CAMBRIDGE SYSTEMATICS

Minnesota Comprehensive Statewide Freight and Passenger Rail Plan

Institutional Relationships

draft technical memorandum 7/8

prepared for

Minnesota Department of Transportation

prepared by

Cambridge Systematics, Inc.

November 11, 2009

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Executive Summary

OBJECTIVE

The objective of this Technical Memorandum is threefold: to 1) examine and quantify the current and future role, value, and need for the private rail industry; 2) develop guidance on how the State can best allocate roles and responsibilities for statewide freight and passenger rail planning and project development; and 3) recommend a decision-making structure and process for investment in passenger and rail systems. This Memorandum combines Tasks 7 and 8 as defined in the Scope of Work.

METHODOLOGY

The memorandum consists of four sections, of which the first three follow a structure that is roughly parallel and examines similar elements through different private and public perspectives:

- The structure, condition, expectations and financing of the private rail freight industry;
- The structure, practices, expectations and funding of Minnesota state agencies and programs that affect the rail industry; and
- The structure, practices and funding strategies of rail-related functions in other representative states, for identification and comparison of alternatives to Minnesota's institutional structures and programs.

The concluding Section 4.0 provides some suggestions on how Mn/DOT's organizational structure and program management will have to adapt to advance a substantially expanded rail vision and rail program, implementing many improvements to its freight and passenger rail system of the coming years. The recommendations are preliminary and intentionally high-level and general at this time, and will have to be further developed in the Task 9 Technical Memorandum, and of course the subsequent efforts by Mn/DOT, the Legislature, and rail stakeholders.

Specifically addressed are a series of questions that were defined at the outset of the rail planning process:

- Estimate the value of the rail system from the perspective of property, plant, and employment;
- Identify and quantify how the key public policies and programs affect Minnesota's rail industry, and compare with the experience of other states;

- Examine the institutional elements of how Minnesota manages rail-related policies and programs;
- Examine different approaches and their impacts of public investment on private railroads;
- Review the experience in other states in the assignment of roles and responsibilities for freight and passenger rail planning and implementation;
- Identify current roles and responsibilities in Minnesota for freight and passenger rail planning and implementation; and
- Propose policy guidelines for potential public-private and public-public planning, project development, and investment.

The memorandum draws extensively on information obtained through a series of public and private stakeholder discussions that took place throughout the project. Respondents included agency employees, railroad managers, shippers, state legislators, as well as the public at large that attended the open meetings that were held throughout the State.

1.0 Railroad Industry Organization and Investment Strategies

1.1 INTRODUCTION

The institutional structure of the rail industry in North America is quite different from the other transportation modes (highways, air, water, etc.) that have typically been the subject of public planning studies and policy development efforts. Understanding how the rail industry is structured, and the varying scale, ownership and operating arrangements that are present in Minnesota is critical to developing responsive strategies that will meet the goals set forth in a vision for rail. While the North American rail system is an integrated network, the individual carriers, which range from very small railroads that operate in only a county or two to the largest carriers that service much of the nation, have significantly varying perspectives and needs. This section provides an overview of Minnesota's railroads, their economic structure, and a delineation of the major differences among them. It concludes with an estimation of the value of the railroad industry to the Minnesota economy using selected metrics.

Prior Technical Memoranda that have been produced for the Rail Plan contain a detailed description of traffic composition and the physical characteristics of the statewide rail network, and thus is not covered here.

1.2 COMPOSITION OF MINNESOTA'S FREIGHT RAILROAD INDUSTRY

Railroads are typically categorized by measures of size and geographic reach. This classification is important in that carrier size is a critical determinant of the rail services that are available in a region, competitive posture, market access, physical condition, and financial strength.

In the United States, railroads are classified by size following a scheme developed by the Association of American Railroads (AAR).[1] This scheme is based on a combination of revenues and carrier characteristics. The largest railroads are designated Class I carriers, and fall into this category based purely on revenues exceeding $319.3 million as of 2005. Since 2000, there have been seven such carriers operating in the United States, of which four – Burlington

[1] The Surface Transportation Board uses a similar but not identical classification scheme that is purely revenue-based.

Northern Santa Fe (BNSF), Union Pacific (UP), Canadian National (CN), and Canadian Pacific (CP) have operations in Minnesota. Regional and short line railroads fall into the following three categories (based on 2004 dollar values):

1. **Class II –** A non-Class I line-haul railroad operating 350 miles or more with operating revenues of at least $40 million but less than $319.3 million. Class II railroads are called regional railroads, though they are often classified with and referred to as short lines.
2. **Class III –** The remaining railroads that have revenues of less than $40 million and are engaged in line-haul movement. Class III railroads are commonly referred to as short line railroads.
3. **Switching or