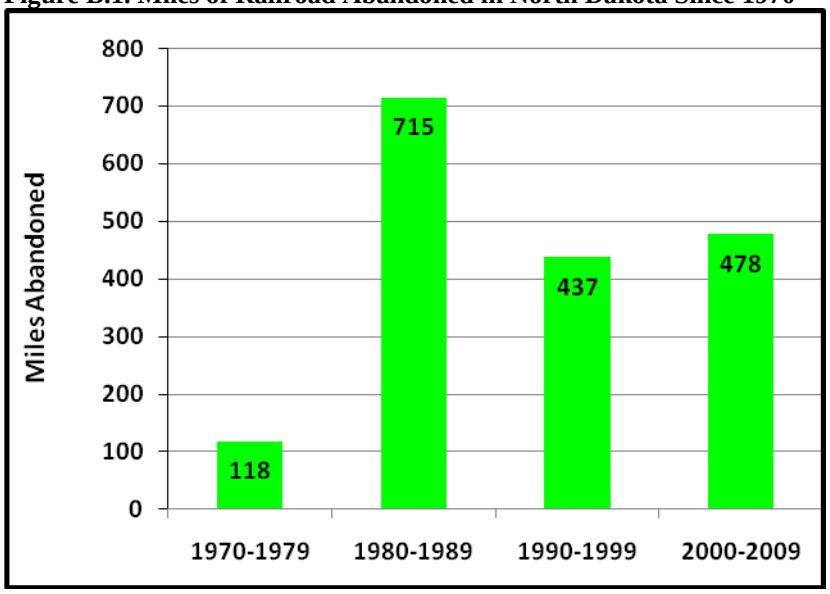
APPENDIX B

RAIL LINE ABANDONMENTS

Rail Abandonment Overview

1,774 miles of railroad have been abandoned in North Dakota since 1936. However, only 26 miles were abandoned prior to 1970. As Figure B.1 shows, most of the abandonments occurred during the 1980s, when 715 miles of line were abandoned. The timing and location of abandonments reflects deregulation and the cumulative impacts of deferred track maintenance during the 1960s and 1970s, and the trend in ND toward fewer numbers of grain elevators, but increased storage capacity of those elevators.

Figure B.1. Miles of Railroad Abandoned in North Dakota Since 1970[58]



Abandonment Procedures and Regulations

The ***ICC*** Termination Act of 1995 requires rail abandonments to be approved by the Surface Transportation Board (STB). The STB has established two types of abandonment procedures – Non-Exempt (full) and Exempt. Railroads may use either or both of these procedures to accomplish abandonments. A brief description of each follows. Virtually all abandonments in North Dakota are Exempt proceedings.

Full Abandonment

STB evaluates full abandonment filings using two basic criteria. The first is the need of local communities and shippers for continued service. The second is the broader public interest in freeing railroads from financial burdens that drain resources and lessen their ability to operate economically elsewhere. The railroad has to show that continued operation of the line it wants to abandon will be a financial burden.

[58] Source: North Dakota PSC, NDDOT 2005

There are four steps in the Non–Exempt abandonment process. In the first step, railroads communicate full abandonment intentions on what is known as a ***System Diagram Map***. The System Diagram Map is used for full abandonments only and nothing related to exempt abandonments appears on it. The System Diagram Map is color-coded to show five categories of lines:

1. Lines or portions of lines for which the railroad expects to file abandonment application within three years of the filing date of the map or amendment;
2. Lines or portions of lines the carrier has under study and believes may be subject to future abandonment application;
3. Lines or portions of lines for which an abandonment application is pending before the STB;
4. Lines that are presently being operated with financial assistance;
5. All other lines or portions of lines the carrier owns and operates, directly or indirectly.

The second step in the Non–Exempt process requires the railroad to provide the STB with a Notice of Intent, informing it of the railroad's plans to abandon. The Notice of Intent is to be received by STB 15-30 days before an Abandonment Application is filed.

Filing an Abandonment Application is the third step in the process. The abandonment application is used by the railroad to provide detailed information about costs and revenues on the subject line, as well as the overall financial condition of the railroad.

The fourth step in the process is the STB decision. After receipt of the abandonment application by the STB, there is a 45-day window during which protests may be filed. All parties involved in the abandonment process may access prior filings, including the System Diagram Map, Notice of Intent, and Abandonment Application, and may base protests upon these documents. If no successful protests are lodged and the railroad can prove that the burden caused by the operation of the line is greater than the benefit of continued operation, the line is abandoned.

Exempt Abandonment

The Exempt abandonment process is much more streamlined. There is no requirement to file a System Diagram Map or amendment. There are two exempt abandonment procedures, the Notice of Exemption and the Petition for Exemption.

The most used procedure for ND abandonments is the Notice of Exemption, where the railroad files such notice with the STB. A railroad may file a Notice of Exemption if: 1) no local traffic has moved over a line for at least two years; 2) any overhead traffic on the line can be rerouted over other lines; 3) no formal complaint is filed by a user of the service on the line or by a government entity acting on behalf of a user.

The Petition for Exemption procedure begins with the railroad filing a Petition for Exemption with the STB. The carrier must prove, and STB confirm, the following before approval is granted for the Petition for Exemption:

- that the line is not necessary to carry out the rail transportation policy of the United States Government;
- that the line is of limited scope;
- that continued regulation is unnecessary to protect shippers from abuse of market power.

All abandonment procedures require that opportunity be granted for public protest or comment regarding the abandonment, and that sufficient time be allowed for offers of financial assistance to be made for the purpose of keeping the line in operation.[59]

Feeder Railroad Development Program

In addition to provisions previously discussed, the ***Staggers Rail Act*** also established the Feeder Railroad Development Program, which gives STB authority to require sales of light-density lines to "responsible owners." A line is eligible for forced sale if it appears in Category 1 or 2 of the System Diagram map but the carrier has not yet filed an abandonment application for it, or if the public convenience and necessity (the pubic good) requires it. To force a line sale under the public convenience and necessity criterion, a potential purchaser must show that:

- the operating carrier has refused to provide adequate service to shippers within a reasonable period of time;
- transportation over the line is inadequate for the majority of shippers;
- sale of the line would not have an adverse financial or operational impact on the current carrier;
- sale of the line would likely result in improved service for shippers.

Two basic conditions are placed on a forced line sale:

1. The purchase price must be at least equal to the greater of these two computed values: Going Concern or Net Liquidation. This provision is designed to protect the existing carrier's investment.
2. Potential purchasers must meet these criteria:
    - Financially responsible party capable of assuring continued operations for at least three years;
    - Not Class I or Class II carrier;
    - Willing and able to pay the purchase price.

No rail lines in North Dakota have been acquired under the feeder railroad program. Table B.1 begins on the next page. It shows rail line abandonments in North Dakota since 1936.

[59] These sections paraphrase abandonment procedures outlined in http://www.iowarail.com/pdfs/rail_abandonment_brochure.pdf and http://www.stb.dot.gov/stb/docs/Abandonments%20and%20Alternatives1.pdf

Table B.1 – North Dakota Rail Line Abandonments Since 1936

NORTH DAKOTA RAIL LINE ABANDONMENTS

NDPSC CASE	STB DOCKET	RAILROAD*	LINE	MILES	YEAR**
1045		MILW	Brampton to Cogswell	7.50	1936
A-193		GN	Walhalla to the Canadian Border	5.30	1936
A-194		GN	St. John to the Canadian Border	3.60	1936
----		GN	Clifford to Portland	10.00	1962
1449		MID-CON	Clementsville to Edgeley	48.50	1970
1451		BN	Maxbass to Dunning	4.70	1972
1450		BN	Rutland to Ludden	30.20	1974
IRC 3		BN	Neche to the Canadian Border	1.00	1976
IRC 8		BN	Blanchard to Mayville	10.10	1976
IRC 23		BN	Minnewauken to Brinsmade	7.50	1976
IRC 23 (Sub 1)		BN	Brinsmade to Leeds	9.90	1977
IRC 39		BN	Jamestown to Klose	5.90	1979
IRC 43		MILW	Fargo to the SD border	70.40	1980 P
IRC 50		MILW	Edgeley to the SD border	31.50	1980 P
IRC 56		MILW	Brampton to the SD border	4.50	1980 P
IRC 57		BN	Ellendale to Forbes	13.50	1980 P
IRC 62		BN	Devils Lake to Warwick	21.10	1980 C
IRC 63		BN	Joliette to Pembina	12.20	1980 P
IRC 73		BN	Fairview Junction to Great Bend	8.80	1981 P
IRC 76		BN	Binford to McHenry	11.70	1981 C
IRC 77		BN	Newburg to Denning	5.60	1981 N
IRC 82		MILW	New England to the SD Border	123.80	1892 P
IRC 84		BN	Golva to the MT Border	7.40	1981 P
IRC 97		BN	Wolford to Dunseith	23.40	1982 P
IRC 100		BN	Casselton to Amenia	6.10	1982 C
IRC 101		BN	Rolla to St. John	7.20	1982 N
IRC 103		SOO LINE	Wimbledon to Clementsville	9.30	1982 N
IRC 105		BN	Grand Forks to Honeyford	16.60	1983 C
IRC 106		BN	Edgeley to Streeter	39.40	1983 P
IRC 109		BN	Ludden Junction to Ellendale	20.10	1984 P
IRC 110		BN	Beach to Golva	12.90	1984 P
IRC 111		BN	Truax to Truax Junction	6.70	1984 P
IRC 113		BN	Regan to Wilton	11.50	1984 P
IRC 115		BN	Loraine to Sherwood	7.60	1984 N
IRC 116		BN	Zeeland to the SD Border	6.00	1984 P
IRC 117		SOO LINE	Egeland to Amourdale	19.60	1984 N
IRC 119		BN	Westhope to Antler	13.00	1985 N
IRC 120		BN	Hunter to Blanchard	10.50	1985 C
IRC 125		BN	Zap to Killdeer	40.90	1984 P
IRC 128		BN	Mandan to Mott	99.40	1986 N
IRC 132		SOO LINE	Bismarck to Moffit	22.10	1986 N
IRC 135		SOO LINE	Ashley to the SD Border	16.30	1987 N

IRC 139		BN	Fargo to Horace	8.10	1988 N
IRC 140		BN	Rogers to Dazey	7.70	1988 N
IRC 143		BN	Fairview to Watford City	36.60	1992 C
IRC 144		CPR	Drake to Baker	40.90	1991 N
IRC 149		RRVW	Alice to Lucca	8.70	1992 N
IRC 150		BN	Linton to Zeeland	29.90	1993 N
IRC 151		BN	McCanna to Conway	16.70	1993 N
IRC 152		BN	Towner to Newburg	35.00	1993 N
IRC 153		BN	Glasston to Neche	19.20	1993 N
IRC 154		BN	Mohall to Loraine	7.40	1993 N
IRC 157		CPR	Harlow to Baker	5.50	1995 N
IRC 158		BN	Devils Lake to Hansboro	65.70	1996 N
IRC 159		BN	Hannaford to Binford	25.10	1996 N
IRC 163	AB-391-3-X	RRVW	Maddock to Esmond	11.90	1997 N
IRC 164	AB-493-3-X	TT	Hamar to Warwick	5.90	1997 N
IRC 165	AB-493-4-X	TT	Minot to Tatman (Minot AF Base)	12.70	1997 N
IRC 166	AB-391-4-X	RRVW	Oberon to Minnewauken	10.60	1998 N
IRC 170	AB-391-5-X	RRVW	Woodworth to Regan	59.70	1999 N
IRC 172	AB-391-6-X	RRVW	Casselton to Alice	18.70	1999 N
IRC 173	AB-391-7-X	RRVW	Bowdon to Turtle Lake	56.30	2000 N
IRC 174	AB-57-49-X	CPR	Wishek to Ashley	19.00	1999 N
IRC 175	AB-6-386-X	BNSF	Valley City Low Line	7.90	1999 N
IRC 178	AB-577-0-X	MRI	Granville to Lansford	29.80	2001 N
IRC 179	AB-391-8-X	RRVW	Oakes to the SD Border	13.60	2001 N
IRC 180	AB-391-9-X	RRVW	Lucca to Marion	32.90	2002 N
IRC 182	AB-6-393-X	BNSF	Tolan to Hamar	6.00	2002 N
IRC 183	AB-6-394-X	BNSF	Powers Lake to Grenora	60.50	2002 N
RR-04-165	AB-6-415-X	BNSF	Langdon to Hannah	20.93	2004 N
RR-04-175	AB-6-416-X	BNSF	Souris to Westhope	15.50	2004 N
RR-04-190	AB-6-419-X	BNSF	Walum to Dazey	4.69	2004 N
RR-04-202	AB-6-420-X	BNSF	Antelope Valley Station to Zap	3.36	2004 N
RR-04-198	AB-6-418-X	BNSF	Hannah Junction to McCanna	6.50	2004 N
RR-04-291	AB-57-54-X	CPR	Devils Lake to Harlow	28.35	2004 N
RR-04-401	AB-391-10-X	RRVW	Carrington to Bowden	27.76	2004 N
RR-04-625	AB-6-427-X	BNSF	Sanborn to Rogers	8.00	2005 N
RR-05-208	AB-6-933-X	DMVW	Moffit to Linton	32.30	2005 N
RR-05-656	AB-6-432-X	BNSF	Voss to Grafton	7.12	2005 N
RR-06-258	AB-6-439-X	BNSF	Bottineau to Souris	11.90	2006 N
RR-07-693	AB-1003-0-X	MCR	Lakota to Munich	44.44	2007 N
RR-08-245	AB-577-1-X	MRI	Voss to Forest River	7.06	2008 N
RR-08-636	AB-57-56-X	CPR	Bisbee to Kramer	60.50	2008 N
RR-07-693	AB-1003-1-X	MCR	Calvin to Sarles	5.40	2010 N
RR-10-645	AB-6-473-X	BNSF	Bisbee to Rolla	17.75	2010 N
TOTAL MILES ABANDONED				**1796.86**	

***Railroad Company Legend**

BN	Burlington Northern
BNSF	Burlington Northern Santa Fe - BNSF Railway Company
CPR	Canadian Pacific Railway
DMVW	Dakota Missouri Valley & Western
GN	Great Northern
MCR	Mohall Central Railroad
MID-CON	Mid Continent
MILW	Milwaukee Road
MRI	Mohall Railroad Inc.
RRVW	Red River Valley & Western
SOO	Soo Line
TT	Track Tech

****North Dakota Public Service Commission (NDPSC) Response**

P = NDPSC filed a protest with the ICC/STB.

C = NDPSC filed comments with the ICC/STB.

N = NDPSC did not file a protest or comments with the ICC/STB.

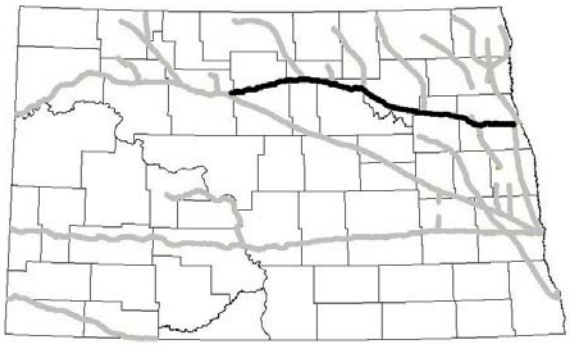
SOO LINE is used as the railroad name in abandonment petitions prior to 1990 that were for Canadian Pacific Railway lines in North Dakota. *CPR* is used as the company reference from 1990 on.

Soo Line is used as the company name in abandonment petitions prior to 1990 that were for Canadian Pacific Railway lines in North Dakota. *CPR* is used as the company reference from 1990 on.

APPENDIX C

DESCRIPTION OF NORTH DAKOTA RAIL LINES

Devils Lake Subdivision (BNSF):



Grand Forks-Surrey Line
(BN012, BN022, & BN028)

The BNSF Devils Lake Subdivision consists of the mainline track between Grand Forks and Surrey. The subdivision begins at ***milepost*** 0.4 in Grand Forks, at the Devils Lake Switch, and from there runs west 195.9 miles to the Surrey station. The Devils Lake subdivision connects to the BNSF KO Subdivision at Surrey. The traffic density over the line is between 5 and 9.99 million gross ton-miles per mile. The maximum speed for freight trains on the Devils Lake Subdivision line is 50 miles per hour and the maximum carload is 143 tons.
Detailed information about this segment is given in Table C.1. The Amtrak Empire Builder also uses this line. The maximum speed for passenger trains is 79 miles per hour.

Table C.1 Devils Lake Subdivision Grand Forks-Surrey Line

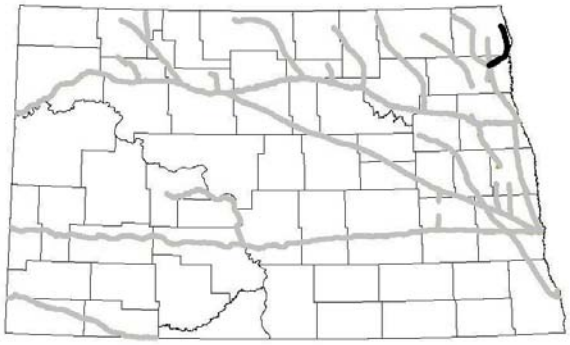
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
0.0	196.3	50 mph	143 tons	5-9.99

The Grand Forks-Surrey line generated 18.6 million bushels of grain movements in 2004; 10.5% more than the 2002 – 2004 three year average of 16.8 million bushels. There were 4,878 carloads of grain generated in 2004. Detailed information about grain movements is given in Table C.2.

Table C.2 Grain Movements Generated on the BNSF Devils Lake Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	16,810,912	18,579,158
Tons	489,691	544,345
Cars	4,388	4,878
Cars Per Mile	22	25

Drayton Subdivision (BNSF):



Grafton-Joliette Line (BN033)

The Grafton-Joliette Line is the BNSF Drayton Subdivision in northeastern North Dakota. The Grafton-Joliette line runs 33.8 miles northeast of the Grafton station to Joliette.

The Drayton Subdivision has a maximum speed of 25 mph and a maximum carload of 134 tons. For confidentiality reasons, the grain movement reported includes the Glasston and Walhalla Subdivisions. In 2004, 356,950 tons of grain movements were generated over the Drayton, Glasston, and Walhalla Subdivisions, 18.4% greater than the 2002 – 2004 three year average of 301,259 tons.

Detailed information about the grain movements generated over the Grafton-Joliette Lind is given in Table C.3.

Table C.3 Grafton-Joliette Line

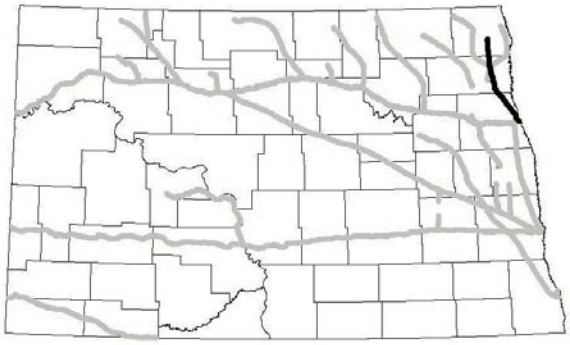
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
145.0	178.8	25 mph	134 tons	301,259	356,950

There were 11.9 million bushels of grain movements, 1.8 million more than the three year average of 10.1 million bushels, generated on the Drayton, Glasston, and Walhalla Subdivisions in 2004. There were 2,978 carloads generated on the line in 2004. Detailed information about the grain movements generated over the Drayton, Glasston, and Walhalla Subdivisions is given in Table C.4.

Table C.4 Grain Movements Generated on the BNSF Drayton, Glasston, and Walhalla Subdivisions

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	10,112,343	11,905,616
Tons	301,260	356,950
Cars	2,699	2,978
Cars Per Mile	19	21

Glasston Subdivision (BNSF):



Grand Forks-Glasston Line (BN033)

The Grand Forks-Glasston Line is the BNSF Glasston Subdivision in northeast North Dakota. This branch line connects to the main line at Grand Forks and runs 59.6 miles north and west to the Glasston Station.

The Glasston Subdivision has a maximum speed of 25 mph and a maximum carload of 143 tons. For confidentiality reasons, the grain movement reported includes the Glasston and Walhalla Subdivisions. In 2004, 356,950 tons of grain movements were generated over the Drayton, Glasston, and Walhalla Subdivisions, 18.4% greater than the 2002 – 2004 three year average of 301,259 tons.

Table C.5 Grand Forks-Glasston Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
145.0	178.8	25 mph	143 tons	301,260	356,950

There were 11.9 million bushels of grain movements, 1.8 million more than the three year average of 10.1 million bushels, generated on the Drayton, Glasston, and Walhalla Subdivisions in 2004. There were 2,978 carloads generated on the line during the same period. Detailed information about the grain movements generated over the Drayton, Glasston, and Walhalla Subdivisions is given in Table C.4.

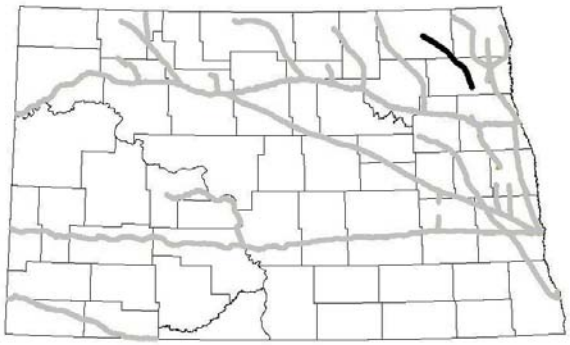
Table C.4 Grain Movements Generated on the BNSF Drayton, Glasston, and Walhalla Subdivisions

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	10,112,343	11,905,616
Tons	301,260	356,950
Cars	2,699	2,978
Cars Per Mile	19	21

The part of the Glasston Subdivision between Grafton and Glasston was leased to the Dakota Northern Railroad on February 5, 2006. As the line was in operation by BNSF in 2004, the above data reflect commodity movements under BNSF.

The part of the Walhalla Subdivision between Grafton and Walhalla was leased to the Dakota Northern Railroad on February 5, 2006. As the line was in operation by BNSF in 2004, the above data reflect commodity movements under BNSF.

Hannah Subdivision (BNSF):



Conway-Langdon Line (BN027)

The Conway-Langdon line is the BNSF Hannah Subdivision in northeastern North Dakota. The Conway station is located southwest of Grafton. The line connects a section of rail on which BNSF and Northern Plains Railroad have joint trackage rights. The line connects to the BNSF Glasston Subdivision at Ardoch via the NPR Devils Lake Subdivision. From Conway, the Conway-Langdon line runs northwest 50 miles to the Langdon station.

The Hannah Subdivision has a maximum speed of 25 mph and a maximum carload of 143 tons. In 2004 369,389 tons of grain movements were generated on the Conway-Langdon line, slightly more than the 2002 to 2004 three year average of 359,874 tons. Detailed information about the Conway-Langdon line is given in Table C.6.

Table C.6 Conway-Langdon Line

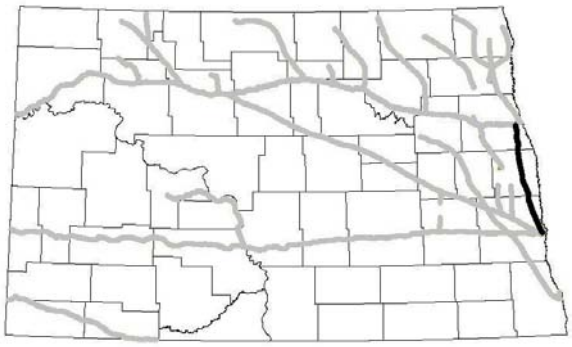
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
23.6	73.6	25 mph	143 tons	359,874	369,389

In 2004, 12.5 million bushels of grain movements were generated on the Conway-Langdon line, less than 3% greater than the 2002 to 2004 three year average 12.2 million bushels. There were 3,309 carloads generated on the line in 2004. Detailed information about the grain movements generated over the Conway-Langdon line is given in Table C.7.

Table C.7 Grain Movements Generated on the BNSF Hannah Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	12,246,609	12,588,891
Tons	359,874	369,389
Cars	3,224	3,309
Cars Per Mile	64	66

Hillsboro Subdivision (BNSF):



Fargo-Grand Forks Line (BN030)

The Fargo-Grand Forks line is the BNSF Hillsboro Subdivision in east central North Dakota. The Fargo-Grand Forks line runs north 74 miles from Fargo to the Grand Forks station. The Hillsboro Subdivision connects to the Devils Lake Subdivision at the Devils Lake Switch in Grand Forks.

The Fargo-Grand Forks main line connects to the KO subdivision main line at Fargo, and the Devils Lake subdivision main line at Grand Forks. The traffic density over the line is between 10 and 19.99 million gross ton-miles per mile. The maximum speed for freight trains on the Fargo-Grand Forks line is 50 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.8. The Amtrak Empire Builder also uses this line. The maximum speed for passenger trains is 79 miles per hour.

Table C.8 Fargo-Grand Forks Line

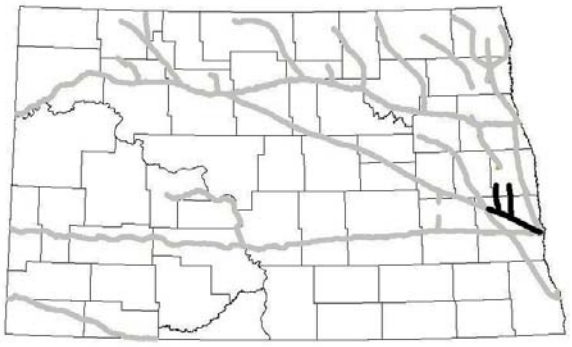
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
24.2	98.2	50 mph	143 tons	10-19.9

24.5 million bushels of grain movements were generated on the Fargo-Grand Forks line in 2004, 10.6% lower than 2002 to 2004 three year average of 27.4 million bushels. There were 6,310 carloads of grain generated in 2004. Detailed information about grain movements is given in Table C.9.

Table C.9 Grain Movements Generated on the BNSF Hillsboro Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	27,417,411	24,488,948
Tons	794,730	704,270
Cars	7,121	6,310
Cars Per Mile	96	85

Hunter, Clifford, & Prosper Subdivisions (BNSF):



Vance-Hunter Line (BN050)
Erie Junction-Clifford Line (BN050)
Fargo-Nolan Line (BN050)

Vance-Hunter Line (BN050)
The Hunter, Clifford, and Prosper Subdivisions are grouped together due to the similar operating characteristics and the limited number of stations present in each Subdivision. The Hunter, Clifford, and Prosper Subdivisions include two short branch lines and one low-volume main line.

The first, Vance-Hunter Line is the BNSF Hunter Subdivision in eastern North Dakota. The Vance station is located 23 miles west of Fargo on the Prosper Subdivision of the BNSF main line. The Vance-Hunter Line connects to the Prosper line and runs north 11.4 miles to the Hunter station. Detailed information about the Vance-Hunter Line is given in Table C.10.

Table C.10 Vance-Hunter Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
64.2	75.2	10 mph	134 tons	170,004	100,474

Erie Junction-Clifford Line (BN050)
The Erie Junction-Clifford line is part of the BNSF Clifford Subdivision in eastern North Dakota. The Erie Junction is located 33 miles west of Fargo on the Prosper Subdivision of the BNSF main line. The Erie Junction-Clifford line connects to the Prosper line and runs north 17.5 miles to the Clifford station. Detailed information about the Erie Junction-Clifford line is given in Table C.11.

Table C.11 Erie Junction-Clifford Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
0.0	17.5	25 mph	134 tons	170,004	100,474

Fargo-Nolan Line (BN050)

The Fargo-Nolan line is known as the Prosper subdivision of the BNSF main line in eastern North Dakota. The Fargo-Nolan line runs 41.0 miles northwest from Fargo to the Nolan station. The Fargo-Nolan Line connects to the BNSF KO Subdivision main line at Nolan. The Prosper Subdivision also connects to the Clifford and Hunter branch line Subdivisions at Erie Junction and Vance respectively. Detailed information about the Fargo-Nolan line is given in Table C.12.

Table C.12 Fargo-Nolan Line

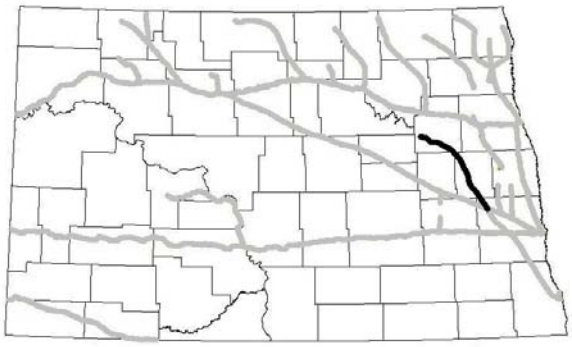
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
0.0	41.0	49 mph	143 tons	0-0.99

For confidentiality reasons, the grain movements generated are not reported for the individual subdivisions. In 2004, 3.6 million bushels of grain movements were generated on the Hunter, Clifford, and Prosper Subdivisions. This is nearly 40% lower than the 2002-2004 three year average of 5.9 million bushels. In 2004, 900 carloads of grain were generated over these three subdivisions. Detailed information about grain movements on the Hunter, Clifford, and prosper subdivisions is given in Table C.13.

Table C.13 Grain Movements Generated on the BNSF Hunter, Clifford, and Prosper Subdivisions

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	5,977,096	3,617,210
Tons	170,004	100,474
Cars	1,523	900
Cars Per Mile	22	13

Warwick Subdivision (BNSF):



Warwick Junction-Tolna Line (BN059)

The Warwick Junction-Tolna Line is the BNSF Warwick Subdivision. The Warwick Junction is located at Nolan which is 49.9 miles west of the Dilworth, MN station on the BNSF KO Subdivision. The Warwick Junction-Tolna line runs 66.6 miles northwest from Warwick to the Tolna station.

The Warwick Subdivision has a maximum speed of 25 miles per hour and a maximum carload of 134 tons. In 2004, 373,587 tons of grain movements were generated on the Warwick Junction-Tolna line, which is slightly less than the 2002-2004 three year average of 375,346 tons. Detailed information about the Warwick Junction-Tolna line is given in Table C.14.

Table C.14 Warwick Junction-Tolna Line

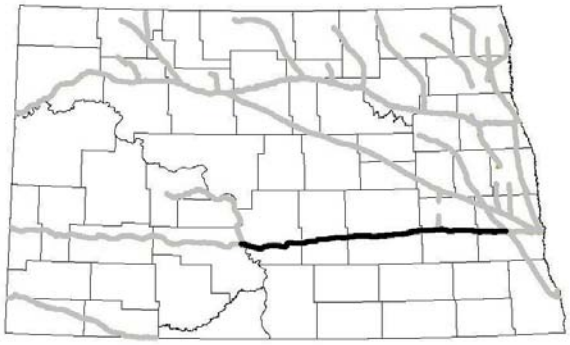
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
24.3	90.9	25 mph	134 tons	375,346	373,587

In 2004, 12.8 million bushels of grain movement generated on the Warwick Subdivision, which is roughly 100,000 less than the 2002-2004 three year average of 12.9 million bushels. There were 3,347 carloads generated in 2004. Detailed information about grain movements generated over the Warwick Subdivision is given in Table C.15.

Table C.15 Grain Movements Generated on the BNSF Warwick Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	12,921,711	12,827,765
Tons	375,346	373,587
Cars	3,363	3,347
Cars Per Mile	50	50

Jamestown Subdivision (BNSF):



Surrey Junction-Mandan Line (BN064 & BN076)

The Surrey Junction-Mandan Line is the BNSF Jamestown subdivision, which is part of the BNSF mainline that extends across southern North Dakota. The Surrey Junction-Mandan line connects to the KO Subdivision at Surrey Junction and runs west 169.1 miles to the Mandan station. The Surrey Junction is located 31.2 miles west of Fargo on the KO Subdivision, which is part of another BNSF main line.

Traffic density over this line is greater than 40 million gross ton-miles per mile. The maximum speed on the line is 60 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.16.

Table C.16 Surrey Junction-Mandan Mainline

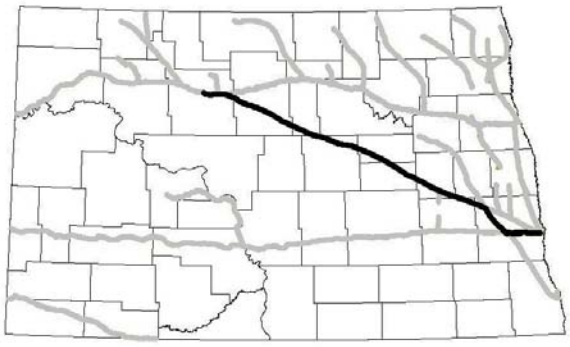
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
31.2	200.3	60 mph	143 tons	> 40

In 2004, there were 23.8 million bushels of grain movement generated on the Surrey Junction-Mandan line, slightly less than the 2002-2004 three year average 24.3 million bushels. There were 6,332 carloads generated on the line in 2004. Detailed information about grain movements on the Surrey Junction-Mandan line is given in Table C.17.

Table C.17 Grain Movements Generated on the BNSF Jamestown Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	24,377,423	23,862,720
Tons	723,304	706,673
Cars	6,481	6,332
Cars Per Mile	38	37

KO Subdivision (BNSF):



Fargo –Minot
(BN0036, BN076, BN0061, & BN059)

The BNSF Fargo-Minot main line is the KO Subdivision, extending from eastern to north central North Dakota. The Fargo-Minot line extends from the Fargo station on the North Dakota-Minnesota border northwest 203.2 miles to the Minot station. The KO Subdivision connects to the Jamestown Subdivision mainline at the Surrey Junction, and to the Devils Lake Subdivision mainline at the Surrey station. It is part of the KO-Glasgow main line.

The traffic density over the entire BNSF KO-Glasgow main line in North Dakota is greater than 40 million gross ton miles per mile. The maximum speed on the Fargo-Minot line is 60 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.18.

Table C.18 Fargo-Minot Line

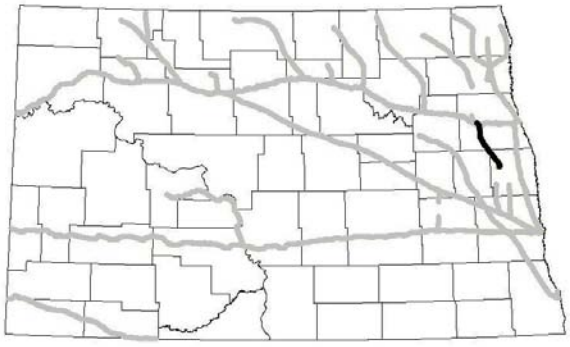
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
0	203.2	60 mph	143 tons	> 40

There were 15.9 million bushels of grain movements generated on the Fargo-Minot line in 2004, more than 11.6% less than the 2002-2004 three year average of 18 million bushels. There were 3,906 carloads generated in 2004. Detailed information about grain movements is given in Table C.19.

Table C.19 Grain Movements Generated on the BNSF KO Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	18,055,988	15,950,381
Tons	494,447	435,893
Cars	4,431	3,906
Cars Per Mile	22	19

Mayville Subdivision (BNSF):



Mayville Junction-Mayville (BN073)

The Mayville Junction-Mayville line is known as the BNSF Mayville Subdivision in eastern North Dakota. The Mayville Junction is located 0.6 miles east of Larimore on the Devils Lake Subdivision of the BNSF main line. The Mayville Junction-Mayville line connects to the main line and runs south 33.6 miles to the Mayville station.

The Mayville Junction-Mayville line has a maximum speed of 25 miles per hour and a maximum carload of 143 tons. In 2004, 199,691 tons of grain movements were generated over the Mayville Subdivision, 5% less than the 2002-2004 three year average of 211,369 tons. Detailed information about the Mayville Junction-Mayville line is given in Table C.20.

Table C.20 Mayville Junction-Mayville Line

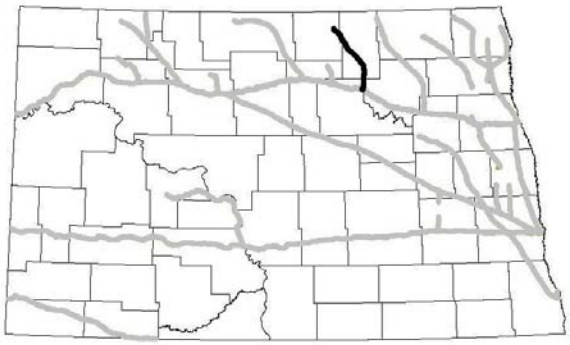
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
129.6	97.5	25 mph	143 tons	211,369	199,691

In 2004, 6.7 million bushels of grain movements were generated on the Mayville Subdivision, 389,000 million bushels less than the 2002-2004 three year average of 7.1 million bushels. There were 1,789 carloads generated in 2004. Detailed information about the grain movements generated over the Mayville Junction-Mayville line is given in Table C.21.

Table C.21 Grain Movements Generated on the BNSF Mayville Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	7,112,171	6,723,276
Tons	211,369	199,691
Cars	1,893	1,789
Cars Per Mile	56	53

Rolla Subdivision (BNSF):



Churchs Ferry-Rolla Line (BN021)

The Churchs Ferry-Rolla line is the BNSF Rolla Subdivision in north central North Dakota. The Churchs Ferry station is located 19 miles west of Devils Lake on the Devils Lake Subdivision of the BNSF main line. The Churchs Ferry-Rolla line connects to the Devils Lake Subdivision and runs northwest 47.4 miles to the Rolla station.

The Churchs Ferry-Rolla line has a maximum speed of 25 miles per hour and a maximum carload of 134 tons. In 2004, 54,455 tons of grain movements were generated over the Rolla Subdivision, 30% less than the 2002-2004 three year average of 77,321 tons. Detailed information about the Churchs Ferry-Rolla Line is given in Table C.22.

Table C.22 Churchs Ferry-Rolla Line

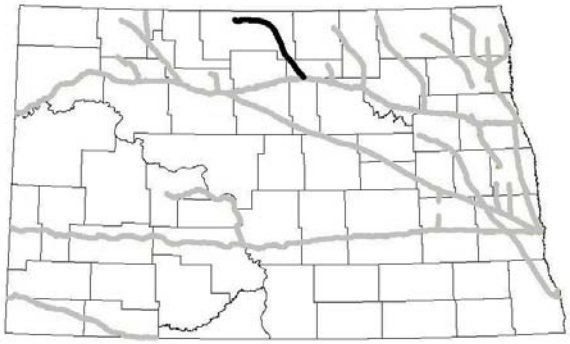
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
0.0	47.3	25 mph	143 tons	77,321	54,455

In 2004, 1.9 million bushels of grain movements were generated on the Rolla Subdivision, 800,000 less than the 2002-2004 three year average of 2.7 million bushels. There were 488 carloads generated in 2004. Detailed information about the grain movements generated on the Rolla Subdivision is given in Table C.23.

Table C.23 Grain Movements Generated on the BNSF Rolla Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	2,725,569	1,926,170
Tons	77,321	54,455
Cars	693	488
Cars Per Mile	15	10

Westhope Subdivision (BNSF):



Rugby-Souris Line (BN011)

The Rugby-Souris line is commonly known as the BNSF Westhope Subdivision in north central North Dakota. The segment from Souris to Westhope has been abandoned and the line presently ends just west of Souris. The line begins at the Rugby station, located 60.5 miles east of Minot on the BNSF main line (Devils Lake Subdivision) and runs northwest 51 miles to Souris.

The Rugby-Souris line has a maximum speed of 25 mph and a maximum carload of 143 tons between Rugby and Bottineau, and 134 tons between Bottineau and Souris. In 2004, 137,596 tons of grain movements were generated over the Westhope Subdivision, 8% below the 2002-2004 three year average of 149,127 tons. Detailed information about the line is given in Table C.24.

Table C.24 Rugby-Westhope Line

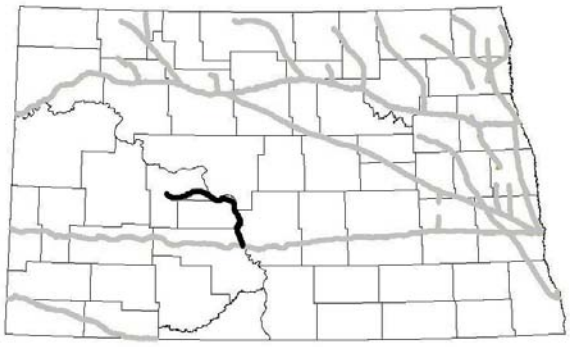
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
0.0	51.0	25-30 mph	134-143 tons	149,127	137,596

In 2004, 4.97 million bushels of grain movements were generated over the Westhope Subdivision, roughly a half million bushels less than the 2002-2004 three year average of 5.44 million bushels. Detailed information about the grain movements generated over the line is given in Table C.25.

Table C.25 Grain Movements Generated on the BNSF Westhope Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	5,441,830	4,973,253
Tons	149,127	137,596
Cars	1,336	1,232
Cars Per Mile	26	24

Zap Subdivision (BNSF)



Mandan-Zap Line (BN101)

The Mandan-Zap line is commonly known as the Zap Subdivision of the BNSF in central North Dakota. The Mandan station is located on the western end of the Jamestown Subdivision of the BNSF main line. The Mandan-Zap line connects to the main line at Mandan, and runs northwest 80.5 miles to the Zap station.

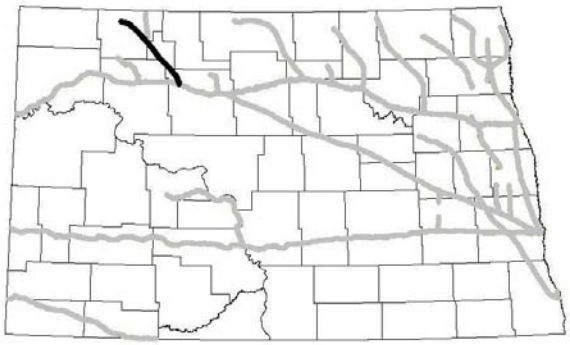
The Mandan-Zap line has a maximum speed of 25 miles per hour and a maximum carload of 143 tons. The traffic density on the Mandan-Zap line is between 1 and 4.99 carloads per mile from Mandan to Stanton, and between 5 and 9.99 carloads per mile from Stanton to Zap. The increased density between Stanton and Zap is due to shipments from coal mines in the area to the Antelope Valley and Coyote power plants and to the Great Plains Synfuels Plant, which are all near Beulah on the western end of the Mandan-Zap line.

For confidentiality reasons, and the low volume of grain movement over the Zap Subdivision, grain movement data is not reported. However, a shuttle loader facility was recently built on the Mandan-Zap line, which will substantially increase grain movements on the line. Detailed information about the Mandan-Zap line is given in Table C.26.

Table C.26 Mandan-Zap Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	80.5	25 mph	143 tons

Crosby Subdivision (BNSF):



Berthold-Crosby Line (BN007)

The Berthold-Crosby branch line is known as the Crosby Subdivision of the BNSF in North Dakota. The Berthold station is located 23 miles west of Minot on the Glasgow Subdivision of the main line. The Berthold-Crosby line connects to the Glasgow line and runs northwest 85.9 miles to the Crosby station. Currently, the last 31.5 miles of the line, from Lignite Junction to Crosby, is listed by BNSF as out of service trackage.

The Berthold-Crosby line has a maximum speed of 25 miles per hour and a maximum carload of 143 tons. In 2004, 117,064 tons of grain movements were generated over the Berthold-Crosby line, 21% greater than the 2002-2004 three year average of 96,306 tons. Detailed information about the Berthold-Crosby line is given in Table C.27.

Table C.27 Berthold-Crosby Line

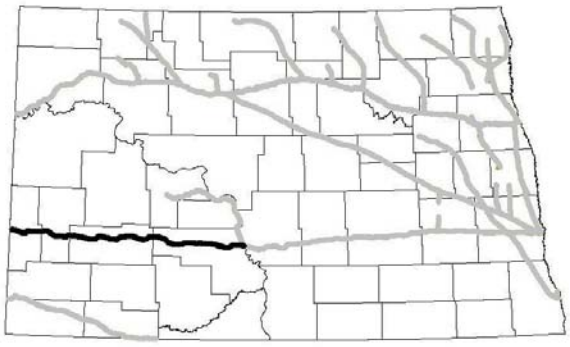
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
0.0	88.5	25 mph	143 tons	96,306	117,064

In 2004, 5.97 million bushels of grain movements were generated on the Crosby Subdivision, 1.3 million bushels greater than the 2002-2004 three year average of 4.67 million bushels. In 2004, 1,048 carloads of grain were generated on the line. Detailed information about the grain movements generated on the Crosby Subdivision is given in Table C.28.

Table C.28 Grain Movements Generated on the BNSF Crosby Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	4,666,227	5,977,005
Tons	96,306	117,064
Cars	863	1,048
Cars Per Mile	15	18

Dickinson Subdivision (BNSF):



Mandan-Beach Line
(BN058)

The Mandan-Beach main line is the BNSF Dickinson Subdivision in North Dakota extending from Mandan in south central North Dakota 174.2 miles west to Beach on the Montana/North Dakota Border. The Mandan-Beach line is a continuation of the Jamestown Subdivision of the southern east-west BNSF main line in North Dakota.

The traffic density over the entire BNSF Dickinson and Jamestown main line is greater than 40 million gross ton miles per mile. The maximum speed on the Mandan-Beach line is 60 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.29.

Table C.29 Mandan-Beach Line

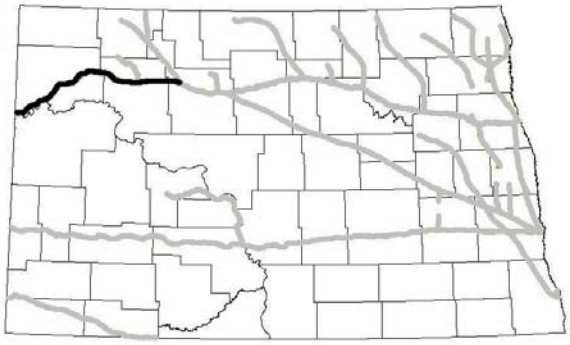
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
0	203.2	60 mph	143 tons	> 40

There were 24.1 million bushels of grain movements generated on the Mandan-Beach line in 2004, more than 23% greater than the 2002-2004 three year average of 19.6 million bushels. There were 6,471 carloads of grain generated on the line in 2004. Detailed information about grain movements on the Dickinson Subdivision is given in Table C.30.

Table C.30 Grain Movements Generated on the BNSF Dickinson Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	19,628,136	24,115,638
Tons	589,754	722,241
Cars	5,284	6,471
Cars Per Mile	30	37

Glasgow Subdivision (BNSF):



Minot-Williston Line (BN002 & BN008)

The Minot-Williston main line in northwestern North Dakota is commonly referred to as the Glasgow Subdivision. It extends 133.2 miles from Minot to the Montana border, where it crosses near Trenton.

The traffic density over the entire BNSF Glasgow and KO main line in North Dakota is greater than 40 million gross ton miles per mile. The maximum speed for freight trains on the Minot-Williston line is 60 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.31. The Amtrak Empire Builder also uses this line. The maximum speed for freight trains is 79 miles per hour.

Table C.31 Minot-Williston Line

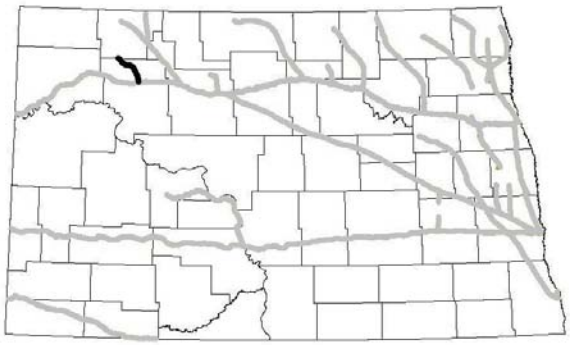
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
0.0	133.2	60 mph	143 tons	> 40

Grain movements on the line were slightly higher than the 2002-2004 three year average. Detailed information about grain movements on the BNSF Glasgow Subdivision is given in Table C.32.

Table C.32 Grain Movements Generated on the BNSF Glasgow Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	18,334,653	18,550,716
Tons	530,703	541,106
Cars	4,755	4,848
Cars Per Mile	36	36

Grenora Subdivision (BNSF):



Stanley-Powers Lake Line (BN001)

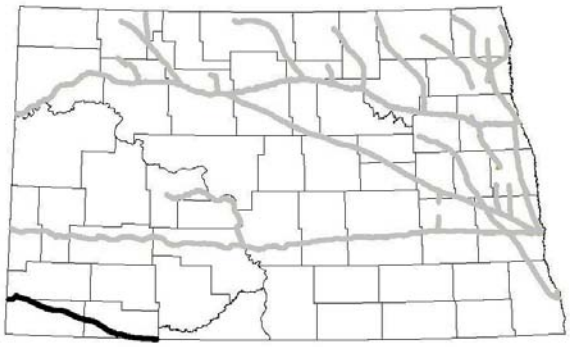
The Stanley-Powers Lake line is commonly known as the Grenora Subdivision of the Minot Division of the BNSF in North Dakota. The Stanley station is located 54 miles west of Minot on the Glasgow Subdivision of the main line. The Stanley-Powers Lake line connects to the Glasgow line an runs northwest 24.6 miles to the Powers Lake station.

For confidentiality reasons and the low volume of grain movement over the Grenora Subdivision, grain movement data is not reported. Detailed information about the Stanley-Powers Lake line is given in Table C.33.

Table C.33 Stanley-Powers Lake Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	24.6	25 mph	143 tons

Hettinger Subdivision (BNSF):



Hettinger-Baker Line (BN078)

The Hettinger-Baker line is commonly known as the Hettinger Subdivision of the BNSF in North Dakota. The Hettinger station is located at the west end of the Mobridge Subdivision of the BNSF in South Dakota. The Hettinger-Baker line connects to the Mobridge Subdivision and crosses the extreme southwest corner of North Dakota as it runs west northwest 89.6 miles to the Baker, Montana station in eastern Montana.

The traffic density over the entire BNSF Hettinger main line in North Dakota is between 10 and 19.99 million gross ton miles per mile. The maximum speed on the Minot-Williston line is 60 miles per hour and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.34.

Table C.34 Hettinger-Baker, Montana Line

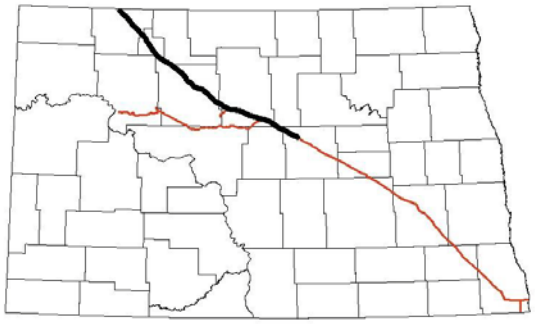
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
926.0	1015.6	40 mph	143 tons	10 – 19.99

In 2004, 11.1 million bushels of grain movements were generated on the Hettinger-Baker line, 1.9 million bushels greater than the three year average of 9.1 million bushels. There were 2,981 carloads of grain generated on the line in 2004. Detailed information about the grain movements generated over the Hettinger Subdivision is given in Table C.35.

Table C.35 Grain Movements Generated on the BNSF Hettinger Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	9,116,802	11,100,588
Tons	273,231	332,651
Cars	2,448	2,981
Cars Per Mile	27	33

Portal Subdivision (CPR):
Harvey-Portal Line
(CPR130 and CPR137)



The Harvey-Portal line is the CPR Portal Subdivision in west-central North Dakota. The Harvey station is located 72.2 miles southeast of Minot. The Harvey-Portal line runs 152.5 miles from Harvey in central North Dakota to Portal which is located at the Canadian Border.

The Harvey-Portal line is part of the CPR main line that runs diagonally across the state of North Dakota. The traffic density over the main line is between 10 and 19.99 million gross ton-miles per mile. The maximum speed on the Harvey-Portal line is 49 mph and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.36.

Table C.36 Harvey-Portal Line

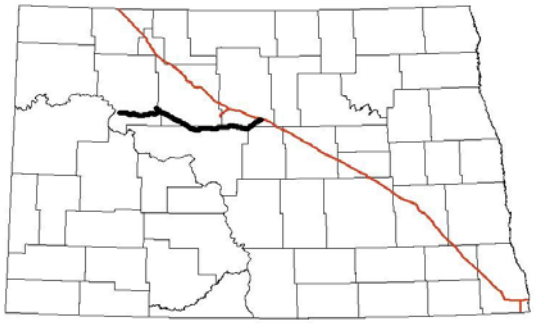
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
396.5	549.0	30-49 mph	143 tons	10-19.99

In 2004 over 22 million bushels of grain movements were generated on the Harvey-Portal line, slightly more than the 2002-2004 three year average of 21.57 million bushels. Detailed information about grain movements over the Portal Subdivision is given in Table C.37

Table C.37 Grain Movements Generated on the CPR Portal Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	21,574,214	22,150,780
Tons	595,857	625,832
Cars	5,339	5,607
Cars Per Mile	35	37

New Town Subdivision (CPR):



The New Town Subdivision consists of the Drake-Max line, the Max-New Town line and the Prairie Junction-Plaza line. The total length of the New Town Subdivision is 114.7 miles.

Drake-Max Line (CPR133)

The Drake-Max line is part of the CPR New Town Subdivision in west-central North Dakota. The Drake station is located 49.2 miles southeast of Minot on the Portal Subdivision of the CPR main line. The Drake-Max branch line connects to the Portal line and runs 48.2 miles west to the Max station.

Max-New Town Line (CPR131)

The Max-New Town line runs from the Max station 62.7 miles northwest to the New Town station.

Prairie Jct.-Plaza Line (CPR131)

The Prairie Junction station is located 31.1 miles west of Max and extends 3.8 miles north to the Plaza station.

The New Town subdivision has a maximum speed of 25 mph and a maximum carload of 143 tons. In 2004, 332,329 tons of grain movements were generated on the subdivision, slightly greater than the 2002-2004 three-year average of 310,150 tons. Detailed information about the New Town Subdivision is given in Table C.38.

Table C.38 New Town Subdivision

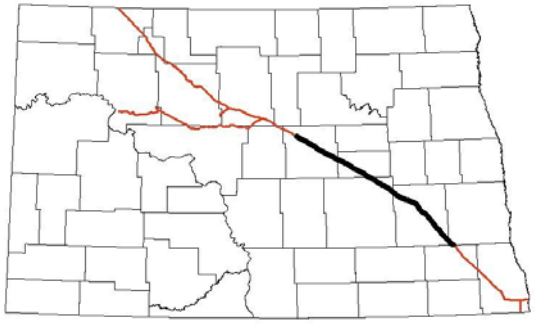
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
418.5	529.4	25 mph	143 tons	310,150	332,329

In 2004, 11.67 million bushels of grain movements were generated on the New Town Subdivision, 1 million greater than the 2002-2004 three year average. There were 2,978 carloads of grain shipped on the line in 2004. Detailed information about grain movement on the New Town Subdivision is given in Table C.39.

Table C.39 Grain Movement Generated on CPR New Town Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	10,739,359	11,672,001
Tons	310,150	332,329
Cars	2,779	2,978
Cars Per Mile	25	27

Carrington Subdivision (CPR):



Enderlin-Harvey Line
(CPR136 & CPR138)

The Enderlin-Harvey Line is the CPR Carrington Subdivision in east-central North Dakota. The Enderlin station is located 30 miles southeast of Valley City. The Enderlin-Harvey line runs 112.2 miles from Enderlin in southeast North Dakota to Harvey in the central part of the state.

The Enderlin-Harvey Line is part of the CPR mainline which extends diagonally across the state of North Dakota. The traffic density over the entire line in North Dakota is between 10 and 19.99 million gross ton-miles per mile. The maximum speed on the Enderlin-Harvey Line is 49 mph and the maximum carload is 143 tons. Detailed information about this segment is given in Table C.40.

Table C.40 Enderlin-Harvey Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
257.3	396.5	49 mph	143 tons	10-19.99

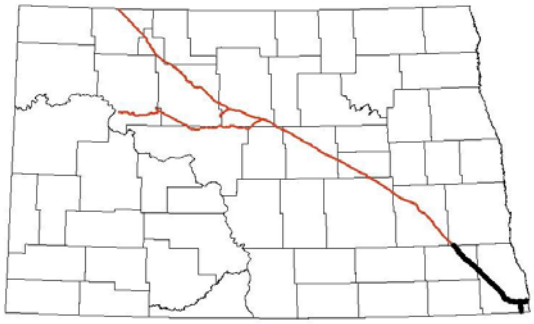
In 2004, 22.3 million bushels of grain movements were generated on the Enderlin-Harvey line, more than 14% greater than the 2002-2004 three year average of 19.5 million bushels. There were 5,795 carloads of grain movements generated on the line in 2004. Detailed information about grain movements on the Carrington Subdivision is given in Table C.40.

Table C.40 Grain Movements Generated on CPR Carrington Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	19,513,144	22,276,916
Tons	570,831	646,774
Cars	5,114	5,795
Cars Per Mile	46	52

.

Elbow Lake Subdivision & Veblen Subdivision (CPR):



Fairmount-Enderlin Line (CPR138)

The Fairmount-Enderlin Line is located in the CPR Elbow Lake Subdivision of the CPR main line in southeastern North Dakota. The Fairmount station is located 1.2 miles west of the Minnesota border. The Fairmount-Enderlin Line runs 67 miles northwest from Fairmount to Enderlin in North Dakota. Detailed information about the segment is given in Table C.41

Table C.41 Fairmount-Enderlin Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Traffic Density (Million Gross Ton Miles/Mile)
190.3	257.3	49 mph	143 tons	10-19.99

Veblen Jct-South Dakota Line (CPR138)

The Veblen Junction-South Dakota Line is the CPR Veblen Subdivision in southeast North Dakota. Veblen Junction is located 10 miles east of Hankinson in ND, on the Elbow Lake Subdivision of the main line. The Veblen Junction line connects to the Elbow Lake line and runs south 8.9 miles to the South Dakota border. Available information about the segment is given in Table C.42

Table C.42 Veblen Junction-South Dakota Line

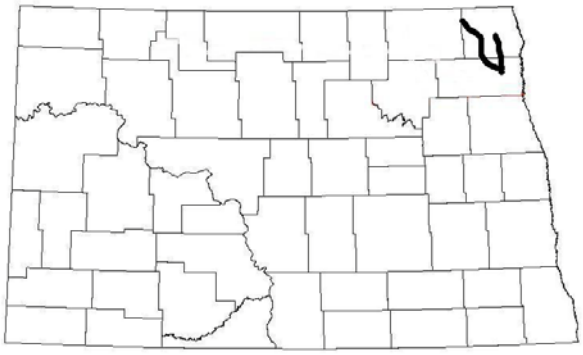
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
191.4	210.0	25 mph	143 tons

In 2004, 17, 888,637 bushels of grain were shipped on the Subdivision, more than 5 million bushels above the 2002-2004 average. Detailed information about grain movements on the subdivision is given in table C.43

Table C.43 Grain Movement Generated on CPR Elbow Lake and Veblen Subdivisions

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	12,506,345	17,888,637
Tons	364,028	522,220
Cars	3,262	4,679
Cars Per Mile	43	61

Wallhalla and Glasston Lines (DNRR):



DNRR began operation February 5, 2006 on the Grafton to Glasston and Grafton to Walhalla lines, leased from BNSF. DNRR has interchange capability with BNSF at Grafton. This branch line connects to the Glasston Subdivision of the BNSF branch line at Grafton.

In 2010, DNRR discontinued service on 18.12 miles of the Grafton to Glasston line, from approximately 2.7 miles north of Grafton (MP 42.08) to the end of the line approximately 0.6 miles north of Glasston (MP 60.2). The action was a discontinuance of service, not an abandonment.

The Grafton-Glasston and Grafton-Walhalla lines have a maximum speed of 25 mph and a maximum carload of 143 tons.

Table C.44 Grafton-Glasston Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
39.4	59.6	25 mph	134 tons

Table C.45 Grafton-Walhalla Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	47.9	25 mph	134 tons

In 2009, 4,848,214 bushels of grain were shipped on the Glasston and Walhalla Lines. More detailed information about grain movements on the lines is given in table C.46 below.

Table C.46 2009 Grain and Oilseed Movements Generated on the Glasston and Walhalla Lines

Quantity	2009
Bushels*	4,448,214
Tons	133,000
Cars	1,330
Cars Per Mile	20
*Bushels are approximate as the total commodity mix is not given	

Dakota Subdivision (DMVW):

Wishek-Hankinson Line
(DM151 & DM145)

The Wishek-Hankinson line is commonly referred to as the Dakota Subdivision of the DMVW in southeastern North Dakota. The line connects to the RRVW Third Subdivision at Oakes and the CPR Elbow Lake Subdivision of the main line at Hankinson. From the Wishek station in southern North Dakota, the Wishek-Hankinson line runs 135.4 miles east to the Hankinson station.

The Dakota Subdivision has a maximum speed of 10 mph and a maximum carload of 143 tons. However, between the Fullerton and Wishek stations, the maximum carload is restricted to 134 tons. In 2004, 914,681 tons of grain movements were generated on the Wishek-Hankinson line, 7% greater than the 2002-2004 three-year average of 850,901 tons. Detailed information about the Wishek-Hankinson line is given in Table C.47.

Table C.47 Wishek-Hankinson Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
341.0	205.6	10 mph	143 tons	850,906	914,681

In 2004, 31.6 million bushels of grain movements were generated on the Dakota Subdivision, roughly 2.3 million greater than the 2002-2004 three year average of 29.2 million bushels. There were 8,196 carloads of grain generated on the line in 2004. Detailed information about grain movements generated over the Dakota Subdivision is given in Table C.48.

Table C.48 Grain Movements Generated on the Dakota Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	29,297,447	31,601,455
Tons	850,906	914,681
Cars	7,625	8,196
Cars Per Mile	56	60

Aberdeen Subdivision (DMVW):

Geneseo Junction-Havana

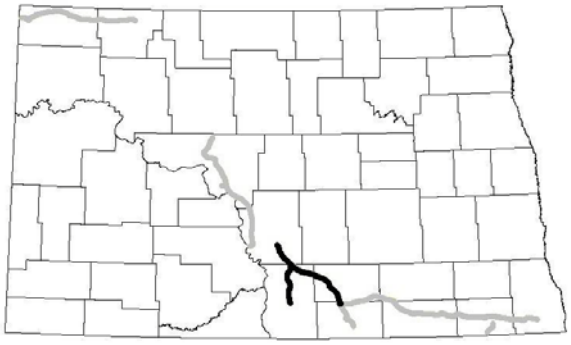
The Geneseo Junction-Havana Line is part of the DMVW Aberdeen Subdivision in southeast North Dakota. The Geneseo Junction-Havana line runs from the Geneseo Junction, located 0.7 miles west of Geneseo in North Dakota, on the DMVW Dakota Subdivision and runs southwest 20.8 miles to Havana, near the South Dakota Border.

The Aberdeen Subdivision has a maximum speed of 10 miles per hour and a maximum carload of 134 tons. Detailed information about the Geneseo Junction-Havana line is given in Table C.49. Grain movement data for the line was not available.

Table C.49 Geneseo Junction-Havana Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
43.3	64.1	10 mph	134 tons

Napoleon and Hazelton Subdivisions (DMVW):



Wishek-Moffit Line (DM151)
The Wishek-Moffit Line is the DMVW Napoleon Subdivision in south central North Dakota. The Wishek-Moffit line connects to the Dakota Subdivision at Wishek and runs northwest 52.9 miles to Moffit.

The Napoleon Subdivision has a maximum speed of 10 miles per hour and a maximum carload of 134 tons. For confidentiality reasons, grain movements over the Wishek-Moffit line are not reported. Detailed information about the Wishek-Moffit line is given in Table C.50.

Table C.50 Wishek-Moffit Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
341.0	391.9	10 mph	134 tons

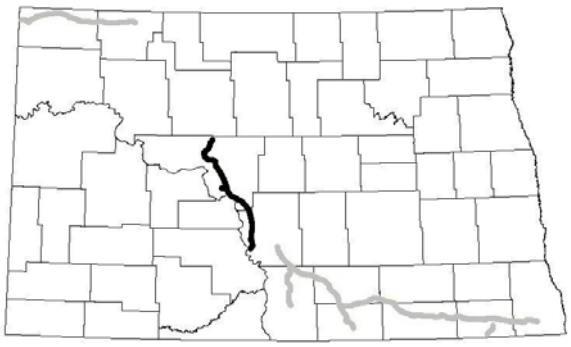
McKenzie-Linton Line (DM151)
The McKenzie-Linton line is the DMVW Hazelton Subdivision in south central North Dakota. The McKenzie station is located 18.3 miles east of Bismarck on the Jamestown Subdivision of the BNSF main line. DMVW has trackage rights on the BNSF mainline between Bismarck and the McKenzie Station. The McKenzie-Linton line connects to the BNSF Jamestown Subdivision and runs south to a point one mile south of the Moffit Junction. The remainder of the line between there and Linton has been abandoned.

The Hazelton Subdivision has a maximum speed of 10 miles per hour and a maximum carload of 134 tons. For confidentiality reasons, grain movements over McKenzie-Linton line are not reported. Detailed information about the McKenzie-Linton line is given in Table C.51.

Table C.51 McKenzie-Linton Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	45.3	10 mph	134 tons

Missouri Valley Subdivision (DMVW):



Max-Bismarck Line (DM149 & DM 151)

The Max-Bismarck line is commonly referred to as the Missouri Valley Subdivision of the DMVW in North Dakota. The line runs from the Max station on the CPR Newtown subdivision 48.2 miles west of Drake south 93.3 miles to the Bismarck station. The Max-Bismarck line connects to the BNSF main line at Bismarck. DMVW has trackage rights on the BNSF mainline from Bismarck east to the McKenzie Station.

The Missouri Valley Subdivision has a maximum speed of 10 miles per hour and a maximum carload of 134 tons between Bismarck and Falkirk, and 143 tons on the remainder of the line. In 2004, 278,908 tons of grain movements were generated on the Max-Bismarck line, 16% higher than the 2002-2004 three year average of 241,282 tons. Detailed information about the Max-Bismarck line is given in Table C.52.

Table C.52 Max-Bismarck Line

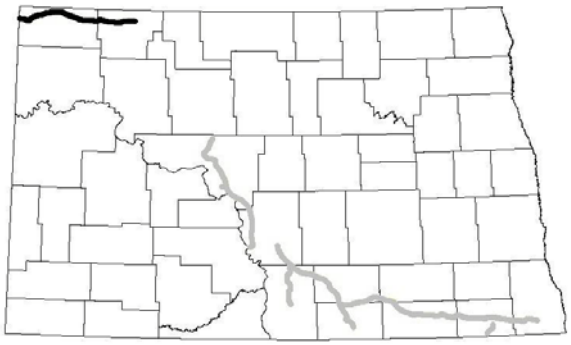
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
341.0	205.6	10 mph	134 tons	241,282	278,908

In 2004, 9.8 million bushels of grain movements were generated on the Missouri Valley Subdivision, roughly 1.3 million greater than the 2002-2004 three year average of 8.5 million bushels. There were 2,499 carloads of grain generated on the line in 2004. Detailed information about the grain movements generated over the Dakota Subdivision is given in Table C.53.

Table C.53 Grain Movements Generated on the DMVW Missouri Valley Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	8,483,620	9,785,310
Tons	241,282	278,908
Cars	2,162	2,499
Cars Per Mile	23	27

Western Subdivision (DMVW):



Flaxton-Montana Line (DM125)

The Flaxton-Montana Line is commonly known as the Western Subdivision of the DMVW in North Dakota. The line runs 10.3 miles west from the Flaxton station on the CPR mainline, Portal Subdivision, to the to the Crosby station on BNSF Crosby Subdivision. From the Crosby station, the Western Subdivision runs 29.9 miles west to the Montana border, then on to Whitetail, MT

The Western Subdivision has a maximum speed of 10 miles per hour and a maximum carload of 134 tons. In 2004, 140,326 tons of grain movements were generated on the Flaxton-Montana line, 23% below the 2002-2004 three year average of 183,148 tons. Detailed information about the Flaxton-Montana Line is given in Table C.54.

Table C.54 Flaxton-Montana Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
540.5	676.4	10 mph	134 tons	183,148	140,326

In 2004, 4.7 million bushels of grain movements were generated on the Western Subdivision, roughly 1.5 million less than the 2002-2004 three year average of 6.2 million bushels. There were 1,257 carloads of grain generated on the line in 2004. Detailed information about the grain movements generated over the Western Subdivision is given in Table C.55.

Table C.55 Grain Movements Generated on the DMVW Western Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	6,159,356	4,720,557
Tons	183,148	140,326
Cars	1,641	1,257
Cars Per Mile	21	18

Bisbee Subdivision (NPR):

Fordville-Kenmare Line (NPR135 & NPR139)

The Fordville-Kenmare Line is the NPR Bisbee Subdivision in north central North Dakota. The Fordville station is located 34.3 miles west of Oslo on the Devils Lake Subdivision. The Fordville-Kenmare line connects to the Devils Lake line and runs northwest 216.8 miles to the Kenmare station. In 2008, the segment between Bisbee and Kramer was abandoned. The line is now split into two segments and runs from Fordville to Bisbee and Kramer to Kenmare. The two segments have a total length of 156.3 miles.

The branch line from Fordville-Kenmare has a maximum speed of 10 miles per hour and a maximum carload capacity of 143 tons. In 2004, the Fordville/Kenmare line generated 634,715 tons of grain movements, slightly greater than the 2002-2004 average of 596,838 tons. Tables C.56 provides a detailed summary of the segment.

Table C.56 Fordville-Kenmare Line

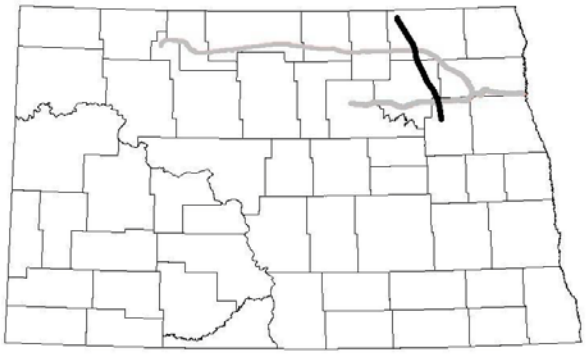
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
389.2	606.0	10 mph	143 tons	596,838	634,715

In 2004, there were 23,099,658 bushels shipped on this branch line, more than 1,000,000 bushels higher than the 2002-2004 three-year average. There were 5,687 carloads of grain shipped on the line in 2004, 6.3% higher than the 2002-2004 three year average of 5,348. Detailed information about the grain movements over the Bisbee Subdivision is given in Table C.57.

Table C.57 Grain Movements Generated on NPR Bisbee Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	22,010,268	23,099,658
Tons	596,838	634,715
Cars	5,348	5,687
Cars Per Mile	25	26

Sarles – Lakota line: (NPR)



Sarles – Lakota Line

The Sarles-Lakota line begins just north of the Lakota station, which is located 24.6 miles east of Devils Lake on the Devils Lake Subdivision of the BNSF main line. The Sarles-Lakota line runs north 73 miles to the Sarles station.

NPR began operation on this line after it was acquired from BNSF in October, 2005. The Sarles-Lakota line has a maximum speed of 10 miles per hour and a maximum carload of 134 tons.

In 2008, 44.44 miles of this line was abandoned, from approximately 3.75 miles north of Lakota (MP 3.75), to approximately four miles south of Munich (MP 48.19).

In 2010, an additional 5.4 miles of the line was abandoned, from MP 72.9 at Sarles to MP 67.5 near Calvin. Detailed information about the remaining line is given in Table C.58.

Table C.58 Calvin-Munich Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
48.19	67.5	25 mph	134 tons

There was no history available for commodity movements on the line under NPR operation.

Devils Lake Subdivision (NPR):

Oslo-Devils Lake Line (NPR144)

The Oslo-Devils Lake line is part of the NPR Devils Lake Subdivision in northeast North Dakota. The Oslo Station is located on the Minnesota side of the Red River, 48.5 miles west of Thief River Falls, Minnesota. The line runs 118 miles west from Oslo to the Harlow, North Dakota station.

The branch line from Oslo-Devils Lake operates at speeds ranging from 5 to 25 mph. The maximum car load is 143 tons. In 2004, the Oslo-Devils Lake line generated 395,967 tons of grain movements, about 14% higher than the 2002-2004 three year average of 348,563 tons. Table C.59 provides a detailed summary of the segment.

Table C.59 Oslo-Devils Lake Line

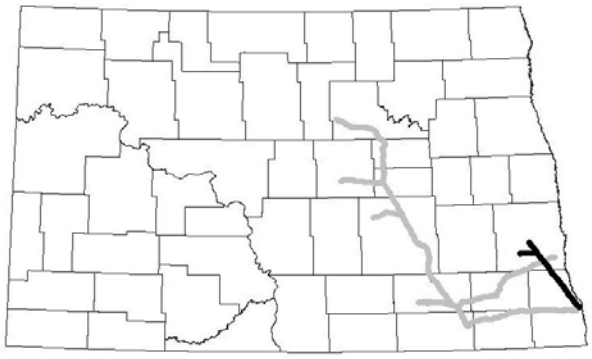
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
354.9	472.9	5-25	143 tons	348,563	395,967

Table C.60 gives a detailed summary of the grain movements over the Devils Lake Subdivision. In, 2004, 13,373,572 bushels of grain movements were generated on the line, more than 1.5 million greater than the 2002-2004 average 11,833,771 bushels. There were 3,548 carloads of grain generated on the line in 2004, nearly 14% higher than the 2002-2004 three year average of 3,123.

Table C.60 Grain Movements Generated on the NPR Devils Lake Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	11,883,771	13,373,572
Tons	348,563	395,967
Cars	3,123	3,548
Cars Per Mile	14	16

Second Subdivision (RRVW):



Wahpeton Jct.-Casselton Line (RV051 & RV085)

The Wahpeton Junction-Casselton line is the largest portion of the RRVW Second Subdivision in southeastern North Dakota. The line connects to the BNSF Jamestown Subdivision and runs southeast 53.6 miles south and east to the Wahpeton Junction. The Wahpeton Junction-Casselton Line has a maximum speed of 25 mph and a maximum carload of 143 tons. A detailed summary of the segment is included in Table C.61.

Table C.61 Wahpeton Jct.-Casselton Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
1.4	55.0	25 mph	143 tons

Chaffee Jct.-Chaffee Line (RV051)

The Chaffee Junction-Chaffee Line is part of the RRVW Second Subdivision in southeastern North Dakota. The line connects to the Wahpeton Junction-Casselton line and runs west 11.6 miles to Chaffee. The Chaffee Junction-Chaffee line has a maximum speed of 25 mph and a maximum carload of 143 tons. A detailed summary of the segment is included in Table C.62.

Table C.62 Chaffee Jct.-Chaffee Line

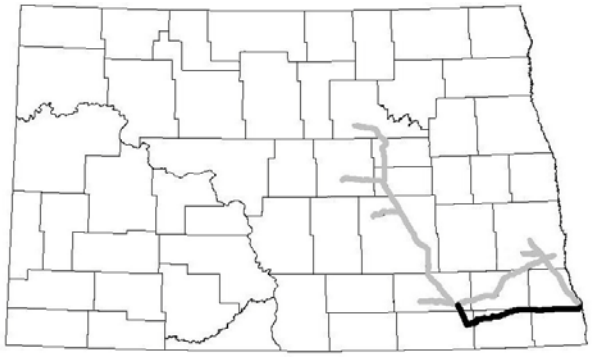
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0	11.6	25 mph	143 tons

Table C.63 gives a detailed summary of the grain movements over the RRVW Second Subdivision. In 2004, the number of bushels of grain shipped on this branch line was nearly 1 million higher than the 2002-2004 three-year average. There were 4,655 carloads of grain shipped on the line in 2004, 4.2% higher than the three year average of 4,465.

Table C.63 Grain Movements Generated on the RRVW Second Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	17,380,672	18,328,106
Tons	498,277	519,450
Cars	4,465	4,655
Cars Per Mile	68	71

Third Subdivision (RRVW):



Oakes Junction-Independence Line (RV063)

The Oakes Junction-Independence line is commonly referred to as the RRVW Third Subdivision in southeastern North Dakota. The line connects to the BNSF main line at Wahpeton and runs 88.8 miles west and north to the Independence station via Oakes.

The Oakes Junction-Independence line has a maximum travel speed of 25 miles per hour, and a maximum carload capacity of 143 tons. In 2004, the Oakes-Independence line generated 559,390 tons of grain movements, 40% more than the 2002-2004 three year average of 397,225 tons. Table C.64 provides a detailed summary of the segment.

Table C.64 Oakes Junction-Independence Line

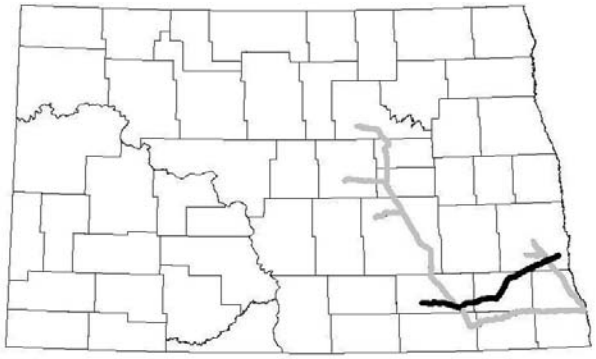
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
76.5	0	25	143 tons	397,225	556,390

Table C.65 gives a detailed summary of the grain movements over this line. In 2004, there were 19,083,965 bushels of grain movements on the line, 40% greater than the 2002-2004 average. There were 4,986 carloads of grain moved in 2004, 40% greater than the 2002-2004 three year average of 3,559.

Table C.65 Grain Movements Generated on the RRVW Third Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	13,643,405	19,083,965
Tons	397,225	556,390
Cars	3,559	4,986
Cars Per Mile	46	65

Fourth Subdivision (RRVW):



Horace-Edgeley Line
(RV087, RV055 & RV091)

The Horace-Edgeley line is commonly referred to as the RRVW Fourth Subdivision in southeastern North Dakota. The line runs 98.4 miles in an east-west direction and intersects with the RRVW Second, Third, and Sixth Subdivisions at Davenport, Independence, and LaMoure respectively.

The Horace-Edgeley line has a maximum travel speed of 25 miles per hour and a maximum carload capacity of 143 tons. In 2004, the Horace-Edgeley line generated 249,910 tons of grain movements, 40% less than the 2002-2004 average. Table C.66 provides a detailed summary of the segment.

Table C.66 Horace-Edgeley Line

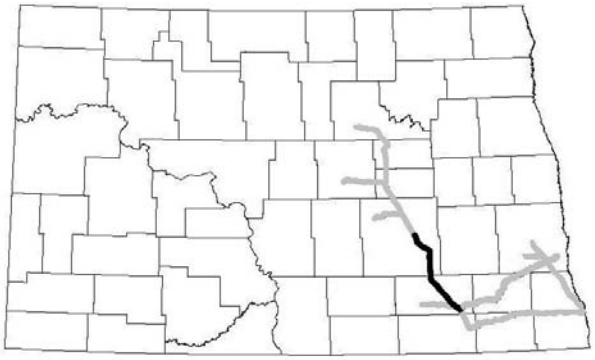
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload	Tons Generated (3 yr. avg. 02, 03, 04)	Tons Generated (2004)
9.5	107.9	25 mph	143 tons	351,224	249,910

Table C.67 gives a detailed summary of the grain movements over this line. In 2004, the there were 8,477,846 bushels of grain shipped on this branch line, about 3.5 million less than the 2002-2004 average. There were 2,239 carloads in 2004, 40% less than the 2002-2004 three year average.

Table C.67 Grain Movements Generated on the RRVW Fourth Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	11,939,576	8,477,846
Tons	351,224	249,910
Cars	3,147	2,239
Cars Per Mile	32	23

Sixth Subdivision (RRVW):



Jamestown-LaMoure Line (RV099)

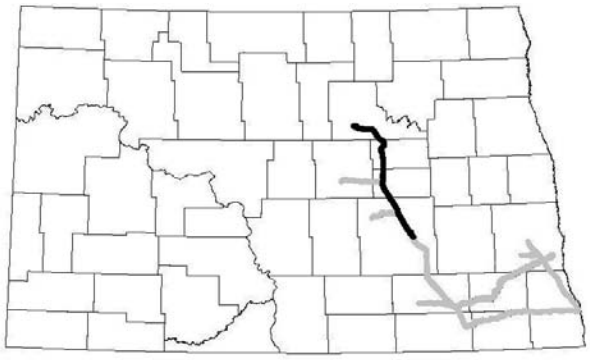
The Jamestown-LaMoure line is commonly referred to as the RRVW Sixth Subdivision in southeastern North Dakota. The line connects to the BNSF mainline at Jamestown and runs south 48.5 miles to the Lamoure station.

The Jamestown-LaMoure line has a maximum travel speed of 25 miles per hour and a maximum carload capacity of 134 tons. For confidentiality reasons, grain movement data for the line is not reported. Detailed information about the Jamestown-LaMoure Line is given in Table C.68.

Table C.68 Jamestown-LaMoure Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
2.0	48.5	25 mph	134 tons

Seventh Subdivision (RRVW):



Jamestown-Maddock Line
(RV017, RV019, RV083 & RV099)

The Jamestown-Maddock Line is commonly referred to as the RRVW Seventh Subdivision in central North Dakota. The line connects to the BNSF mainline and the RRVW Sixth Subdivision at Jamestown and runs North 78.3 miles to Oberon and 15.4 miles west to Maddock.

The Jamestown-Maddock line has a maximum travel speed of 25 miles per hour, and a maximum carload capacity of 143 tons. Detailed information about the Seventh Subdivision is given in Tables C.69 and C.70.

Table C.69 Jamestown-Oberon Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	78.3	25 mph	134 tons

Table C.70 Oberon-Maddock Line

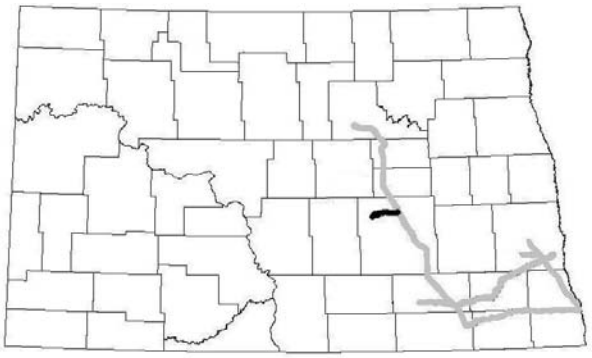
Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.0	15.4	25 mph	134 tons

Table C.71 gives a detailed summary of the grain movements over this line. 2004 grain shipments on this line exceeded the 2002-2004 three year average by nearly 700,000 bushels, an increase of more than 16%. There were 1,222 carloads of grain shipped on the line in 2004.

Table C.71 Grain Movements Generated on the RRVW Seventh Subdivision

Quantity	Three Year Average (02, 03, 04)	2004
Bushels	4,112,161	4,781,911
Tons	118,270	136,323
Cars	1,060	1,222
Cars Per Mile	11	13

Eighth Subdivision (RRVW):



Pingree-Woodworth Line (RV081)

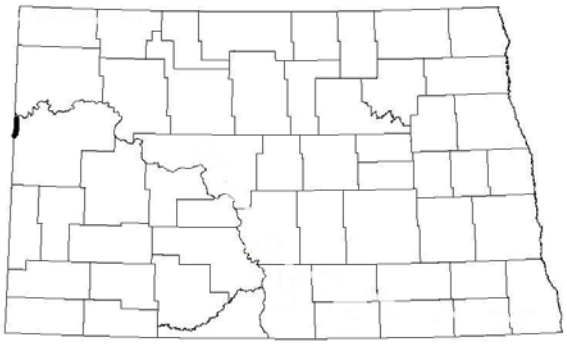
The Pingree-Woodworth line is commonly known as the RRVW Eighth Subdivision in central North Dakota. The line connects to the RRVW Seventh Subdivision at Pingree and runs 21.55 miles west to the Woodworth station. Available information about the line is given in Table C.72

Table C.72 Pingree-Woodworth Line

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
0.4	21.55	25 mph	134 tons

For confidentiality reasons, grain movements over the Eighth Subdivision are not reported.

Sidney Line (YVSR):



Glendive, MT – Snowdon, MT
Bainville, MT – Scobey, MT

YSVR began operation August 15, 2005, over track leased from BNSF. YSVR is headquartered at Sidney, MT. The YSVR network runs from Glendive to Snowdon and Bainville to Scobey, with trackage rights on the BNSF Glasgow Subdivision mainline between Snowdon and Bainville. The YSVR network is entirely in Montana, except for where the Glendive line crosses into North Dakota near Fairview and runs north for 8.7 miles before crossing back into Montana. YSVR interchanges with BNSF at Glendive and Snowdon. Available information about the line is given in Table C.73

Table C.73 Glendive Line (ND segment)

Beginning Milepost	Ending Milepost	Maximum Speed	Maximum Carload
64.6	73.3	NA	NA

YSVR reported no grain movements in ND for 2009.

APPENDIX D

GOALS FOR NORTH DAKOTA RAIL PLANNING

Rail Plan Advisory and Visioning

A rail advisory group was formed to provide input to the rail plan update process and to establish a vision for the future of North Dakota's rail system. The advisory group consisted of various stakeholders in the rail industry in North Dakota.

State Rail Advisory Group

- BNSF Railway
- Canadian Pacific Railway
- Dakota, Missouri Valley & Western Railroad
- Northern Plains Railroad
- Red River Valley & Western Railroad
- Fargo/Moorhead MetroCog
- Grand Forks/East Grand Forks MPO
- Bismarck/Mandan MPO
- North Dakota Department of Transportation
- North Dakota Public Service commission
- North Dakota Department of Agriculture
- North Dakota Department of Commerce
- Operation Lifesaver
- Federal Railroad Administration
- Federal Highway Administration

The group held four meetings, including a joint meeting with Minnesota to consider cross border issues and issues common to both states.

The visions and strategies generated from the advisory committee were condensed to formulate the rail planning goals outlined in Chapter 1. The main visions identified were:

1. A safe and secure railroad system, without fatalities or trespassers, that is integrated with a comprehensive homeland security vision and is achieved without excessive administrative burdens.
2. An integrated railroad network.
3. An adequately maintained railroad infrastructure that is capable of meeting current and future service demands.
4. Railroad operations and infrastructure that enhance community mobility and quality of life.
5. A level of railroad service that reflects service frequencies, times, and equipment availability; develop a separate level of service for freight transportation
6. Improve service by eliminating choke points and through consolidation that benefits both railroads and shippers.
7. A viable railroad system with adequate service and capacity to promote efficiency and growth and allow existing and potential businesses to develop and expand into national and world markets.
8. A favorable business and regulatory climate for shippers and railroads that reflects a heightened focus on investment and business development.
9. Public-private partnerships that improve communication and coordination among shippers, governments, and railroad companies and promote business development, economic growth, and grade crossing safety.
10. A viable and coordinated inter/multimodal facilities network that maximizes benefits to the state, allows agricultural and manufacturing businesses to grow and diversify, and improves access for communities.
11. Coordinated public-private multimodal planning efforts that consider all modes of transportation to make the best investments of public and private funds.

From these visioning statements, specific categories within each vision were identified.

North Dakota Rail Planning Vision Statements

1. **A safe and secure railroad system, without fatalities or trespassers, that is integrated with a comprehensive homeland security vision and is achieved without excessive administrative burdens**
   - A practical and achievable partnership between private and public agencies to help ensure the success of railroad operations
   - A rail system that expedites the movement of commodities, goods, materials, and people and that contributes to and does not hinder the safety and security of individuals and communities in North Dakota
   - Railroads that contribute to an integrated comprehensive focus on homeland security
   - A safe and secure railroad system achieved without excessive administrative burdens
   - Enhanced opportunities for secure shipments of identity preserved products by rail
   - No deaths at rail-highway grade crossings and within the industry itself including derailments, rail operations, and trespassers on railroad property
   - A public that is better educated about grade crossing safety and procedures
   - No unprotected grade crossings
   - More grade separations for safer highway-rail intersections
   - No trespassers on railroad properties
   - Greater awareness at border crossings of the potential impacts of trespassers on homeland security
   - An updated rail/highway crossing inventory which supports proper safety measures being in place
   - Installation of automated signals at crossings with high traffic volumes or poor visibility
   - Closing of unnecessary at-grade crossings

2. **A railroad network that provides enhanced access in both rural and urban areas and is integrated with alternative transportation services**
   - A connected transportation system with alternative services, including public transportation
   - Enhanced access in both urban and rural areas
   - A fully integrated multimodal transportation infrastructure
   - Smooth transitions from short line railroads to Class 1 railroads

3. **An adequately maintained railroad infrastructure that is capable of meeting current and future service demands**
   - A rail system (including short line railroads) that is adequately maintained with a track structure capable of meeting current and future service demands
   - Upgraded railroad infrastructure capable of handling increased car weights and train speeds
   - Public infrastructure investment to assist short line and Class 1 railroads

4. **Railroad operations and infrastructure that enhance community mobility and quality of life while reducing intermodal conflicts**
   - Minimize intermodal conflicts
   - Quiet zones are a local issue
   - Quiet zones should be implemented without compromising public safety
   - Less noise – horns, operations and coupling
   - ***Smart Growth*** of communities (integrate rail planning with urban planning)
   - Include railroads and rail safety in land use planning (public vs. private crossings, siting of residential developments)
   - Tradeoff between reduced through-town speeds and blocked crossing duration
   - Reduce time lost due to blocked crossings

5. **A measurable level of railroad service that reflects service frequencies, times, and equipment availability (separate passenger and freight); develop a separate level of service for freight transportation – i.e. capacity of railroads to move desired volumes)**
   - Increased equipment availability to meet service demands
   - Better arrival and departure times for passenger rail services
   - A measurable and understandable level of service
   - Competitively priced passenger rail service

6. **Improve service by eliminating choke points and through consolidation that benefits both railroads and shippers**
   - No bottlenecks, pinch-points, or system defects on the rail system which limit effects cascading to other modes
   - Service consolidation locations which make sense to shippers, service providers and other modes

7. **A viable railroad system with adequate service and capacity to promote efficiency and growth and allow existing and potential businesses to develop and expand into world and national markets**
   - An economically viable railroad system
   - Railroad profitability which supports reinvestment in rail equipment and infrastructure
   - Railroad service offerings that accommodate efficiency, growth, and capacity
   - A rail system that allows existing and potential businesses to develop and expand in North Dakota by moving into world and national markets
   - Rail services that contribute to and do not hinder economic growth
   - A rail system that accentuates North Dakota's strengths and capabilities

8. **A favorable business and regulatory climate for shippers and railroads that reflects a heightened focus on investment and business development**
   - A favorable business and regulatory climate for shippers and railroads
   - Heightened focus on investment and business development

9. **Public-private partnerships that improve communication and coordination among shippers, governments, and railroad companies and promote business development, economic growth, and grade crossing safety**
    - More public/private partnerships that would specifically improve railroad competitiveness
    - Public programs for the retention of abandoned railroad rights-of-way and to assess different opportunities for right-of-way use
    - Improved communications between state and local economic development entities and railroads to move forward new ideas for business opportunities and growth
    - Enhanced communication between the public and railroads to achieve better understanding of expectations and perspectives on both sides
    - ND rail system should become a key component in economic development considerations of the state including investment in necessary projects
    - Mesh the expectations of shippers, governments, and railroads
    - Leverage state investments in the rail system through project prioritization
    - Entities other than state and local government increase contribution to crossing safety

10. **A viable and coordinated inter/multimodal facilities network that maximizes benefits to the state, allows agricultural and manufacturing businesses to grow and diversify, and improves access for communities**
    - Geographic locations of intermodal/multimodal facilities that maintain their viability and allow agricultural and manufacturing opportunity to grow and diversify
    - Smaller distributed facilities in addition to larger centralized facilities
    - Established thresholds for intermodal facilities to assist in facility planning
    - Structure to coordinate facility location and size to maximize the overall benefit to the state rather than individual communities
    - Provide intermodal connectivity consistent with community commitment, resources and capabilities
    - Improve and enhance access roads to intermodal facilities
    - Real-time data exchange among modes for optimization of operations
    - Planning to include all types of intermodal movements not just containerized shipments
    - Multimodal commerce centers including intermodal, transfer and transloading capabilities

11. **Coordinated public-private multimodal planning efforts that consider all modes of transportation in order to make the best investments of public and private funds**
    - More flexibility and partnerships between states, cities and railroads to achieve intermodal connectivity
    - Facility planning and construction with the necessary highway infrastructure to provide adequate service to and from the facility

- A rail/intermodal plan that addresses both long-term and geographic competitiveness of North Dakota transportation
- Strategic investment of public funds

Strategies to Achieve North Dakota Rail Plan Visions

Action items, or strategies, were developed to achieve the rail plan visions. The strategies were further refined to ensure that the proposed actions were within the scope of the rail plan. The strategies are presented below.

1. **A safe and secure railroad system, without fatalities or trespassers, that is integrated with a comprehensive homeland security vision and is achieved without excessive administrative burdens.**
   - Broaden Operation Lifesaver target groups to achieve a public that is better educated about grade crossings
   - Include rail safety issues in farmer safety seminars, ATV, Snowmobile and gun safety courses and in schools
   - Support mandated grade crossing material in driver education
   - Develop a best practices manual for implementation of safety measures by working with the appropriate AASHTO committees
   - Identify safety and security issues and develop a prioritization method for reaching the desired performance level
   - Update the grade crossing inventory so that it is reliable and consistent – and implement a user friendly update process
   - Survey local communities to identify safety and security problems
   - Add upgrade of existing automated signals as appropriate to new installation of automated signals
   - Integrated rail and local planning – to potentially include plat review, city & county, MPO technical reviews, city & county planning commissions, city & county commissions
   - Integrate rail planning into other planning processes to align goals – increase communication of parties involved
   - Continue to work with railroads and local governments to provide incentives to reduce at-grade crossings – require local subdivisions to address the issue of grade crossings before zoning would be approved
   - Link funding issues with implementation of safety measures
   - Review law regarding railroad trespassers; consider advocating change if indicated
   - Support enforcement of grade crossing violations
   - Modify statement regarding border crossing to include shipments as well as trespassers – also add the impact of trespassers on public safety in general

2. **An integrated railroad network**
   - Evaluate open access
   - Identify what is needed to accomplish the goal of an integrated railroad network
   - Develop an accessibility rating to identify areas which need improvements

- Expand yard tracks at connections or put in additional sidings at yards, providing quicker turn times and reduction in delays
- Target specific areas or projects that would benefit from increased access
- Survey railroads to identify problems with transitions between Class I railroads and Short Line railroads including documentation, physical problems such as mixed destination shipments, capacity, and managerial issues.
- Target specific areas or projects that would benefit from increased access

3. An adequately maintained railroad infrastructure that is capable of meeting current and future service demands

- Continue to provide public notice on major improvements of tracks – so there will be an opportunity to provide input to the process
- Develop procedures and rationale for investment decisions for state rail fund programs – include a timely response requirement for both the state and applicants.
- Consider the effect of the infrastructure on the overall transportation network of the state
- Use survey and/or other means to determine where problems are – and to develop strategies to address the most critical situations first
- Coordinate plans of entities involved (NDDOT, Class I, Short Line) to include highway planning
- Identification of demand side – also, determine whether railroads would be willing to share improvement plans and improvement strategies
- Encourage development of a formal mechanism to determine adequate service between Short Lines and Class I, i.e., more supply chain information processing (more information = less risk of lack of service)
- Continue/initiate annual meetings between railroads and customers to discuss car availability and infrastructure improvement needs
- Support federal tax incentives to short lines for implementation of improvements (i.e., fencing mandate) to provide relief for short lines and branch lines

4. Railroad operations and infrastructure that enhance community mobility and quality of life

- Support adequate advance notice of blocked crossings due to construction or loading/unloading/siding/switching operations to accommodate emergency services and public highway travel
- Quiet zones are local issue
- Assess tradeoff between reduced through-town train speeds and the length of time crossings are blocked
- Minimize intermodal conflicts – grade separations, alternate highway routes
- Facilitate Smart Growth of communities by integrating rail planning with urban planning. Include railroads and rail safety issues in land use planning (public vs. private crossings, siting of residential developments)
- Explore potential for rail relocation projects

5. **Measurable level of railroad service that reflects service frequencies, times, and equipment availability (separate passenger and freight); develop separate level of service for freight transportation – capacity to move desired volumes)**
   - Identify key level of service attributes and combine them to provide a measurable level of service indicator or indicators

6. **Improve service by eliminating choke points and by consolidation that benefits both railroads and shippers**
   - Identify bottlenecks, pinch-points, or system defects on the rail system
   - Emphasize network improvements as a criteria for state rail assistance funds
   - Facilitate communication between shippers and transportation providers to show benefits of consolidation points
   - Assess the desirability of legislation to promote development of consolidation centers

7. **A viable railroad system with adequate service and capacity to promote efficiency and growth and allow existing and potential businesses to develop and expand into world and national markets**
   - Identify industries served by rail to identify the key rail network within the state, and also to identify areas for improvement which would increase benefits to shippers both on these segments and elsewhere
   - Promote an economically viable railroad system with railroad profitability that supports reinvestment in rail equipment and infrastructure

8. **A favorable business and regulatory climate for shippers and railroads that reflects a heightened focus on investment and business development**
   - Prioritization of rail assistance funds through competitive submission process

9. **Public-private partnerships that improve communication and coordination among shippers, governments, and railroad companies and promote business development, economic growth, and grade crossing safety**
   - Continue "visioning" type sessions with stakeholders to allow expectations of all parties to be communicated not only to the NDDOT, but among parties to enhance understanding and provide opportunities for collaboration
   - Develop a multifaceted approach to the rail project screening process:
     - state's rail network Benefit/Cost Analysis
     - Assess the project's importance to the economy (local, regional, state)
     - Consider the project's strategic impact on the and local, regional and statewide transportation system
   - Increase communication with private industry to assess rail needs and opportunities to invest with the state's best interests in mind
   - Identify opportunities for private industry to contribute to grade crossing safety issues
   - Identify opportunities with legislation aimed at economic development which may involve rail policies and infrastructure
   - Assess opportunities for abandoned rail rights-of-way

10. **A viable and coordinated inter/multimodal facilities network that maximizes benefits to the state, allows agricultural and manufacturing businesses to grow and diversify, and improves access for communities**
    - Conduct research, formal or informal, regarding the characteristics of successful intermodal facilities and how to accurately assess potential shipment volume
    - Assess the desirability of smaller distributed facilities in addition to larger centralized facilities
    - Assess the desirability of the use of rail funds to enhance connectivity of proposed facilities to maximize benefit to the local area and region
    - Facilitate discussion between local government and facility ownership to ensure connectivity and the success of proposed facilities

11. **Coordinated public-private multimodal planning efforts that consider all modes of transportation in order to make the best investments of public and private funds**
    - Rail Planning to serve as a facilitation/liaison between highway planning and private parties involved to provide adequate service to future facilities
    - Develop a strategic plan for intermodal development. Serve as an information source regarding rail access for proposed facilities, and assess possible publicly funded rail access
    - Continue visioning type sessions outside of the rail plan update to increase communication between stakeholders. This allows for further understanding of each party's concerns and opportunities
    - Develop prioritization techniques for the allocation of state rail assistance funds to projects which have:
        - The best overall Benefit/Cost Ratio
        - Strategic benefits, such as rail network enhancement
        - Intermodal and multimodal connectivity benefits above and beyond direct local impacts
        - Economic enhancement benefits, state, regional, and local

Joint Minnesota-North Dakota Rail Planning Conference: Regional Rail Planning Issues

September 27, 2005, a joint Minnesota – North Dakota rail conference was held in Fargo. Participants included the North Dakota Rail Advisory Group, planning representatives from the Minnesota (MNDOT) and North Dakota (NDDOT) Departments of Transportation and district engineers from border districts in both states.

The purpose of the conference was to: (1) involve stakeholders with interests in both Minnesota and North Dakota rail programs in a dialogue with MNDOT and NDDOT rail planners, (2) discuss common and cross-border rail and intermodal issues, and (3) identify areas of future coordination and collaboration between Minnesota and North Dakota to help meet the needs of both states.

A summary of the substance of the meeting is presented below. Detailed notes follow, under a separate heading.

Access to Facilities and Transfer Points. Access to and from facilities across state lines is essential for economic growth and trade. Access to shuttle elevators, plants, warehouses, and intermodal transfer facilities is especially important. Much of eastern North Dakota's grain crop moves to Minnesota ports. Continued access to these ports is vital. However, differences in truck size and weight regulations among states may affect truck access and the desirability of locations for industry.

Improved communication from shippers regarding new rail or intermodal facilities would provide benefit railroads, state DOT, and metropolitan and county governments. Advance notice of new facilities should be made available at the time of initial facility planning. This time frame would allow state and local transportation agencies time to react. This process would allow DOT to be proactive rather than reactive. Potential locations in proximity to access highways should be encouraged.

Coordinated planning could maximize available resources and simplify planning procedures. Several layers of planning exist within the region. However, all levels of government do not have access to the information they need. Metropolitan Planning Organizations and Councils of Government would like to develop better sources of cross-border traffic data, as well as better freight data for short- and long-term planning. The lack of freight data causes a reactive rather than a proactive approach. MPOs must respond to individual complaints and proposals without a comprehensive picture of overall freight flows and facility needs.

Moreover, current planning is automobile-oriented because of the lack of freight data and freight planning programs. Freight access and mobility should be fully considered in long-range planning, along with related safety considerations. However, railroads rarely participate in this process. Within state transportation departments, much of the planning occurs at central levels. Nevertheless, there is considerable opportunity for on-going communication between railroads and district engineers.

Integration of railroad objectives and infrastructure needs into state and local planning processes could improve community planning and avoid many potential conflicts and issues. For example, highway bridge construction planning should include criteria to accommodate doublestack trains and other high/wide loads moving over rail lines. Railroads need to participate in local government planning processes. However, there are multiple units of government to deal with, making it difficult for railroads actively participate in all the areas they would like. A streamlining of contacts among railroads, MPOs, and DOT districts could help improve communication and planning. The states could facilitate this communication and host annual meetings. Moreover, the railroads could plan annual meetings with each MPO to provide input into the long-range planning process.

Joint Minnesota-North Dakota Rail Planning Conference Notes

Overview of State Rail Programs

Tim Spencer— Director of the Rail and Program Development Section of the Minnesota Department of Transportation (MNDOT) — provided an overview of MNDOT programs, including the Minnesota Rail Service Improvement Program (MRSI) and the Minnesota Railroad-Highway Grade Crossing Safety Improvement Program.

The MSRI program provides loans or grants to rail users and carriers to rehabilitate lines, improve rail shipping opportunities, and preserve and maintain abandoned rail corridors for future transportation use. These funds can be used for rail siding improvements and related facilities along a siding to improve loading efficiency. The MRSI Program has received both General Fund and Bond appropriations. However, the program has essentially funded itself for the last 25 years.

The Minnesota Railroad-Highway Grade Crossing Safety Improvement Program provides funds that are used to: (1) close and consolidate crossings, (2) install active signals and signal upgrades, (3) install passive signs, (4) improve sight distances, (5) improve crossing alignments and grades, (6) improve lighting, and (7) contribute to grade separation, up to the cost of signal installation. The USDOT Accident Prediction Formula is used to identify high hazard locations. MNDOT has developed several grade-crossing performance measures including: reducing crashes by 2 percent per year and programming 40 grade-crossing safety improvements per year. Moreover, MNDOT has created a condition formula to assess grade-crossing safety. During the TEA-21 period, 10 percent of Minnesota's Surface Transportation Program (STP) improvement funds were used for the grade crossing-program.

The recently passed SAFETEA-LU legislation includes authorization for Rail Relocation Funds. If funds are later appropriated by Congress, strict standards will likely be imposed. The most likely use of these funds will be for large urban areas.

Robert Johnston of the North Dakota Department of Transportation (NDDOT) provided an overview of NDDOT rail programs and the state rail plan. The rail plan-which has three parts-was published in 1998. Currently, the plan is being updated and prepared for web access. The update will align the rail plan with TransAction, North Dakota's statewide strategic transportation plan. However, rates, car service, and other regulatory issues will be removed from the rail plan, as these issues are not within the purview of the NDDOT.

NDDOT has two revolving loan funds for rail assistance – Local Rail Freight Assistance (LRFA) and Freight Rail Improvement Program (FRIP). LRFA uses funds originally provided by the Federal Railroad Administration (FRA). The money retains its federal identity and LRFA projects require FRA approval. FRIP uses state money derived from interest on repaid loans. FRIP generally mirrors LRFA in intent and application, but projects do not require FRA approval.

The Grade Crossing Safety Program includes the following components: support for Operation Lifesaver, signalization and signal upgrades, resurfacing of crossings, and crossing closures. In limited use, some of the funds may contribute to grade separations.

Perspectives of Metropolitan Planning Organizations

Robert Bright—Executive Director of FM MetroCog, discussed relationships between the MPOs and state agencies, quiet zones, and access to intermodal facilities. Fargo-Moorhead is planning a quiet zone that would encompass 20 crossings and greatly reduce train horn noise in the metropolitan area. Access to intermodal facilities is a key to regional growth and is very important for the Fargo–Moorhead area MPOs. Fifty percent of trade in the region consists of exports. Shippers have expressed concerns about intermodal access and difficulty in getting and shipping containers – "how can we get the trains to stop?" Improved access, in part, depends upon the return-empty policies of steamship companies. Because of their desires for fast container cycle times, steamship companies are often reluctant to have their empty containers stopped for reloading at an interior point. However, identity preservation is very important to buyers and sellers in international trade. In particular, genetically modified and organic crops need containers for identity preservation. The empty-return policy isn't the only obstacle to improved access. Steamship capacity is also an issue—e.g., how to secure space for additional containers on-board already-full steamships.

Earl Haugen—Executive Director of the Grand Forks-East Grand Forks MPO—discussed grade-crossing issues, including the movement of highway traffic through crossings, and the long-range planning requirements of MPOs. MPOs must engage in long-range planning, with at least a 20-year time frame. In comparison, the time line for most transportation projects is much shorter than that; the TIP, for example, extends only a few years into the future. Nevertheless, there are many opportunities for multimodal collaboration and integrating both long range and short term planning.

Many aspects of rail-highway interaction are important to MPOs. Blocked-crossing time is an issue at some crossings. However, grade separations are very expensive and are only

practical on the most heavily traveled highways. The GF – EGF MPO is working hard to identify potential safety issues and educate the public on grade crossings. In evaluating quiet zones, there is often a tradeoff between the infrastructure upgrades to implement quiet zones and other needed transportation improvements.

A 1996 study was performed of a potential intermodal facility in the Grand Forks area. However, interest has waned since the Grand Forks area experienced the 1997 flood. Some of the champions have moved on. The study concluded that more throughput would be needed to make the facility successful.

Perspectives of District Engineers

Robert Walton— District Engineer, Fargo District, NDDOT—stressed the need to examine highway interactions with railroads. Cooperation between railroads and district engineers has been very successful with respect to highway construction projects and crossing issues. The CPR line at Enderlin is a case in point. A blocked-crossing warning sign was placed at an intersection near the crossing to keep queues from forming on local streets.

Other issues and opportunities relate to truck versus railroad movements. In many cases, it is better for highways if certain traffic moves over rail lines, especially heavy freight and very high/wide loads. Wind towers are an example. Vertical and lateral clearance is an issue. If the railroads cannot transport products such as wind towers, they must move via highways. Because of Interstate highway clearance restrictions, some of these shipments may shift to state highways. Similarly, heavy trucks may use state highways to avoid Interstate weight limits or special permits.

A key area of interaction is the updating and negotiation of maintenance agreements between railroads and NDDOT. An example is 10th Street in Fargo, which has been moved onto the state highway system. Agreements with railroads regarding crossings and bridges are out of date. There is uncertainty about who has maintenance responsibilities. Similar maintenance responsibility issues should be resolved with respect to crossing deterioration and rail bridge painting.

Bungalow slopes are another issue. Some are potentially in violation of clear zone rules. In some cases, the slopes are too steep—e.g., 8:1 instead of 2:1. In these cases, who is liable if a car leaves the road? (The railroads have indicated they are willing to work with NDDOT to construct the slopes to the desired ratio).

Les Noehre—District Engineer, Grand Forks District, NDDOT—emphasized the need for safety at grade crossings. Moreover, there is a need for increased communication between stakeholders regarding changes to the railroad system that impact highways—for example, the location of bean crushing plants. Another example is the construction of a large coal transload facility at Ardoch by American Crystal Sugar Company. More advance notice is helpful so that state and local agencies can plan highway adjustments. Communication between district engineers, railroads, and private companies is

imperative. The main problem has been lack of communication by private companies, which have not communicated with NDDOT regarding potential expansions

Jody Martinson—representing the Detroit Lakes District of MNDOT—stressed safety and improved communication among all levels of government and railroads. In the Detroit Lakes District, $500,000 per year is spent on improving safety at rail-highway grade crossings. This is a major emphasis in the district. BNSF Railway and the Detroit Lakes District are cooperating on the realignment of Highway 10, which will result in BNSF moving its tracks north. In general, there is a need for increased communication among agencies, railroads, and industry.

Lynn Eaton—District Engineer, Bemidji District, MNDOT—discussed the potential benefits that could arise from keeping heavy freight traffic on rail lines, including a reduction in the financial and maintenance burdens of county and state highways and improved safety. Planning for freight movements is an important part of the local area transportation planning partnerships between MNDOT and county and local governments. The relationship between transportation and economic development is very important in local and district planning. Providing year-round highway access to industries and rail transfer facilities is a key objective. However, the freight modes need to be better integrated to increase flexibility and options.

Much of the truck traffic in the Red River Valley moves back and forth across state borders. Differences in truck configurations between states may be a problem for the trucking industry and businesses. However, federal action may be necessary to correct this situation. The potential exists for "freight ports" to be located at state borders to facilitate cross-border movements.

Perspectives of Regional Railroads

Dan Zink— Director of Administration, Red River Valley & Western Railroad—emphasized capital availability as one of the key issues facing the North Dakota rail system. Will the capital be available to upgrade lines to sustain movements of 286,000-lb cars over the long run? Both North Dakota and Minnesota loan programs are very good. In fact, the state programs are more useful than the national RRIF program, which is targeted towards very large loans. The NDDOT revolving loan program is essential to North Dakota. Because it is a loan program, it provides discipline in investment. Preserving the integrity of the program is essential to the availability of capital in the future.

Grade crossings and related safety issues are a priority for the railroads. Crossing closures should be examined as a potential option. (Jack Olson of the NDDOT described the existence of a rail crossing closure incentive program.) The future of the railroad system in not completely clear. Some shrinkage in the current railroad network should be expected. The viability of intermodal facilities and shipment options is a key issue.

Larry Jamieson— Northern Plains Railroad —stressed the importance of working with both North Dakota and Minnesota, regional railroads, Class I railroads, and the FRA to

upgrade tracks and bridges to accommodate the 286,000-lb cars that are in high demand due to expansions and increased business. Service can be improved by expanding yard tracks at connection points, or putting in additional sidings to facilitate quicker turn times and avoid congestion and delay between the Class Is and short lines. Increased public education is needed concerning crossing safety procedures and the consequences of trespassing on railroad property. These educational efforts should include farmers and hunters, and integrate training with public meetings.

Perspectives of Class I Railroads

Brian Sweeney— Legislative Counsel of BNSF Railway—noted that BNSF has made substantial investments to increase railroad capacity and service in the nation and region. Over the last three years, BNSF has invested $430 million in Minnesota and $261 million in North Dakota, and has made substantial investments in grain railcars. Technological improvements have also enhanced railroad capacity and efficiency. For example, remotely-controlled switching operations offer potential savings. However, they also pose labor-related issues which must be resolved.

It is important to include railroad infrastructure considerations and freight access in metropolitan and local land-use plans. Improved local planning can help reduce potential conflicts. For example, zoning that allows land development (especially residential) adjacent to tracks may lead to future noise issues in the community. Crossing closures can help safety and noise problems. However, they can be politically controversial. Restrictions on operating speeds by states or localities may actually worsen problems such as blocked-crossing time. Highway access to intermodal facilities is very important. Although rumors have surfaced about the future of the Dilworth facility, BNSF Railway has not announced plans to close, relocate, or demote the facility.

Railroads need assistance from stakeholder groups on legislative efforts to improve safety and benefit the economy. Railroad trespasser laws are one area of potential collaboration.

Ed Dahlby— Area Manager for Business Development of the Canadian Pacific Railway-identified the following issues and potential actions:

1. Continued maintenance and upgrades of Farm-to-Market roads to facilitate movements to rail heads.

2. Crossing safety.
    - A. Enforcement of existing laws
    - B. Additions of signals where possible
    - C. Major highways to have grade separations
    - D. New technological developments for grade crossing safety (GPS warning system, solar powered advanced warning devices, North Star Communication warning system, etc.)
    - E. Don’t pass laws that add burdens to railroads’ operations or costs

3. Short line issues.
    A. Need to upgrade to 286,000-lb. capacity
    B. Upgrade with heavier rail
    C. Bridge work needed
    D. Crossing upgrades

4. Transload facilities needed.
    A. Agricultural Products (identity preservation)
    B. Niche market opportunities
    C. Facilities at Ports for transfer of goods from railcar to ocean container
    D. Export and Import marketing strategy
    E. Free Trade (duty free) Zones for warehousing products until delivery

5. Tax incentives, grants or low interest loans for companies to install rail as their major mode of freight transportation.

6. No conversions of farm crossings to crossings into developments without authority from the State or Railroad (Smart Growth).

APPENDIX E

BENEFIT COST ANALYSIS

Benefit Cost Analysis Criteria

Introduction

In benefit-cost analysis of rail rehabilitation projects, the state compares criteria under two scenarios: a base case, or null alternative, in which the state takes no action, and a project case in which the state makes investments or takes other actions to affect the outcome of a light-density line. The base case usually describes one of two future states – continued operation of a rail line (usually with diminishing service) or abandonment.

Benefits are estimated by comparing future conditions in the base case (without an investment) to future conditions in the project case (with an investment). The base case is also referred to as the null alternative, indicating that no capital investment occurs.

Under Base Case 1, the primary efficiency benefits are cost savings to rail operators and safety benefits from improved track conditions. If the investment decision impacts the distribution of traffic between railroads and trucks, highway costs are also considered—e.g., pavement resurfacing and maintenance cost savings as a result of keeping heavy freight traffic on rail lines. Under Base Case 2, the primary efficiency benefits are: (1) shipper cost savings, (2) railroad income gains, (3) shipper profit on new output produced as a result of the investment, and (4) highway cost savings.

Shipper and railroad benefits are referred to as primary efficiency benefits, because they result directly from an investment. However, transportation efficiency benefits also include highway costs savings as a result of traffic shifts among modes.

Base vs. Incremental Traffic

In benefit-cost analysis, base traffic is the number of carloads, containers, and tons that would be shipped under the null and project alternatives, by any mode. Incremental traffic is the amount of traffic that would be shipped under the project alternative (with the investment), but would not be shipped under the null alternative (without the investment).

Incremental traffic is the result of new or increased production. However, it does not include shifts in traffic among modes, or transfers within the local economy. Incremental production may result from various business decisions. For example, a new industry may open that would not have located in the state without the rail improvement. A more typical case is one in which a business increases its output because the rail improvement has reduced the cost of transportation or improved the level of transportation services.

Incremental traffic may consist of traffic retained on the rail line by preventing an abandonment that would reduce shipper output or result in business closures. The latter result is an extreme case. More typically, businesses may reduce output and quantity shipped by truck after abandonment because of higher truck rates and reduced shipping capacity.

In many cases, incremental traffic will be zero, even if shipper output levels change in the base or project cases. The change in a shipper's output or volume may be the result of local transfers because the business has become less competitive locally. Such transfers often occur among grain elevators. Increased crop production in a region rarely results from isolated railroad investments. An increase or decrease in the volume handled by one grain shipper may be offset by corresponding changes in the volume handled by nearby elevators. However, if a railroad investment stimulates increased crop production in the area, then this new production should be considered as incremental traffic.

Base Case of Continued Operation

Under continued operation, railroad cost savings are primarily the result of faster speed, increased car payload, and reduced track maintenance cost. Faster speeds reduce crew, car, locomotive, and other time-related train costs for all classes of traffic: origin, destination, and through. If heavier rail cars are used after an investment, then fewer car-miles, train-miles, and locomotive-miles will be needed to move the same net tons over the line. However, heavier cars may result in higher track maintenance costs, which must be reflected in the net calculation.

Normal track maintenance cost may drop after rehabilitation because of the elimination of deferred maintenance. Deferred maintenance is an economic cost that must be considered, even though the railroad is not expending funds for this maintenance. Deferred maintenance is a cost that eventually must be covered if a line is to remain in service. Track rehabilitation projects that eliminate deferred maintenance usually result in lower spot maintenance and inspection costs.

Abandonment Base Case

Shipper Cost Savings

Changes in post-abandonment shipping costs reflect: (1) trucking costs from stations on the abandoned branch line to a nearby rail line (e.g., a mainline), and (2) transfer or transloading costs at the mainline facility. If the rail rate from the mainline station to common destinations is less than the rail rate from branch-line stations, these savings may partly or wholly offset the increased shipping cost.

Railroad Income Gains

Net railroad income is a transportation efficiency gain attributable to the reduced operating and maintenance cost of a line after an investment is made. When the base case is abandonment, the net income derived from a line will be lost without public investment. The retained income may help preserve railroad jobs in North Dakota and generate economic benefits. In the long run, public investment provides economic incentives and cash flows that may induce railroads to reinvest in branch lines, perform long-run maintenance, or increase service levels. If trucker profits will be lost because of

a railroad investment, these losses must be considered as offsets. However, offsets are not applicable to private trucking or custom hauling in farmer-owned vehicles.

Shipper Profit on New Production

In some cases, shipper gains or profits from incremental production may be the primary benefits of rehabilitation. Profits are usually proprietary information. Businesses may be reluctant to provide this information, even though it can be treated as confidential by the NDDOT.

Impacts on Through Traffic

The segment being analyzed may be part of a through route between two terminals or gateways. If the segment is abandoned, the through traffic must move over a longer, circuitous route. In this case, the primary impacts of abandonment are the incremental car, locomotive, and train costs incurred by the through traffic, which must circumvent the abandoned segment. A similar situation can result from line bifurcation—in which the middle segment of a local line is abandoned.

Highway Impacts

If an investment will change the distribution of traffic between railroads and trucks, then highway impacts are analyzed. The highway impact procedure is based on functions developed by the American Association of State Highway and Transportation Officials (AASHTO). The highway model includes many of the same equations and parameters used in pavement design. However, the model is used to estimate the incremental resurfacing costs of pavements, rather than the actual construction costs. Additional truck revenues received by highway agencies are used to offset projected cost increases.

Highway Impact Procedure

A highway impact analysis is required when the null alternative is abandonment. Two of the initial steps in a highway impact analysis are identification of post-abandonment truck routes from branch-line stations to railroad main lines and truck configurations used to transport diverted traffic.

The preferred truck type will depend on the commodity, local highway designs and conditions, and the economics of different truck types. In some cases, more than one truck configuration may be used.

The highway impact procedure is based on an analytical function developed by the American Association of State Highway and Transportation Officials (AASHTO), which was later modified by FHWA for use in the Highway Performance Monitoring System (HPMS). FHWA and many states use HPMS to estimate highway rehabilitation and restoration needs.

The highway model includes many of the same equations and parameters used in pavement design. However, the application is reversed. In pavement design, the question is: given a projected truck traffic level, what structural design is needed to ensure pavement performance for the desired period (e.g., 15 years). In pavement deterioration analysis, the question is: given an existing highway with a known structural rating, how will additional truck traffic – beyond the level expected in the design stage – affect the performance period, and thus affect the annualized resurfacing and reconstruction costs?

The effects of different truck axle configurations on pavements are estimated by converting all axle loads to equivalent single-axle loads or ESALs. An ESAL represents the equivalent pavement damage that would be caused by the passage of an 18,000-pound single axle over a pavement section. For example, an axle with an ESAL factor of 1.2 inflicts 1.2 times the damage of a single 18,000-pound axle. The ESAL factor of an axle group will depend on the type of axle (single, tandem, or tridem), the load on the axle in thousands of pounds (kilo-pounds or kips), the type of pavement section (flexible or rigid), and the terminal serviceability rating of the pavement (p_t).[60]

Figure E.1 illustrates the impacts of single axle loads on a medium strength flexible pavement with a terminal serviceability of 2.5, which is typical of a rural principal arterial highway. The chart illustrates several relationships. First, a 16,000-pound single-axle load followed by a 20,000-pound single-axle load generates a total of 2.115 ESALs as compared to two ESALs for the passage of two 18,000-pound single axles. In essence, load distribution among axles is important in pavement impact analysis. Second, an increase in a single-axle load from 18,000 to 22,000 pounds more than doubles the pavement impact. In general, the ESAL factor for a given type of axle increases with the fourth power of the axle load. Consequently, even modest overloads (e.g., 22,000 pound on a single axle) can significantly increase pavement damage.[61]

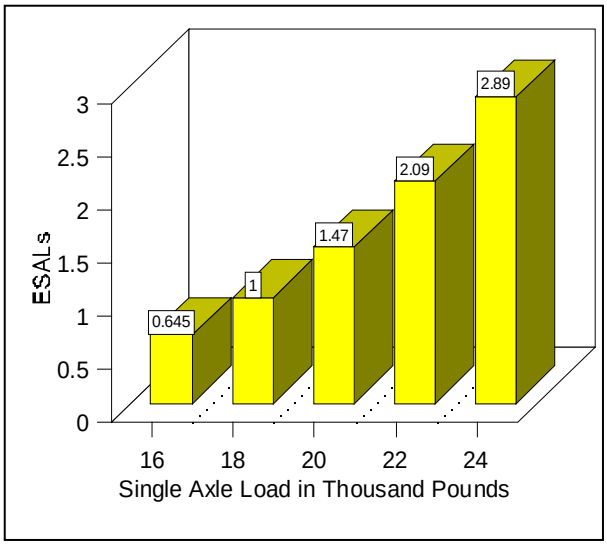


Figure E.1. Relative Pavement Impacts of Single-Axle Loads on a Flexible Pavement – Source: Computed from AASHTO Axle Load Equivalency Formulas [Values Reflect Terminal Serviceability of 2.5]

[60] The terminal serviceability rating is the value at which a pavement is expected to be resurfaced or reconstructed (p_o).

[61] Transportation Research Board (TRB), Truck Weight Limits, Special Report 225, 1990.

Figure E.2 illustrates the impacts of a tandem axle set on the same type of pavement. As the chart shows, 34,000 pounds on a tandem axle generates only 1.11 times the impact of 18,000 pounds on a single axle.

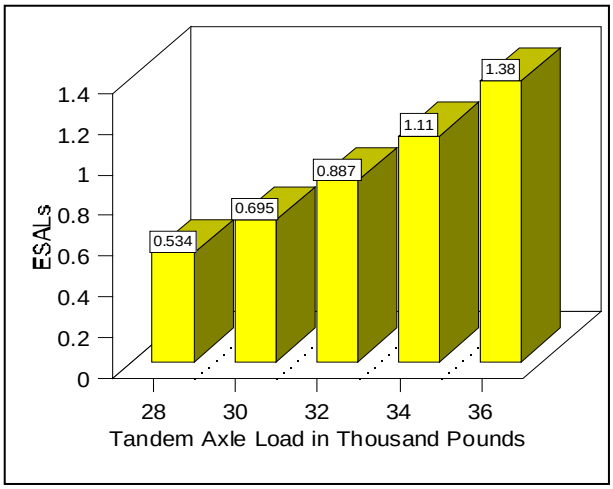


Figure E.2. Relative Pavement Impacts of Tandem-Axle Loads on a Flexible Pavement – Source: Computed from AASHTO Axle Load Equivalency Formulas [Values Reflect Terminal Serviceability of 2.5]

AASHTO's ESAL factors are conservative estimates of pavement damage. The factors are based on road test data from the 1960s, which reflect the use of dual, bias (ply) tires with pressures of 75 to 80 psi. Today, most commercial trucks use radial tires inflated to 100 psi or greater. In some cases, "super single" tires are used instead of dual tires. Research suggests that increasing the tire pressure from 75 to 100 psi increases the pavement impact of an 18,000 pound single-axle load by approximately 16 percent.[62] Research also suggests that using single tires instead of dual tires can increase the pavement impact of an 18,000-pound single axle load by 31 to 132 percent.[63] In short, the use of super-single tires and high inflation pressures result in much greater reductions in pavement life than AASHTO ESAL factors suggest.[64]

The highway impact model and computational process are described in a technical appendix to Chapter 5 of Part 1. Two intermediate outputs are especially important to an impact analysis:

1. the unit costs per ESAL-mile of travel
2. the incremental ESAL-miles of travel over impacted highway sections. In the final step of the process, the annual avoidable cost of each impacted highway section is computed by multiplying the incremental ESAL-miles by the appropriate unit cost.

[62] Transportation Research Board (TRB), Truck Weight Limits, Special Report 225, 1990.

[63] Ibid. The range of impacts depends on the "wander" or lateral movement of truck tires. Wander has a positive effect on pavement life for a given axle load and tire because the load is not concentrated on a linear path or area of pavement. The 31 percent increase corresponds to a wander standard deviation of 8 inches, while the 132 percent increase corresponds to zero wander.

[64] The effects of modern tire pressures on pavement lives are taken into account during a rail line analysis through use of an adjustment factor. However, the effects of single tires are not considered.

APPENDIX F

NDDOT LOCAL RAIL FREIGHT ASSISTANCE (LRFA)

APPLICATION INSTRUCTIONS

SECTION 1.0 – INTRODUCTION

The North Dakota Department of Transportation (NDDOT) has administration and oversight responsibility for the North Dakota Freight Rail Improvement Program (FRIP) and Local Rail Freight Assistance (LRFA) loan funds.

This document describes the rail loan fund application process. It also describes the methods used by NDDOT to evaluate rail loan projects. There is in addition a description of several obligations incurred by applicants when assistance is accepted.

Potential applicants should review this document before submitting project proposals.

SECTION 2.0 – ELIGIBLE APPLICANTS

Eligible applicants include cities, counties, railroads, or other current or potential users of freight railroad service.

SECTION 3.0 – ELIGIBLE PROJECTS

The NDDOT rail loan funds have limited resources. They are intended to be used primarily to upgrade and enhance infrastructure to improve rail service in ND through aid to short line railroads and, in some cases, shippers or other rail stakeholders.

Generally, an eligible project is one in which the rail line related to the project has carried less than 5 million gross ton miles of freight per mile in the year previous to the year of application and which accomplishes any of the following: rehabilitates a segment of rail line, results in economic development, improves transportation efficiency, promotes safety, promotes the viability of the statewide system of freight rail service, assists intermodal freight movement, or provides industry access to the national railroad system. The Director may waive the 5 million gross ton miles requirement if it is determined that a significant public interest in the project exists.

SECTION 4.0 – APPLICATION PROCESS

4.1 SUBMISSION

Project requests must be received by NDDOT as follows:

- **Annual Submission – December 1:** Annual submission is for rail projects that are planned and developed in the normal course of business. They include infrastructure projects, such as rail relay or tie and ballast, and economic development type projects, such as loading spurs.

- **Reserve Consideration – June 1:** Reserve consideration is for projects that support economic competitiveness and that have been identified subsequent to the annual submission date. Reserve consideration is for projects that are unforeseen in the normal course of business. It is not an alternative date for annual submission projects.

    - Economic Competitiveness projects identified after June 1, but before December 1, will be included at the next annual submission.

Project proposals must be submitted in writing to NDDOT, in either hard copy or electronic format. Address hard copy to:

NDDOT
ATTN: Rail Planner
608 East Boulevard Avenue
Bismarck, ND 58505-0700

Send electronic submissions to: rjohnsto@nd.gov.

Proposals must provide the information requested in 4.1.1 through 4.1.6 and 4.2.1 of this document.

4.1.1 Identification of Parties and Projects

(a) Applicant name, address, phone number, and point of contact (POC). Provide name, phone number, and email address for POC.

(b) Name, address, phone number, and POC for the railroad party to the project. Provide name, phone number, and email address for POC.

(c) Name, address, phone number, and POC of any shipper party to the project. Provide name, phone number, and email address for POC.

(d) A narrative addressing the purpose, need and public benefits of the project. This might include, as applicable: capacity, safety and security, system linkage, system deficiencies, modal interrelationships, social demands, or economic development. This section should also describe and justify any negative impacts thought to be associated with the project.

(e) A description of the proposed project, including:

(1) Physical measurements (Linear, area, etc.).
(2) Physical location (Address, mileposts, street crossings, etc.).
(3) Major material specifications (Rail weight, ballast type, tie grade and type, etc.).
(4) Map/sketch of project design and location.
(5) Such other information as deemed useful by the Applicant to support and define the project concept and purpose.
(6) Number of shippers served and/or affected, and commodities handled.

(f) A narrative stating the alternative(s) to be pursued should assistance not be awarded and the applicable consequences thereof (postpone or abandon project, reduce service by x amount, forgo x amount of revenue or cost

savings, etc.). Data must be objective and quantified (numbers, dates, quantities, dollar amounts, etc.).

4.1.2 Estimated Project Cost and Work Method

(a) A line item breakout of estimated direct project costs at least to the level of:

(1) Materials
(2) Equipment
(3) Labor
(4) Force account work
(5) Contract work
(6) Total project cost

(b) A description of the method or methods proposed for accomplishing major project tasks. (e.g., tie replacement by force account, surfacing by contractor, etc).

4.1.3 Proposed Project Financing

(a) State the dollar amount of assistance requested.

(b) Identify the source of all anticipated non-state assistance.

4.1.4 Intended Benefit and Cost Items

Provide a list or description of the type or category of benefits and costs assumed by applicant to be associated with this project.

4.1.5 Intended Environmental and Economic Enhancement Items

Provide a list or description of any environmental or economic enhancement outcomes projected by the Applicant to result from the project.

4.1.6 Public Involvement Process

NDDOT shall solicit public input for each project that is accepted. NDDOT will place a legal notice in the official newspaper(s) of record for the county or counties in which the proposed project is to be done, giving notice of opportunity to request a public hearing and/or submit comments on a proposed amendment to the State Rail Plan. The legal notice will state the reason for the proposed amendment (i.e., rail rehabilitation or other project), a point of contact for response, and the deadline for response.

If a public hearing is held, all comments will be recorded verbatim and included in the application.

4.2 APPLICATION REVIEW/CONFERENCE

NDDOT staff will review all project applications. If the reviews indicate the need for more information, conferences with Applicants and any other significant entities may be needed. Conferences, if needed, are usually done by phone.

4.2.1 Data for Benefit-Cost Analysis

(a) The single most influential criterion in determining project qualification and rank is the Benefit-Cost Ratio (BCR). NDDOT may employ the services of others in analyzing and calculating the BCR.

(b) The following list is representative of the type of data required for benefit/cost analysis:

(1) What is the expected change (if any), expressed in dollars, in these areas from accomplishing the project.

- Maintenance of Way (MOW) costs
- Locomotive costs
- Fuel costs
- Freight rate/unit
- Number of carloads
- Lading handling costs
- Car hire and/or car investment costs
- Maintenance of Equipment (MOE) costs
- Train crew costs
- Product/lading shrinkage
- Derailment Costs

(2) Other statistical information pertinent to the analysis.

- Project impact on market penetration (intermodal, customer territory, service frequency).
- Average car capacity in same units used in freight rates above
- Net liquidation value of in-place track assets.

4.3 PROJECT QUALIFICATION AND RANKING

4.3.1 The data required for project qualification and ranking shall be submitted to NDDOT by the Applicant.

4.3.2 All project proposals will be reviewed for qualification. Qualified proposals will be scored and ranked for funding priority. (See Section 8 for qualification and ranking criteria and scoring procedures.) Applicants will be informed of their project proposal's ranking.

4.4 EMERGENCY ASSISTANCE

The department may, at its sole discretion and upon application by an eligible applicant, provide assistance from the rail loan funds on a non-competitive basis at any time for a project addressing a (Government) declared emergency situation. The project must meet

eligibility requirements. An emergency project shall deal with failure of significant infrastructure essential to operation of rail freight service, such as bridge failure, major washout, destruction by fire, and the like. Insurance proceeds must first be dedicated to the project.

SECTION 5.0 – ASSISTANCE AWARD PROCESS

5.1 APPLICANT ACCEPTANCE OF AWARD

The Applicant shall accept or reject any offer of assistance within 10 working days of the date of offer.

5.2 AGREEMENT EXECUTION

A loan agreement between NDDOT and the Applicant must be executed within 90 calendar days of the Applicant's acceptance of an offer of loan assistance. Unless NDDOT otherwise agrees, the offer of loan assistance expires and is withdrawn if this condition is not met.

SECTION 6.0 – ASSISTANCE FORM AND AMOUNT

6.1 POLICIES AFFECTING ASSISTANCE FORM AND AMOUNT

6.1.1 The measure of public interest, for program purposes, is determined by the project's qualification and ranking according to the criteria set forth under Part II, Section 1.0 herein.

6.1.2 Loan assistance is provided at an interest rate calculated at 1/2 of a prime rate at the Bank of North Dakota, but not less than 3%.

6.1.3 Loan amounts for rehabilitation construction will be 70% of estimated project cost, with the Applicant's share being 30% of estimated project cost. The Applicant's share must come from non-state funds. New construction will be financed on a 50% - 50% basis.

6.1.4 The loan term is 10 years, with payment deferred the first two years. Interest accrues during the deferred period. The loan is repaid in eight annual installments, beginning the third year of the loan. The interest accrued during the deferred period is due with the first loan payment.

SECTION 7.0 – KEY ASSISTANCE AGREEMENT TERMS

7.1 LIST

7.1.1 The Applicant must agree to maintain the project line at or above FRA Class 2 Track Safety Standard until the loan is fully repaid. Termination of service will make the full loan amount, plus an amount equal to the interest rate stated in the agreement applied to the full loan amount from the effective date of the agreement to date of termination, immediately due and payable.

7.1.3 Interest charges begin upon first draw of loan funds and are calculated on a fixed regular schedule.

7.1.4 Rehabilitation and construction material and performance specifications shall conform to American Railway Engineering and Maintenance of Way Association (AREMA) standards and practices.

7.1.5 Project costs **may not be incurred** on any project before an agreement is fully executed between NDDOT and the Applicant.

7.1.6 If work on the project has not begun within one year of the date the loan agreement was fully executed, the agreement becomes void and the offer of assistance is withdrawn, unless NDDOT agrees to extend the term. If the agreement becomes void, the Applicant may re-apply for assistance. The application will be considered a new submission, and will be evaluated as such.

7.1.7 Competitive bidding must be used for contract work on loan projects.

7.1.8 The progress billing method will be permitted with 10% retainage by NDDOT. Final billing must include a statement of total actual costs and may be subject to a detailed audit. Final billing must be submitted to NDDOT within three months after project completion.

7.1.9 The applicant shall, upon any sale or disposition of all or any portion of the subject line, or the filing of an application for abandonment of all or any portion of the subject line at any time during the term of agreement, repay to NDDOT the full amount of the NDDOT share of the cost of improvements made to the subject line.

SECTION 8.0 – PROJECT SELECTION

8.1 PROJECT SELECTION POLICIES

8.1.1 Purpose of Qualification and Ranking: Proposed projects must generate improvements in transportation efficiency and may also generate broad public benefit.

8.1.2 Method of Qualification and Ranking: Six criteria are used to evaluate and rank proposed projects. The rating system generates a point value for each criterion. The criteria are:

- Benefit-Cost Ratio (BCR)
- Impact on the ND Rail System
- Rail System Connectivity
- Economic Impact
- Safety and Security
- Community and Environmental Impact

A project must have a primary BCR of at least 1.0 to qualify for further evaluation. Qualified projects are ranked according to total point score. The rankings are used in determining which applicants receive offers of assistance. Offers are made, at the Directors discretion, to applicants in

rank order until program resources are no longer until available resources have been allocated.

8.1.3 Relation of Rank to Funding: Project rank is a factor in determining whether a project is funded and what priority the project has. The ranking process has no influence on the type of assistance offered. All assistance is will be in the form of a low interest loan**.**

It is possible for a project to be funded outside of rank order. If a lower ranked project may be funded within available resource limits while a higher ranked project would exceed those limits, the lower ranked project may be funded if the applicant of the higher ranked project is unable or unwilling to proceed with the project funded with only the remaining available resources.

If two or more qualified projects end up with the same total score, the BCR will determine the final ranking.

8.1.4 Directors Authority: On a case by case basis the Director will have the authority to modify funding limits and/or repayment criteria.

8.2 PROJECT SELECTION CRITERIA

8.2.1 Benefit-Cost Ratio:

(a) Purpose: The purpose of the BCR criterion is to afford a measure of the economic soundness of an investment of public funds in the project.

(b) Description: The total BCR consists of three levels: (1) primary efficiency benefits, (2) transportation efficiency benefits, including highway impacts, and (3) total economic benefits. A project must have a primary BCR of 1.0 or greater to qualify for further evaluation. The total BCR is used in comparing projects that qualify for further evaluation.

(c) Scoring: The numeric score for the BCR criterion is the total BCR. To remain consistent with a multi criteria scoring system, the BCR cannot increase without bound. It is therefore capped at 25. Since a BCR above 25 is a rare occurrence, the cap's effect on project score should be minimal.

MAXIMUM OF 25 POINTS

8.2.2 Carloads per Mile:

(a) Purpose: The purpose of this criterion is to represent the scale of the total project benefits. Traffic density is a proxy for the strategic significance of a line, the likelihood of long-run survival

of the line, and the continuation of benefits beyond the analysis period.

(b) Description: The number of carloads per mile is an average of carloads from a period of three consecutive years. All carloads are counted, including bridge and overhead traffic. Any bridge or overhead carloads included in the total shall also be shown separately. Multi-platform articulated cars are to be treated as single or multiple cars according to how they are treated in the tariff or contract under which they move. Carloads from the past three years and projections for the next two years may be used for the average, but it must be three consecutive years. Absent valid projections, traffic for the past three years must be used.

(c) Scoring: Points are awarded on the basis of carloads per mile as shown in the table below. The points awarded increase as the traffic increases. Points are awarded in this manner to reflect the lesser impact on the economy of very light density lines.

Carloads/Mile 3 Yr. Average	***Points***
< 12	**0**
12 - 20	**1**
21 - 35	**2**
36 - 80	**3**
81 - 120	**4**
> 120	**5**

MAXIMUM OF 5 POINTS

8.2.3 System Connectivity:

(a) Purpose: The purpose of this criterion is to afford a means to reflect the value a project may present in serving a distinct system function even though traffic origin or destination functions may be minimal or absent.

(b) Description: System connectivity is present when the project specifically provides for the only direct connection of two distinct through route line segments of the applicant's system, or the system's sole interchange connection with another railroad.

(c) Scoring: System connectivity points are awarded as shown below.

Description	Score or Range
High Connectivity	3
Moderate Connectivity	2
Low Connectivity	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Line improvement that rehabilitates a segment that connects two high volume branch lines and prevents circuitous routing
2	Line improvement to ensure that a segment of track remains continuous
1	Low usage gateway between branch lines
0	Stub Line or Siding

8.2.4 Enhancing North Dakota's Economy:

(a) Purpose**:** The purpose of this criterion is to afford a means to consider aspects of the project that offer economic benefits that may not be captured under either the traditional benefit-cost analysis or a REMI analysis. A qualifying scenario includes an exogenous economic impact, that is, an impact not measureable in the context of the usual benefit-cost analysis.

(b) Description**:** Points are awarded under this criterion on the basis of the department's finding that the project:

(1) Will address an unusual North Dakota job gain or loss situation.
(2) Contains an element of urgency/timeliness significant to its ability to deliver long-term benefits.
(3) Improves viability of businesses served by the operator.
(4) Improves the attractiveness of North Dakota for new business.
(5) Serves a developed industrial park (streets, sewer, and water in place).

(a) Scoring**:** Enhancing North Dakota's economy points are awarded as follows:

Description	Score or Range
High Exogenous Impact	3
Moderate Exogenous Impact	2
Low Exogenous Impact	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Project that provides rail access to an industrial park, which raises attractiveness for firms to locate there
2	Project that provides rail access to an industrial park, which may induce existing firms to expand
1	Project that maintains infrastructure which may lead to firm retention
0	Project that does not have exogenous potential economic impact

8.2.5 Safety and Security:

(a) Purpose: The purpose of this criterion is to provide a means to consider aspects of the project that offer unique benefits to railroad safety or enhance the state's security. A qualifying scenario would include a safety or security impact that is not quantifiable, and therefore not included in the benefit-cost analysis.

(b) Description**:** Points are awarded under this criterion on the basis of the department's finding the project will result in:

(1) Reduction in potential derailments.
(2) Reduction of hazards to railroad personnel and contractors.
(3) A shift of shipments of hazardous materials from the highway system to the railroad network that would reduce accident exposure.
(4) Grade crossing safety enhancements.
(5) Increasing the security of yards, containers, tank cars, and other equipment and facilities.
(6) Security enhancements to border crossings, inspection locations, bridges and potential choke points.

(c) Scoring: Safety and Security points are awarded as follows:

Description	Score or Range
High Safety and Security Impact	3
Moderate Safety and Security Impact	2
Low Safety and Security Impact	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Project that reduces hazmat transportation risks by shifting traffic from high-risk highway routes, reduces the risks of hazmat accidents at grade crossings, or reduces the risks of train derailments involving hazmat cargo
2	Project that generally reduces highway accident risks by shifting freight traffic from highway routes to rail lines, or, that reduces the risk of train derailments
1	Project that improves the safety and security of railroad lines or yards by eliminating hazards to railroad workers or the public, including reductions in trespassing
0	Project that does not positively impact safety or security

8.2.6 Environmental and Community Effects:

(a) Purpose: The purpose of this criterion is to consider aspects of the project that offer unique benefits related to environmental and community impacts. A qualifying scenario would include an environmental or community impact that is not quantifiable, and therefore not included in the benefit-cost analysis.

(b) Description: Points are awarded under this criterion on the basis of the department's finding the project:

(1) Will reduce negative community impacts of rail transportation such as noise, traffic interference, or blocked crossings.

(2) Will reduce environmental impacts aside from efficiency gains due to modal shift.

(c) Scoring: Environmental and Community Effects points are awarded as follows:

Description	Score or Range
High Benefit Level	3
Moderate Benefit Level	2
Low Benefit Level	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Rail relocation project which eliminates noise, traffic interference or the need for a quiet zone
2	Rail line construction that provides rail access to an industrial park, thereby shifting traffic to rail
1	Rail rehabilitation through wetlands which corrects prior environmental impacts
0	Rail project which does not generate environmental or community benefits

8.2.7 Scoring and Weighting Method:

(a) Purpose: The purpose of weighting the criteria is to appropriately assess the importance of each criterion to determine the total overall impact of the project.

(d) Description: The weights assigned were determined by a committee of stakeholders in North Dakota's rail industry. Each criterion is assigned with a weight which reflects the importance of the criterion to the committee.

(e) Weighting: The scoring and weighting method is implemented as follows:

Criterion	**Minimum Score**	**Maximum Score**	**Weight**	**Total**
Total B/C ratio	0	25	1.12	28
Carloads per mile	0	5	3.6	18
System connectivity	0	3	6	18
Economic development	0	3	4.6	14
Safety/Security	0	3	4	12
Environmental/Community	0	3	3.3	10
Weighted				100

APPENDIX G

NDDOT FREIGHT RAILROAD IMPROVEMENT PROGRAM (FRIP)

APPLICATION INSTRUCTIONS

SECTION 1.0 – INTRODUCTION

The North Dakota Department of Transportation (NDDOT) has administration and oversight responsibility for the North Dakota Freight Rail Improvement Program (FRIP) and Local Rail Freight Assistance (LRFA) loan funds.

This document describes the rail loan fund application process. It also describes the methods used by NDDOT to evaluate rail loan projects. There is in addition a description of several obligations incurred by applicants when assistance is accepted.

Potential applicants should review this document before submitting project proposals.

SECTION 2.0 – ELIGIBLE APPLICANTS

Eligible applicants include cities, counties, railroads, or other current or potential users of freight railroad service.

SECTION 3.0 – ELIGIBLE PROJECTS

The NDDOT rail loan funds have limited resources. They are intended to be used primarily to upgrade and enhance infrastructure to improve rail service in ND through aid to short line railroads and, in some cases, shippers or other rail stakeholders.

Generally, an eligible project is one in which the rail line related to the project has carried less than 5 million gross ton miles of freight per mile in the year previous to the year of application and which accomplishes any of the following: rehabilitates a segment of rail line, results in economic development, improves transportation efficiency, promotes safety, promotes the viability of the statewide system of freight rail service, assists intermodal freight movement, or provides industry access to the national railroad system. The Director may waive the 5 million gross ton miles requirement if it is determined that a significant public interest in the project exists.

SECTION 4.0 – APPLICATION PROCESS

4.1 SUBMISSION

Project requests must be received by NDDOT as follows:

- **Annual Submission – December 1:** Annual submission is for rail projects that are planned and developed in the normal course of business. They include infrastructure projects, such as rail relay or tie and ballast, and economic development type projects, such as loading spurs.

- **Reserve Consideration – June 1:** Reserve consideration is for projects that support economic competitiveness and that have been identified subsequent to the annual submission date. Reserve consideration is for projects that are unforeseen in the normal course of business. It is not an alternative date for annual submission projects.

- Economic Competitiveness projects identified after June 1, but before December 1, will be included at the next annual submission.

Project proposals must be submitted in writing to NDDOT, in either hard copy or electronic format. Address hard copy to:

NDDOT
ATTN: Rail Planner
608 East Boulevard Avenue
Bismarck, ND 58505-0700

Send electronic submissions to: rjohnsto@nd.gov.

Proposals must provide the information requested in 4.1.1 through 4.1.6 and 4.2.1 of this document.

4.1.1 Identification of Parties and Projects

(a) Applicant name, address, phone number, and point of contact (POC). Provide name, phone number, and email address for POC.

(b) Name, address, phone number, and POC for the railroad party to the project. Provide name, phone number, and email address for POC.

(c) Name, address, phone number, and POC of any shipper party to the project. Provide name, phone number, and email address for POC.

(d) A narrative addressing the purpose, need and public benefits of the project. This might include, as applicable: capacity, safety and security, system linkage, system deficiencies, modal interrelationships, social demands, or economic development. This section should also describe and justify any negative impacts thought to be associated with the project.

(e) A description of the proposed project, including:

(1) Physical measurements (Linear, area, etc.).
(2) Physical location (Address, mileposts, street crossings, etc.).
(3) Major material specifications (Rail weight, ballast type, tie grade and type, etc.).
(4) Map/sketch of project design and location.
(5) Such other information as deemed useful by the Applicant to support and define the project concept and purpose.
(6) Number of shippers served and/or affected, and commodities handled.

(f) A narrative stating the alternative(s) to be pursued should assistance not be awarded and the applicable consequences thereof (postpone or abandon

project, reduce service by x amount, forgo x amount of revenue or cost savings, etc.). Data must be objective and quantified (numbers, dates, quantities, dollar amounts, etc.).

4.1.2 Estimated Project Cost and Work Method

(a) A line item breakout of estimated direct project costs at least to the level of:

(1) Materials
(2) Equipment
(3) Labor
(4) Force account work
(5) Contract work
(6) Total project cost

(b) A description of the method or methods proposed for accomplishing major project tasks. (e.g., tie replacement by force account, surfacing by contractor, etc).

4.1.3 Proposed Project Financing

(a) State the dollar amount of assistance requested.

(b) Identify the source of all anticipated non-state assistance.

4.1.4 Intended Benefit and Cost Items

Provide a list or description of the type or category of benefits and costs assumed by applicant to be associated with this project.

4.1.5 Intended Environmental and Economic Enhancement Items

Provide a list or description of any environmental or economic enhancement outcomes projected by the Applicant to result from the project.

4.1.6 Public Involvement Process

NDDOT shall solicit public input for each project that is accepted. NDDOT will place a legal notice in the official newspaper(s) of record for the county or counties in which the proposed project is to be done, giving notice of opportunity to request a public hearing and/or submit comments on a proposed amendment to the State Rail Plan. The legal notice will state the reason for the proposed amendment (i.e., rail rehabilitation or other project), a point of contact for response, and the deadline for response.

If a public hearing is held, all comments will be recorded verbatim and included in the application.

4.2 APPLICATION REVIEW/CONFERENCE

NDDOT staff will review all project applications. If the reviews indicate the need for more information, conferences with Applicants and any other significant entities may be needed. Conferences, if needed, are usually done by phone.

4.2.1 Data for Benefit-Cost Analysis

(a) The single most influential criterion in determining project qualification and rank is the Benefit-Cost Ratio (BCR). NDDOT may employ the services of others in analyzing and calculating the BCR.

(b) The following list is representative of the type of data required for benefit/cost analysis:

(1) What is the expected change (if any), expressed in dollars, in these areas from accomplishing the project.

- Maintenance of Way (MOW) costs
- Locomotive costs
- Fuel costs
- Freight rate/unit
- Number of carloads
- Lading handling costs
- Car hire and/or car investment costs
- Maintenance of Equipment (MOE) costs
- Train crew costs
- Product/lading shrinkage
- Derailment Costs

(2) Other statistical information pertinent to the analysis.

- Project impact on market penetration (intermodal, customer territory, service frequency).
- Average car capacity in same units used in freight rates above
- Net liquidation value of in-place track assets.

4.3 PROJECT QUALIFICATION AND RANKING

4.3.1 The data required for project qualification and ranking shall be submitted to NDDOT by the Applicant.

4.3.2 All project proposals will be reviewed for qualification. Qualified proposals will be scored and ranked for funding priority. (See Section 8 for qualification and ranking criteria and scoring procedures.) Applicants will be informed of their project proposal's ranking.

4.4 EMERGENCY ASSISTANCE

The department may, at its sole discretion and upon application by an eligible applicant, provide assistance from the rail loan funds on a non-competitive basis at any time for a project addressing a (Government) declared emergency situation. The project must meet eligibility requirements. An emergency project shall deal with failure of significant

infrastructure essential to operation of rail freight service, such as bridge failure, major washout, destruction by fire, and the like. Insurance proceeds must first be dedicated to the project.

SECTION 5.0 – ASSISTANCE AWARD PROCESS

5.1 APPLICANT ACCEPTANCE OF AWARD

The Applicant shall accept or reject any offer of assistance within 10 working days of the date of offer.

5.2 AGREEMENT EXECUTION

A loan agreement between NDDOT and the Applicant must be executed within 90 calendar days of the Applicant's acceptance of an offer of loan assistance. Unless NDDOT otherwise agrees, the offer of loan assistance expires and is withdrawn if this condition is not met.

SECTION 6.0 – ASSISTANCE FORM AND AMOUNT

6.1 POLICIES AFFECTING ASSISTANCE FORM AND AMOUNT

6.1.1 The measure of public interest, for program purposes, is determined by the project's qualification and ranking according to the criteria set forth under Part II, Section 1.0 herein.

6.1.2 Loan assistance is provided at an interest rate calculated at 1/2 of a prime rate at the Bank of North Dakota, but not less than 3%.

6.1.3 Loan amounts for rehabilitation construction will be 70% of estimated project cost, with the Applicant's share being 30% of estimated project cost. The Applicant's share must come from non-state funds. New construction will be financed on a 50% - 50% basis.

6.1.4 The loan term is 10 years, with payment deferred the first two years. Interest accrues during the deferred period. The loan is repaid in eight annual installments, beginning the third year of the loan. The interest accrued during the deferred period is due with the first loan payment.

SECTION 7.0 – KEY ASSISTANCE AGREEMENT TERMS

7.1 LIST

7.1.1 The Applicant must agree to maintain the project line at or above FRA Class 2 Track Safety Standard until the loan is fully repaid. Termination of service will make the full loan amount, plus an amount equal to the interest rate stated in the agreement applied to the full loan amount from the effective date of the agreement to date of termination, immediately due and payable.

7.1.3 Interest charges begin upon first draw of loan funds and are calculated on a fixed regular schedule.

7.1.4 Rehabilitation and construction material and performance specifications shall conform to American Railway Engineering and Maintenance of Way Association (AREMA) standards and practices.

7.1.5 Project costs **may not be incurred** on any project before an agreement is fully executed between NDDOT and the Applicant.

7.1.6 If work on the project has not begun within one year of the date the loan agreement was fully executed, the agreement becomes void and the offer of assistance is withdrawn, unless NDDOT agrees to extend the term. If the agreement becomes void, the Applicant may re-apply for assistance. The application will be considered a new submission, and will be evaluated as such.

7.1.7 Competitive bidding must be used for contract work on loan projects.

7.1.8 The progress billing method will be permitted with 10% retainage by NDDOT. Final billing must include a statement of total actual costs and may be subject to a detailed audit. Final billing must be submitted to NDDOT within three months after project completion.

7.1.9 The applicant shall, upon any sale or disposition of all or any portion of the subject line, or the filing of an application for abandonment of all or any portion of the subject line at any time during the term of agreement, repay to NDDOT the full amount of the NDDOT share of the cost of improvements made to the subject line.

SECTION 8.0 – PROJECT SELECTION

8.1 PROJECT SELECTION POLICIES

8.1.1 Purpose of Qualification and Ranking: Proposed projects must generate improvements in transportation efficiency and may also generate broad public benefit.

8.1.2 Method of Qualification and Ranking: Six criteria are used to evaluate and rank proposed projects. The rating system generates a point value for each criterion. The criteria are:

- Benefit-Cost Ratio (BCR)
- Impact on the ND Rail System
- Rail System Connectivity
- Economic Impact
- Safety and Security
- Community and Environmental Impact

A project must have a primary BCR of at least 1.0 to qualify for further evaluation. Qualified projects are ranked according to total point score. The rankings are used in determining which applicants receive offers of assistance. Offers are made, at the Directors discretion, to applicants in

rank order until program resources are no longer until available resources have been allocated.

8.1.3 Relation of Rank to Funding: Project rank is a factor in determining whether a project is funded and what priority the project has. The ranking process has no influence on the type of assistance offered. All assistance is will be in the form of a low interest loan**.**

It is possible for a project to be funded outside of rank order. If a lower ranked project may be funded within available resource limits while a higher ranked project would exceed those limits, the lower ranked project may be funded if the applicant of the higher ranked project is unable or unwilling to proceed with the project funded with only the remaining available resources.

If two or more qualified projects end up with the same total score, the BCR will determine the final ranking.

8.1.4 Directors Authority: On a case by case basis the Director will have the authority to modify funding limits and/or repayment criteria.

8.2 PROJECT SELECTION CRITERIA

8.2.1 Benefit-Cost Ratio:

(a) Purpose: The purpose of the BCR criterion is to afford a measure of the economic soundness of an investment of public funds in the project.

(b) Description: The total BCR consists of three levels: (1) primary efficiency benefits, (2) transportation efficiency benefits, including highway impacts, and (3) total economic benefits. A project must have a primary BCR of 1.0 or greater to qualify for further evaluation. The total BCR is used in comparing projects that qualify for further evaluation.

(c) Scoring: The numeric score for the BCR criterion is the total BCR. To remain consistent with a multi criteria scoring system, the BCR cannot increase without bound. It is therefore capped at 25. Since a BCR above 25 is a rare occurrence, the cap's effect on project score should be minimal.

MAXIMUM OF 25 POINTS

8.2.2 Carloads per Mile:

(a) Purpose: The purpose of this criterion is to represent the scale of the total project benefits. Traffic density is a proxy for the strategic significance of a line, the likelihood of long-run survival

of the line, and the continuation of benefits beyond the analysis period.

(b) Description: The number of carloads per mile is an average of carloads from a period of three consecutive years. All carloads are counted, including bridge and overhead traffic. Any bridge or overhead carloads included in the total shall also be shown separately. Multi-platform articulated cars are to be treated as single or multiple cars according to how they are treated in the tariff or contract under which they move. Carloads from the past three years and projections for the next two years may be used for the average, but it must be three consecutive years. Absent valid projections, traffic for the past three years must be used.

(c) Scoring: Points are awarded on the basis of carloads per mile as shown in the table below. The points awarded increase as the traffic increases. Points are awarded in this manner to reflect the lesser impact on the economy of very light density lines.

Carloads/Mile 3 Yr. Average	***Points***
< 12	**0**
12 - 20	**1**
21 - 35	**2**
36 - 80	**3**
81 - 120	**4**
> 120	**5**

MAXIMUM OF 5 POINTS

8.2.3 System Connectivity:

(a) Purpose: The purpose of this criterion is to afford a means to reflect the value a project may present in serving a distinct system function even though traffic origin or destination functions may be minimal or absent.

(b) Description: System connectivity is present when the project specifically provides for the only direct connection of two distinct through route line segments of the applicant's system, or the system's sole interchange connection with another railroad.

(d) Scoring: System connectivity points are awarded as shown below.

Description	Score or Range
High Connectivity	3
Moderate Connectivity	2
Low Connectivity	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Line improvement that rehabilitates a segment that connects two high volume branch lines and prevents circuitous routing
2	Line improvement to ensure that a segment of track remains continuous
1	Low usage gateway between branch lines
0	Stub Line or Siding

8.2.4 Enhancing North Dakota's Economy:

(a) Purpose**:** The purpose of this criterion is to afford a means to consider aspects of the project that offer economic benefits that may not be captured under either the traditional benefit-cost analysis or a REMI analysis. A qualifying scenario includes an exogenous economic impact, that is, an impact not measureable in the context of the usual benefit-cost analysis.

(b) Description**:** Points are awarded under this criterion on the basis of the department's finding that the project:

(1) Will address an unusual North Dakota job gain or loss situation.
(2) Contains an element of urgency/timeliness significant to its ability to deliver long-term benefits.
(3) Improves viability of businesses served by the operator.
(4) Improves the attractiveness of North Dakota for new business.
(5) Serves a developed industrial park (streets, sewer, and water in place).

(b) Scoring**:** Enhancing North Dakota's economy points are awarded as follows:

Description	Score or Range
High Exogenous Impact	3
Moderate Exogenous Impact	2
Low Exogenous Impact	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Project that provides rail access to an industrial park, which raises attractiveness for firms to locate there
2	Project that provides rail access to an industrial park, which may induce existing firms to expand
1	Project that maintains infrastructure which may lead to firm retention
0	Project that does not have exogenous potential economic impact

8.2.6 Safety and Security:

(f) Purpose: The purpose of this criterion is to provide a means to consider aspects of the project that offer unique benefits to railroad safety or enhance the state's security. A qualifying scenario would include a safety or security impact that is not quantifiable, and therefore not included in the benefit-cost analysis.

(g) Description**:** Points are awarded under this criterion on the basis of the department's finding the project will result in:

(1) Reduction in potential derailments.
(2) Reduction of hazards to railroad personnel and contractors.
(3) A shift of shipments of hazardous materials from the highway system to the railroad network that would reduce accident exposure.
(4) Grade crossing safety enhancements.
(5) Increasing the security of yards, containers, tank cars, and other equipment and facilities.
(6) Security enhancements to border crossings, inspection locations, bridges and potential choke points.

(h) Scoring: Safety and Security points are awarded as follows:

Description	Score or Range
High Safety and Security Impact	3
Moderate Safety and Security Impact	2
Low Safety and Security Impact	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Project that reduces hazmat transportation risks by shifting traffic from high-risk highway routes, reduces the risks of hazmat accidents at grade crossings, or reduces the risks of train derailments involving hazmat cargo
2	Project that generally reduces highway accident risks by shifting freight traffic from highway routes to rail lines, or, that reduces the risk of train derailments
1	Project that improves the safety and security of railroad lines or yards by eliminating hazards to railroad workers or the public, including reductions in trespassing
0	Project that does not positively impact safety or security

8.2.6 Environmental and Community Effects:

(d) Purpose: The purpose of this criterion is to consider aspects of the project that offer unique benefits related to environmental and community impacts. A qualifying scenario would include an environmental or community impact that is not quantifiable, and therefore not included in the benefit-cost analysis.

(e) Description: Points are awarded under this criterion on the basis of the department's finding the project:

(1) Will reduce negative community impacts of rail transportation such as noise, traffic interference, or blocked crossings.

(2) Will reduce environmental impacts aside from efficiency gains due to modal shift.

(f) Scoring: Environmental and Community Effects points are awarded as follows:

Description	Score or Range
High Benefit Level	3
Moderate Benefit Level	2
Low Benefit Level	1
Nonexistent	0

MAXIMUM OF 3 POINTS

Score	Example of Qualifying Project
3	Rail relocation project which eliminates noise, traffic interference or the need for a quiet zone
2	Rail line construction that provides rail access to an industrial park, thereby shifting traffic to rail
1	Rail rehabilitation through wetlands which corrects prior environmental impacts
0	Rail project which does not generate environmental or community benefits

8.2.7 Scoring and Weighting Method:

(a) Purpose: The purpose of weighting the criteria is to appropriately assess the importance of each criterion to determine the total overall impact of the project.

(i) Description: The weights assigned were determined by a committee of stakeholders in North Dakota's rail industry. Each criterion is assigned with a weight which reflects the importance of the criterion to the committee.

(j) Weighting: The scoring and weighting method is implemented as follows:

Criterion	**Minimum Score**	**Maximum Score**	**Weight**	**Total**
Total B/C ratio	0	25	1.12	28
Carloads per mile	0	5	3.6	18
System connectivity	0	3	6	18
Economic development	0	3	4.6	14
Safety/Security	0	3	4	12
Environmental/Community	0	3	3.3	10
Weighted				100

APPENDIX H

RAIL REHABILITATION PROJECTS

NORTH DAKOTA LRSA/LRFA

REVOLVING LOAN ACCOUNT ACTIVITY

YEAR	RR	PROJECT	MILES	LRSA/LRFA	MATCHING	TOTAL
1982	BN	New Rockford to Maddock, rail rehab	36.6	$1,450,236.53	$765,079.29	$2,215,315.82
1982	BN	Larimore to Mayville, rail rehab	36.3	$1,106,740.47	$628,302.00	$1,735,042.47
1983	BN	Edgeley to Lisbon, rail replacement	53.4	$861,556.62	$1,604,908.25	$2,466,464.87
1983	CPR	Fordville to Poland, rail rehab, 3 phase project	35.7			
1983	CPR	Phase I, Fordville to Conway		$216,293.00	$92,697.00	$308,990.00
1984	CPR	Phase II, Conway to Forest River		$425,659.00	$212,822.28	$638,481.28
1985	CPR	Phase III, Forest River to Poland		$222,855.00	$386,882.79	$609,737.79
1986	CPR	Tolley to Russell, rail rehab, phase 1 of a 2 phase project; Loma to Lankin (done in 1989) is Phase II	45.0	$1,688,855.00	$1,515,742.74	$3,204,597.74
1986	CPR	Egeland to Loma, rail rehab	19.0	$905,100.00	$837,436.68	$1,742,536.68
1988	RRVW	Mooreton to Wahpeton, replace rail	5.0	$347,400.00	$157,800.20	$505,200.20
1988	RRVW	Independence to Oakes, ties & ballast	15.0	$195,600.00	$126,916.02	$322,516.02
1988	RRVW	New Rockford to Carrington, rail rehab	15.0	$256,940.00	$198,703.35	$455,643.35
1989	CPR	Loma to Lankin, rail rehab	30.0	$1,887,686.62	$809,008.55	$2,696,695.17
1989	RRVW	Milnor to Wahpeton, rail rehab	40.0	$527,761.25	$226,183.39	$753,944.64
1990	RRVW	Wyndmere to Barney, rail relay	4.2	$283,256.30	$121,395.56	$404,651.86

1991	RRVW	Barney to Mooreton, rail replacement	5.0	$464,670.00	$164,720.10	$629,390.10
1992	RRVW	Mooreton to Oakes Jct., replace rail	6.5	$505,217.59	$220,807.54	$726,025.13
1993	RRVW	Chaffee Junction to Chaffee, rail relay	11.6	$338,594.28	$146,540.40	$485,134.68
1993	DMVW	Kulm to Merricourt, rail relay	10.0	$506,101.00	$216,901.00	$723,002.00
1996	RRVW	Davenport to Lisbon, tie & ballast upgrade, resurface rail	37.0	$583,877.00	$250,233.00	$834,110.00
1996	CPR	Calio to Bisbee, ties & ballast, resurface rail	19.5	$1,082,813.20	$464,062.80	$1,546,876.00
1996	CPR	Conway to Ardoch, rail relay	2.0	$266,000.00	$114,000.00	$380,000.00
1996	DMVW	Crosby to Fortuna, tie & ballast upgrade, resurface rail	24.0	$706,490.40	$302,781.60	$1,009,272.00
1997	RRVW	Carrington to New Rockford, tie and ballast upgrade, resurface rail	16.0	$223,166.58	$95,642.82	$318,809.40
1999	RRVW	Berlin Elevator, siding, new const.		$80,982.00	$80,982.00	$161,964.00
1998	NPR	Ardoch to Conway, ties & ballast upgrade, 2 phases	16.0			
2000	NPR	Ardoch to Conway, phase I		$505,396.27	$216,597.40	$721,993.67
2002	NPR	Ardoch to Conway, phase II		$1,505,205.00	$1,045,989.91	$2,551,194.91
2002	RRVW	Oakes to Independence, replace rail, tie & ballast upgrade	16.0	$2,420,000.00	$1,037,142.86	$3,457,142.86
2005	NPR	Ardoch to Red River Bridge, rail replacement with tie & ballast upgrade	9.6	$1,511,170.00	$647,644.29	$2,158,814.29
2010	NPR	Kenmare to Tolley rail relay with tie & ballast upgrade (to be completed in 2011)	15.2	$2,488,404.00	$1,066,459.00	$3,554,863
		TOTALS	**507.6**	**$23,154,113.11**	**$13,578,705.82**	**$36,732,818.93**

NORTH DAKOTA FRIP

REVOLVING LOAN ACCOUNT ACTIVITY

YEAR	RR	PROJECT		FRIP	MATCHING	TOTAL
1997	DMVW	Crosby to Ambrose, rail relay	9.8	$657,994.00	$281,998.00	$939,992.00
2001	RRVW	Oakes to Independence line, rail replacement, tie and ballast upgrade	3.0	$ 920,939.00	$276,282.00	$1,197,221.00
2001	RRVW	Oakes Junction to Oakes, rail replacement, tie and ballast upgrade	2.3	$ 813,247.00	$346,372.00	$1,154,574.00
2005	CRETE GRAIN	Bernard Siding; Oakes junction to Oakes, new construction, including switch and track scale; rehab construction including tie and ballast upgrade	3.1	$ 639,326.00	$549,761.00	$1,243,087.00
2005	RRVW	Oakes, rail replacement and tie & ballast upgrade to support Crete Grain project	2.0	$ 212,657.00	$91,139.00	$303,796.00
2006	WDF&S	Rail Spur		$107,073.00	$107,073.00	$214,146.00
2008	DMVW	Bismarck to Coal Creek Station, rail relay with the and ballast upgrade	26.9	$1,572,000.00	$678,000.00	$2,250,000.00
2008	RRVW	Horace to Lisbon, tie and ballast replacement	45.3	$697,616.00	298,978.00	$996,594.00
2008	HARVEY	Rail Spur		$293,000.00	$293,000.00	$586,000.00
2009	RRVW	Jamestown to Carrington, tie and ballast replacement	42.5	$370,589.00	$158,824.00	$529,413.00
2010	DMVW	Bismarck Connection		$453,180.00	$453,180.00	$906,360.00
		TOTALS	**134.9**	**$6,737,621.00**	**$3,534,607.00**	**$10,321,183.00**

NORTH DAKOTA LRSA/LRFA

GRANT ACTIVITY

YEAR	RR	PROJECT	MILES	LRSA/LRFA	MATCHING	TOTAL
1979	BN	GRANT Jamestown – Upgrade spur line into the State Hospital to allow coal car access.	4.5	$594,536.28	$139,612.15	$734,148.43
1980	CPR	GRANT Monango – Siding to provide CPR rail service to a new consolidated grain terminal after Milwaukee Road abandonment.		$207,627.06	$51,906.77	$259,533.83
1980	CPR	GRANT Fairmount – provide CPR rail service to Cenex bulk fertilizer plant after Milwaukee Road abandonment.		$13,977.28	$3,494.32	$17,471.60
1981	Coop	GRANT Gladstone – Siding to provide BN rail service to new grain subterminal constructed after Milwaukee Road abandonment.		$335,972.00	$89,873.03	$425,845.03
1993	DMVW	GRANT System-wide Flood		$80,541.39	$14,213.19	$94,754.58
1993	RRVW	GRANT System-wide Flood		$133,550.30	$23,556.70	$157,107.00
1993	CPR	GRANT System-wide Flood		$340,000.00	$88,221.38	$428,221.38
1996	PRO GOLD	GRANT Richland County – Rail spur and intermodal facilities to support a $267 million corn processing plant. The project is served by the RRVW 1st subdivision north of Wahpeton ND and will have significant impacts on both the railroad and the local economy. Inbound corn will by via RRVW and trucks. Outbound product will be via RRVW, then BNSF for nationwide distribution.	3.5	$1,200,000.00	$3,400,000.00	$4,600,000.00
		TOTALS	**8.0**	**$2,906,204.31**	**$3,810,877.54**	**$6,717,081.85**

APPENDIX I

RAIL PLAN UPDATE PUBLIC HEARING COMMENTS

Summary of Comments

I. Introduction

The State Rail Plan update public hearing was held September 21, 2006. The meeting was held simultaneously at sites in Bismarck and Fargo via interactive video. Invitations were sent to agencies, businesses and individuals prior to the meeting.

The meeting was publicized in all North Dakota daily newspapers 21 days prior to the meeting. A follow up public service announcement was sent to the same newspapers approximately 10 days before the hearing. Written comments could be submitted through the October 5, 2006. No written comments were received. Verbal comments were received at the hearing.

The draft rail plan was posted on the NDDOT web site about three weeks before the public hearing. The draft was available for download. Hard copy was available on request. The public was granted the opportunity to submit comments electronically or in hard copy. No comments were received. Hard copy of the draft rail plan was also available at the meeting sites.

The hearing was open house format. An overview of the updated plan was presented. The meeting was then opened for comments.

II. Purpose of Hearing

The meeting was held to receive comments on the draft State Rail Plan and to inform the public about current rail related issues.

III. Verbal Comments (paraphrased)

DAN ZINK, RED RIVER VALLEY & WESTERN RAILROAD: One of the most important things within the State Rail Plan is the loan programs. The North Dakota rail loan programs are absolutely critical to the success of the short line railroads in the state, and RRVW has been a frequent user of them. They are the best source of financing for track rehabilitation projects, short of outright grants. The short lines are grateful for being able to use the loan programs.

It is critical to the future of the short lines to be able to obtain financing for track projects. Financing for larger track projects is one of the greatest challenges that short lines face nationwide, and is probably the biggest single obstacle in the way of further short line development in the country. Nearly all of the legislative initiatives that the short lines have pursued at the state and national levels during the last several years have been related to financing track projects.

Short lines have been good for North Dakota and the nation. Short lines now operate just over a third of the track miles in North Dakota and represent the first-mile last-mile in many areas that would not otherwise have rail service. From the RRVW perspective, the loan programs, how they're treated, how they're funded, to what level they're funded, and the criteria for eligibility, are very important.

BOB JOHNSTON, NDDOT: The latest edition of *Railway Age* talks about how critically important railroads were in the development of the western part of the United States and how the economy of the nation couldn't have coalesced and specialized the

way it did without the railroad network being in place. I think this adds a little emphasis to what we're talking about today.

STEVE STREGE, NORTH DAKOTA GRAIN DEALERS ASSOCIATION: I agree that the railroads are important to North Dakota. My industry is saying that crop production is still the number one generator of rail use in the state. Most grain moves by rail at some point. This is a focal point for a large segment of the North Dakota economy. Pages 24 and 25 of the draft rail plan deal with shuttle loader facilities. These facilities exert great influence on the movement of grain, and producers and shippers must take this into account for their economic survival. With the coming of ethanol and other biofuel plants, change will again come for producers, shippers and the transportation network. We need to keep on top of this, to monitor and track it.

MR. JOHNSTON: The system has changed since 1998. With the opportunities and market for ethanol processing, and some of the other activities that we're likely to see within the next three to five years, we're likely to see a much different and/or expanded set of facilities and a different facilities map than we do today. The railroads are ready to serve that market, but there are also some implications for our local highway planning, looking at access into some of these facilities.

MR. ZINK: Overall, these facilities bring about movement of larger volumes through fewer points. The rail system, the highway system, the grain elevator system, and producers are all impacted. This is an indication of the level of planning this document is

a part of, whether it be for or around the rail system. The planning process has to continue, and it should probably be more frequent and intense because of the impact this consolidation of operations has. There will be benefits, but there will also be substantial cost in terms of public and/or private infrastructure development. Short and long term investment plans may be impacted by this

MR. STREGE: Earlier in this month, agricultural economist Keith Kahl testified before the US Senate regarding biofuel in the United States, and how the growth of that industry has been a lot faster than what USDA projected just two or three or four years ago; he was talking about perhaps 20 percent of CRP acres coming out and going into some crop production. ND is among the top three areas of the county for acres in CRP. The central part of the state – Pierce, Sheridan, Stutsman and Wells counties, for example – has a lot of acres in CRP. I don't know if corn can be successfully grown on those acres because of water problems, but there are many acres there.

MR. ZINK: I think Steve raised another interesting point that is talked a little bit about in the plan; potential changes, with corn shifting to big shuttle facilities or ethanol plants, and possibly oilseeds going to biofuel plants. Other crops might be involved as well. I also think it's important to be aware of how growers are moving product, whether it is through the elevator system plants or trucking it directly to the plants. I think there are major implications for highway planning in all this, since there is potential for shifting truck traffic patterns, which would affect highways and planning in the NDDOT districts. I think it's something we should monitor and keep track of.

MR. STREGE: Well, to move into the plants might not make sense to the railroads because I've been told that they're going to be brining corn from Minnesota into North Dakota plants, while North Dakota corn is going to go to the PNW. I don't know if that's true or not. Maybe Dan can shed some light on that. The railroads can do a lot of things through rates and service. They're pretty free to do that, and so we may think we've got it figured out, but we may not have it figured out.

MR. ZINK: Well, I don't disagree with that at all, Steve. I think a lot is still up in the air. One of the best examples right now is the two ethanol plants under construction in the western part of the state. They're not in or near what traditionally has been corn country. The plants will have some corn inbound by truck, but the facilities are built to be served by rail. Most of them are building enough track to receive shuttle trains or unit trains, but where the source of the corn is I think is very much up in the air. We have within the last few days been involved in preliminary discussion about the process of bringing service into one of those plants. One of the big questions is about the source of corn. This is a very new thing and there is no experience to fall back on. It changes the dynamic of our westbound corn movement completely. How do you satisfy demand far away and up close at the same time; what are the right rates to make that happen, to get the product where it belongs and to do it with enough margin to stay in business for the long term.

JACK OLSON, NDDOT: I appreciate Dan and Steve's comments. I also want to say that we appreciate Dan's comments about the loan programs, about their importance to

the state as a whole, and that they should be used for track projects as much as possible. We have heard that again and again at different times and places. Most of our money has gone for track projects in the past and we would like to continue to use the loan funds primarily for that purpose.

On the issue of corn moving to ethanol plants: I think the two presently being constructed in the western part of the state anticipated more corn from local sources than will be available locally. They are going to have to bring corn in from other areas, and they realize that. They did talk about new varieties of corn that are more drought resistant and mature more quickly. That may extend the corn area to some degree. We've seen some expansion of corn production in North Dakota already, from south to north, to places like Grand Forks County and other areas.

In addition to corn, we're going to see the impacts of moving coal to these plants, either from within the state or from out of state. The movement of ethanol and by-product out of the plants will also impact the transportation system. The points that both Dan and Steve have touched on are extremely important. We're watching them, and we need to continue to watch them as industry grows and changes.

MR. ZINK: Steve, what are the prospects of that 20, 25 percent that's in the CRP becoming active, productive land?

MR. STREGE: There are a lot of contracts coming due next year and the year after. The USDA could, by changing its environmental benefits, indexed EDI, payments, or capping the number of acres in each county, impact how many contracts will be renewed.

I mentioned a problem with water. They can't raise corn without water, and even if there are more drought tolerant or shorter season varieties, they may not have the yield of the more conventional varieties. Usually you sacrifice something to gain something.

MR. ZINK: We heard that the ethanol facility at Williston is looking at designing that plant to run on 15 to 20 percent on non-corn. It could be barley, peas, lentils or other crops that haven't been traditionally used for ethanol production.

MR. STREGE: There is another issue emerging in coal. With new technology that handles coal very quickly, we have the potential of a few large coal transload facilities being built, where the coal is railed in and trucked to final destination, rather than being delivered to final destination by rail. If this comes about, the transload facilities may not be in or near a place where a particular company wants to be. This is most likely to occur in areas where coal users cannot receive more than a few rail cars at a time. Probably the broader policy issue is whether the public interest is better served by having coal trucked from a consolidated facility, or delivered to the user directly by rail. As with many issues, economics plays a large part. The railroads want to move coal quickly, with minimum down time for loading and unloading, while those receiving the coal want it delivered as cheaply as possible and are probably less concerned about turn around time. The public is concerned about increased truck traffic on the highways, and noise and congestion. It is sometimes difficult to balance these competing interests.

MR. ZINK: Excellent point. Coal transloading has already happened with the sugar beet industry in North Dakota. While coal used to be delivered on site by rail to the sugar beet plants, it is now railed to a transload facility at Ardoch, ND. From there it is trucked to the beet plants in the valley. There are presently about 150 trucks a day in and out of the Ardoch facility. Those trucks were not on the highway network before the coal transload facility was built.

MR. STREGE: Are any of the ethanol plants anticipating using lignite or is it all bituminous?

MR. JOHNSTON: The only one I'm aware of is Richardton. I believe they are going to use lignite.

MR OLSON: Yes, the Richardton plant is planning to get coal from the mine at Center, North Dakota. The Yellowstone ethanol plant at Williston will either get coal from the Savage Mine, which is between Glendive and Sidney, Montana, or it will be trucked from Center.

VOICE: Can't coal from the Center Mine be railed into Richardton?

MR. JOHNSTON: It could be railed if the track between the mine and the BNSF mainline is good, but right now, they're looking at trucking it all.

MR. STREGE: If I remember the rail system out there, it's probably a much shorter truck haul than it is a rail haul given the location of the tracks and the need to access the BNSF mainline.

VOICE: Yes, it is.

MR. STREGE: The big issue there that they've identified is the length of the agreement that they have with the coal company. They can get a 35-year agreement on their coal there. I asked them why they weren't looking at, say, coal from Montana. They said it had to do with the length of agreement on the term for the purchase of the coal. I think they got what they thought was a better deal by using North Dakota lignite. They were also going to try to employ some new pollution control equipment to make the North Dakota coal more viable that way.

VOICE: Well, how would a facility around Jamestown get its coal?

DENVER TOLLIVER, UPPER GREAT PLAINS TRANSPORTATION INSTITUTE: It would more than likely be brought in from Montana or Wyoming on the BNSF main line. That's my opinion.

VOICE: So you're suggesting there could be a distribution center established somewhere in eastern or south central North Dakota if there are several ethanol plants. The coal might come to one centralized facility and then be trucked to various sites.

MR. TOLLIVER: I think that's a very real possibility.

VOICE: The location of that site would have a huge impact on highway planning in Jamestown, Valley City and Fargo districts.

MR. STREGE: There may be a trend developing toward consolidated distribution sites, where coal is transloaded from train to truck, for final delivery, rather that train delivery to individual facilities. If it's not a trend, it may be something we need to be aware of and monitor to see what develops. We have one such facility now at Ardoch, and it has changed truck traffic patterns and significantly impacted the highway system in the service area. If other such facilities are developed, the impact is likely to be similar, assuming a similar size operation.

MR. OLSON: Are there other comments about the rail plan document? Are there things we missed, overlooked, should have included, or need to get rid of? We intend to expand the directory section, adding more information about economic development contacts at the railroads for communities or businesses that are considering projects that would require rail infrastructure and rail service. We also want to work with groups like the North Dakota Economic Development Association and others to get them to understand what the rail system can and can't provide in certain communities, so that if a community is out looking for a particular type of development, they'll know what their options are.

MR. TOLLIVER: We worked to provide more relevant information in Appendix C, compiling a brief but detailed description of line segments for each of the seven railroads that operate in ND, including maximum speed, gross car weight limit, traffic density range in gross ton miles per mile, and a brief narrative.

MR. OLSON: We want to eventually have a document that can be electronically altered to be kept current during the life of the plan. We'd like to include information like contact information for railroad safety and operational issues such as crossing signal malfunctions, missing warning signs, missing or damaged crossbucks and so on. We want to provide the public with contact information so they will be able inform the railroad if they see a problem, or if there is an emergency, like a derailment or crash. We hope this will promote public awareness of the rail system and how it should function.

MR. STREGE: I understand why the rate and service section was removed, but rail rates and service are still the most important factors in determining commodity movements and market access. Maybe something like that could be said in the rail plan if it isn't there already.

MR. ZINK: I think you have a very good point there, Steve. A comment could be made about that. I think Bob was trying to indicate that since the states no longer have a regulatory function regarding rail rates and service, we weren't going to spend a lot of time on it and possibly create an adversarial relationship with the railroads. The STB has

regulatory oversight in these areas now, and that's where issues will be sorted out, but I think your comment is valid.

MR. OLSON: Are there any more comments on the plan?

MR. STREGE: I'd like to thank the railroads for participating. I thought we had much better participation this time from the railroad companies. We had very constructive input from Red River Valley and Western, Northern Plains Railroad, CP Railway and BNSF Railway. That input was critical to shaping this document and coming up with some of those strategies, which I think are going to be very useful in guiding us in the future. Thanks.

MR. OLSON: Also, Denver, we want to note that the railroads acted in good faith and were never critical, nor were the others who served on the advisory group in the development of the Rail Plan update. We also appreciate very much having the opportunity to meet with Minnesota and talk about common issues. We want to extend that dialogue to include Montana and South Dakota and the Canadian provinces into the future, since our rail system connects with theirs.

We are going to look a developing an annual work plan, identifying underneath the goals and strategies in the Rail Plan which elements we're going to work on in any given year and what we're going to try to achieve. That would then become part of the rail plan. It would be updated at least annually, and would be a resource available to the pubic to enable them to see where we have and will put our resources and efforts.

MR. OLSON: Denver, could we have a short discussion about the rail loan application process and selection criteria? Have they changed significantly and are we looking at different kinds of projects or not? I think we need to talk about that.

MR. TOLLIVER: We started with the original FRIP guidelines from the previous Rail Plan. We changed the selection criteria some to accommodate different types of projects and to make the evaluation process more valid. We also tried modify criteria where needed to make it easier to quantify them so the process would be less subjective. We realize that there are times we don't have all the data we would like to have. We wanted to make the process as objective as we could and as uniform as we could, so projects would be evaluated on merit, in a fair and consistent manner. The following is a brief overview.

We still consider the basic benefit/cost (B/C) ratio as foundational, but it is part of a multi criteria scoring system. We use the actual B/C ratio as a point value. It is capped at 25, but a ratio of greater than 25:1 would be very unusual.

In addition, we assign points based on carloads per mile generated from the rail line. This is reflected to some extent in the B/C ratio, but there is justification in saying that traffic density is a proxy for the likelihood of the survival of the rail line. For this reason, we assign a maximum of five additional points for lines with higher traffic density.

We have a system connectivity criterion, which we think is extremely important. If there is a line segment in the middle of the network that not only originates local traffic but links other strategic segments, it exhibits connectivity and is an extremely important

part of the railroad's system. Projects on such line segments are assigned up to three additional points.

We also look at the potential effect a project has on the North Dakota economy and use that in the B/C computation. That is a significant change, since that data was not used in the B/C ratio computation before. The B/C ratio used to be computed based on direct benefits to shippers and railroads through cost savings and improved efficiency. We still do that computation, but we now also use a sophisticated regional economic model called the REMI model for additional analysis. The REMI model takes direct benefits and translates them into not only spending effects in the economy, but also the impact on jobs and other potential economic activity generated by the project. This gives us a much more sophisticated benefit cost methodology than have had up to now.

There is a safety and security criteria which we didn't have before. Typically, in the direct benefit cost ratio, we don't quantify the changes in derailment risk or things of that nature. This criterion allows us to assign some points to a project if we think that it potentially improves the safety on a line by lessening the chance of derailment or other mishap due to track defect, condition of the line, or some other factor the project might mitigate.

Finally, we also have a criterion for environmental and community affects. Here we can assign points to a project that would, for example, reduce noise or interference with highway traffic in the community by reducing the length of time crossings are blocked by trains. We might also be able to consider potential fuel savings and/or lessening of emissions when moving freight by rail compared to other modes of transportation.

These modifications give us a more flexible project evaluation framework than before, with more sophisticated and inclusive B/C methodology than we had before.

MR. ZINK: I agree that it's important to include these criteria that we didn't include in the past. I think it brings the rail plan more in line with our overall state transportation plan.

MR. TOLLIVER: We're interested in the response from all stakeholders. This is a new process for the rail plan, with on line access and potential for running modifications. It's a test, of sorts, and we'll revisit it a couple of years down the road to see how it's working. We can always go back to a more traditional methodology if that is indicated.

MR. ZINK: Attention to security in the railroad industry has become extremely high in the last half dozen years or so. It's important to recognize that in planning and operations. We have a long way to go in terms of providing some assurance of security in the industry. There's a real vulnerability there, but much attention is being focused on it.

I was also very interested in the system connectivity portion of the project evaluation process. Jack mentioned the Independence line project. We were we were reminded of the importance of system connectivity there because in the whole process of developing that project and trying to get buy-in from a number of parties on things related to it, we were reminded daily that without it, and the connectivity it would provide, the entire west end of our system was in jeopardy.

This project was problematic for us because, while business was there and it was essential for us to do the project for the long term good of our system, the short term economic reality made it difficult. The rail loan program helped us out there, and the importance of connectivity was a factor in that.

MR. ZINK: Also, related to connectivity, the RRVW, in the 20 years since it started, has gone from about 675 system miles to the about 500 miles it has today. The size reduction was for economic reasons. The lines we no longer operate were not economically viable. The process of rationalization will likely continue for our railroad and others. However, someday we're going to get to a core system of interconnected short lines and Class I carriers that we can say with a fair amount of confidence is solid for the future. I think this will be true both nationwide and within each state that has a rail network. If we can keep focus on system connectivity here, North Dakota will have a better core system in the future.

MR. TOLLIVER: Absolutely. I agree. Connectivity is a very important criterion.

MR. ZINK: One more comment. Hazardous materials is a big issue that has developed nationally amongst not only the short lines, but all railroads. There is a security aspect to it, but, in addition to that, is the whole issue of liability. Risk management has grown exponentially in the last few years, driven by the need to mitigate the risk attendant with carrying hazardous materials, and especially, can you insure for it? Due to the common carrier obligation, railroads cannot easily refuse to carry a very hazardous product like

anhydrous ammonia. On our small railroad, we question whether or not it really makes economic sense to haul the very small number of hazardous materials that we do, because one serious incident like the Minot incident could break our small company. We carry what we feel to be adequate insurance, but an incident like that could put us under.

I believe the insurance industry is very quickly coming to the point where they will someday refuse to insure for those kinds of incidents. Right now, the insurance costs contemplated by some of the bigger carriers are astronomical. There are presently 500 small railroad companies and only four companies nationally that will provide liability insurance for small railroads. Insurance companies have become more and more reluctant to provide coverage for hazmat incidents and the number that do will probably decrease within a few years.

MR. OLSON: We certainly appreciate the input the railroads and the other members of the committee gave us. I think we have a better document this time around. We appreciate Upper Great Plains' efforts on this, both Alan and Denver and the other people that worked on it. We're going to try to make this document an electronic document, so it may change monthly or quarterly or whenever things occur that make it necessary to change what's there. If that happens, the hard copies, obviously, will be outdated, but we don't want to wait eight years again before we update the rail plan.

ATTENDEES

Bismarck:	NDDOT:	Brad Darr, Ben Ehreth, Bob Fode, Bob Johnston, Jack Olson, Jim Styron, Francis Ziegler
	Other:	Kevin Gribble, Nick Steffens (media representatives)
Fargo:	NDDOT:	Bob Walton
	UGPTI:	Alan Dybing, Denver Tolliver
	Other:	Steve Strege, ND Grain Dealers; Dan Zink, Red River Valley & Western Railroad; media representatives, names unknown

APPENDIX J

DIRECTORY

RAILROAD BUSINESS CONTACTS

BNSF
Patrick Thompson, Director, BNSF Economic Development
2650 Lou Menk Dr.
MOB-2
Ft. Worth, TX 76171-2830
Phone: 817.867.6547
Web: http://www.bnsf.com/tools/econdev

Steve Dodd, BNSF ND Region
4515 Kansas Ave.
Kansas City, KS 66106-1199
Phone: 913.554.4168
Web: http://www.bnsf.com/prospective/contacts

CPR
Lin Gartner, Area Manager, Business Development
501 Marquette Avenue
Suite 1510
Minneapolis, MN 55402
Phone: 612.904.5932
lin_gartner@cpr.ca

DMVW
Dennis Ming
DMVW Railroad
3501 E. Rosser Ave.
Bismarck, ND 58501
Phone: 701.223.9282
dming@dmvwrr.com

DNRR
George LaPray
Box 705
Crookston, MN 56716
Phone: 218.281.1750
mnn@rrv.net

NPR
Jesse Chalich, Marketing & Sales Manager
100 Railroad Avenue
Box 38
Fordville, ND 58231
Phone: 701.229.3330
nprserv@polarcomm.com

RRVW
Andy Thompson, President & CEO
Box 608
Wahpeton, ND 58074
Phone: 701.642.8257
andy.thompson@rrvw.net

YSVR
James Mattsen
Marketing Manager
909 E. Main Street
Sidney, MT 59270
Phone: 406-433-8561
Fax: 406-433-8564
E-mail: jmattsen@watcocompanies.com

RAILROAD OPERATIONS/SAFETY CONTACTS

To report emergencies, grade crossing signal and gate malfunctions, other safety issues, or anonymous crime tips.

BNSF
Phone: 800.832.5452
Web: http://www.bnsf.com/tools/resourceprotection/protection.html

CPR
Phone: 800.716.9132
Web: http://www.rrvw.net/contact/contact.htm

DMVW
877.398.9642

DNRR
During business hours (8-5), call the land line first; call the cell number(s) if contact is not made via land line. After hours call the cell phone number(s), primary first, then alternate if contact is not made via the primary number.

Land line:	218.281.4707 Extension 6
Cell Primary:	701.739.4124
Alternate:	701.420.8186

NPR
701.280.7338

RRVW
218.643.4994
http://www.rrvw.net/contact/contact.htm

YSVR
877.926.9663

MPO CONTACTS

Local government planning

Bismarck/Mandan MPO
Steve Saunders
Bismarck – Mandan MPO
221 N. 5th St.
Box 5503
Bismarck, ND 58506 – 5503
Phone: 701.355.1840
ssaunder@nd.gov
Web: http://www.bismarck.org

Fargo/Moorhead MetroCOG
Wade E. Kline, Executive Director
F-M MetroCog
Case Plaza, Suite 232
1 North 2nd St.
Fargo, ND 58102
Phone: 701.232.3242
kline@fmmetrocog.org
Web: http://www.fmmetrocog.org

Grand Forks/East Grand Forks MPO
Earl Haugen, Executive Director
GF/EGF MPO
Box 5200
Grand Forks, ND 58206-5200
Phone: 701.746.2660
ehaugen@grandforksgov.com
Web: http://www.theforksmpo.org/

NDDOT CONTACTS

WEB*:* http://www.dot.nd.gov

PLANNING
Jack Olson
Assistant Division Director – Planning & Programming Division
608 E. Blvd. Ave.
Bismarck, ND 58505
701.328.1029
jolson@nd.gov

Robert Johnston
Rail Planner – State Rail Plan, Rail Loans (LRFA, FRIP), Operation Lifesaver
608 E. Blvd. Ave.
Bismarck, ND 58505
701.328.2675
rjohnsto@nd.gov

Jim Styron
Program Manager – Rail Crossings
608 E. Blvd. Ave.
Bismarck, ND 58505
701.328.4409
jstyron@nd.gov

DISTRICT ENGINEERS
District 1
Kevin Levi
218 South Airport Road
Bismarck, ND 58504-6003
701 328-6950
klevi@nd.gov

District 2
John Thompson
1524 Eighth Avenue SW
Valley City, ND 58072-4200
701 845-8800
jthompso@nd.gov

District 3
Wayde Swenson
316 Sixth Street South East
Devils Lake, ND 58301-3628
701 665-5100
wswenson@nd.gov

District 4
Jim Redding
1305 Highway 2 Bypass East
Minot, ND 58701-7922
701 837-7625
pregan@nd.gov

District 5
Larry Gangl
1700 Third Avenue West, Suite 101
Dickinson, ND 58601-3009
701 227-6500
lgangl@nd.gov

District 6
Les Noehre
1951 North Washington
P.O. Box 3077
Grand Forks, ND 58208-3077
701 787-6500
lnoehre@nd.gov

District 7
Walt Peterson
605 Dakota Parkway West
P.O. Box 698
Williston, ND 58802-0698
701 774-2700
wpeterso@nd.gov

District 8
Bob Walton
503 38th Street South
Fargo, ND 58103-1198
701 239-8900
bwalton@nd.gov

OTHER NORTH DAKOTA STATE GOVERNMENT CONTACTS

North Dakota Public Service Commission
Annette Bendish
ND Public Service Commission
608 E. Blvd. Ave
Dept. 408
Bismarck, ND 58505-0480
abendish@nd.gov
Web: http://www.psc.state.nd.us/

North Dakota Department of Agriculture
Chuck Fleming
ND Department of Agriculture
600 E. Blvd. Ave.
Dept. 602
Bismarck. ND 58505-0020
cfleming@nd.gov
Web: http://www.agdepartment.com/

North Dakota Department of Commerce
Jim Boyd
ND Department of Commerce
1600 E. Century Ave.
Box 2057
Bismarck, ND 58503
jboyd@nd.gov
Web: http://www.ndcommerce.com

FEDERAL GOVERNMENT CONTACTS

Federal Railroad Administration
D. B. Messmer, Railroad Safety Inspector
FRA
Federal Building, Room 343
304 E. Broadway
Bismarck, ND 58501-4082
Web: http://www.fra.dot.gov/

Federal Highway Administration
Stephanie Hickman
FHWA
1471 Interstate Loop
Bismarck, ND 58503-0567
Web: http://www.fhwa.dot.gov/

OPERATION LIFESAVER CONTACT

Serena Schmit
Program Coordinator
North Dakota Safety Council
1640 Burnt Boat Drive
Bismarck, ND 58503
P: 701.223.6372
M: 701.361.0889
F: 701.223.0087
serenas@ndsc.org

www.ndsc.org

GLOSSARY

AAR	Association of American Railroads.
AADT	Average Annual Daily Traffic. Number of vehicles, on average, that travel a road each day.
ASLRRA	American Short Line and Regional Railroad Association.
At Grade Crossing	Highway – rail crossing where both the railroad track and the highway are at ground level. Also known as grade crossing. Commonly referred to as crossing or rail crossing.
Bill of Lading	A document issued by a carrier to a shipper, listing and acknowledging receipt of goods and specifying terms of delivery.
Biofuel	A combustible liquid or gas, derived from various forms of vegetation, that can be used for fuel. Examples include ethanol from corn, biodiesel from canola or soybeans, and methane from cow manure.
Branch line	Secondary line, usually shorter and with less traffic density than the main line.
Bridge Traffic	Freight from one RR moved by a second RR for delivery to a third. For example, COFC received by RRVW, forwarded by BNSF, for delivery to Union Pacific. Also know as Overhead Traffic.
Carloads per Mile	Measure of traffic density on a rail line.
Class I Railroad	(STB definition) RR with annual operating revenue of at least $250 million for three consecutive years.
Class II Railroad	(STB definition) RR with annual operating revenue of at least $20 million but less than $250 million. See Regional Railroad, Local Railroad and Short Line.
Class III Railroad	(STB definition) RR with annual operating revenue of less than $20 million. See Local Railroad and Short Line.
COFC	Container On Flat Car. Intermodal traffic consisting of shipping containers loaded on rail cars. See Intermodal.
Consignee	Entity to which a shipment will be delivered.

Conspicuous Locomotive Locomotive made more visible with reflective markings and ditch lights.

Crossover Track connecting two adjacent tracks.

Diamond Track configured in such a way that two railroad lines can cross at grade.

Efficiency Train CPR term. A train composed usually of 100 cars that is loaded with a single commodity and runs between a loading and unloading facility. May or may not have dedicated power. May or may not have cars from more than one elevator (pooling). See Shuttle Train.

Foul the Main line Block or obstruct the main line to the extent that traffic cannot pass.

FRA Federal Railroad Administration

FRIP Freight Rail Improvement Program. NDDOT rail assistance loan program that uses state funds.

Grade Separation In this context, a rail crossing where the tracks run above the highway (rail over) or under the highway (rail under). Commonly referred to as overpass or underpass.

Gross Tons per Mile Measure of freight carried on a rail line.

Interchange Point A point at which two or more railroads join. Traffic may be passed from one railroad to another at interchange points.

Intermodal In this context, rail cars carrying goods in a trailer or container that is moved by another mode of transport for part of its journey. See TOFC, COFC, Piggyback.

ICC Interstate Commerce Commission. Federal agency that was assigned regulatory oversight of interstate commerce, including railroads. The agency was abolished in the ICC Termination Act of 1995. See STB.

Local Railroad (AAR definition) A Class III railroad that falls below the AAR Regional Railroad threshold. May also be called a short line.

LRFA Local Rail Freight Assistance. Rail assistance program created by federal legislation. Also, NDDOT rail assistance loan program that uses federal funds.

Main Line	Main track that runs through rail yards and from station to station; cannot be occupied without authorization or protection.
Mile Post	Indicates the distance from a specific location such as a major rail terminal or junction. May be expressed in tenths or hundredths, such as MP 10.1 or 10.12.
Miles of Road	Miles of railroad, excluding yards and sidings. May also be called route miles. A mile of road may include two or more parallel tracks. For example, 10 miles of main line is 10 miles of road regardless of whether it is single, double or triple track. Miles of road, less trackage rights, is a measure of the rail network.
NDDOT	North Dakota Department of Transportation
Overhead Traffic	See Bridge traffic.
Piggyback	Early term for intermodal traffic consisting of truck trailers loaded on flat cars for rail transport. See TOFC.
Pre-Empted Signals	Traffic signals that are overridden by rail crossing warning devices. Pre-empted signals turn red when RR crossing warning devices are activated and stay red until the train clears the crossing.
Quiet Zone	Designated area where train horns are not sounded. FRA approval is required before quiet zones may be established.
Rail Weight	Weight of rail per yard. For example, 120lb. rail weighs 120 lbs. per yard. Generally, heavier rail supports higher speeds and heavier loads than lighter rail, but rail profile and quality of steel are factors as well.
Rail Yard	A system of tracks, other than mainline, used for making up trains, parking or storing cars, fueling locomotives and other purposes.
Regional Railroad	(AAR definition) Railroad that operates at least 350 miles of track and/or earns $40 million in annual revenues. May also be called a short line.
Short Line	Generic term for a railroad that does not meet STB Class I criteria. A short line is usually a Class II or III railroad by STB definition and/or a Regional or Local railroad by AAR definition.
Shuttle Loader	Facility that can load shuttle trains or efficiency trains in compliance with railroad requirements.

Shuttle Train BNSF term. A train composed usually of 110 cars loaded with a single commodity that runs directly to and from a loading and unloading facility. Usually has dedicated power. See Efficiency Train.

Siding Track for meeting or passing trains. Railroad timetables indicate siding locations. May also be called side track or passing track.

Slow Order Temporary speed reduction, usually on a specific section of a main or branch line.

Smart Growth Well planned, orderly development which strives to balance land use among competing interests. In the context of the rail plan, this would include inviting railroad input to the planning and zoning process.

STB Surface Transportation Board, created by the ICC Termination Act of 1995. The STB oversees rail abandonments and performs other functions that were once under the purview of the ICC. See ICC.

Staggers Rail Act Federal legislation that began deregulation of railroads. Some provisions:

- Limited rate regulation authority of the ICC (now STB) to service areas where competition is ineffective or insufficient to protect shippers.
- Legalized contracts between railroads and shippers.
- Allowed railroads to restructure their systems, including abandonment of redundant and light density lines.

STCC Standard Transportation Commodity Code. A seven-digit numeric code representing 38 commodity groups. Code assignment is related to descriptions in freight classifications of rail and motor carriers. The STCC is maintained and published by AAR and is used in railroad waybill data.

System Diagram Map Map of railroad system color coded to show five categories of line as follows:

1. Red – anticipate filing abandonment within three years
2. Green – under study for potential future abandonment
3. Yellow – abandonment filed and pending before STB
4. Brown – lines being operated with financial assistance
5. Black or dark blue – all other lines owned and operated

Used for non-exempt (full) abandonment only.

Tare Weight Empty weight.

Timetable Authority for movement of regular trains subject to specified rules. Contains operating instructions and may list special conditions and rules.

TOFC Trailer On Flat Car. Intermodal traffic where truck trailers are loaded on rail cars. See Piggyback.

Track Classification Track classification is set by FRA based on prescribed requirements. FRA establishes maximum allowable operating speeds for freight and passenger trains by track class. Present track classes and speeds are shown below.

TRACK CLASS	MAX SPEED – FREIGHT	MAX SPEED – PASS
Excepted	10 MPH	NA
Class 1	10 MPH	15 MPH
Class 2	25 MPH	30 MPH
Class 3	40 MPH	60 MPH
Class 4	60 MPH	80 MPH
Class 5	80 MPH	90 MPH

Transload The use of more than one mode of transportation to ship goods or commodities from an origin to a destination. In a rail/truck transload, the shipment is initially loaded on a rail car and taken to a transload facility or depot, where it is unloaded from the rail car and loaded onto a truck for transport to final destination.

Transload shipments differ from intermodal shipments in that the cargo, not the container, is transported by more than one mode.

Unit Train Train loaded with one commodity, such as coal or grain, with a single destination, such as a power plant or port terminal.

USDOT (DOT) US Department of Transportation.

Waybill Legal document, based on bill of lading, that gives details and instructions relating to a shipment of goods and specifies a legal weight for billing purposes.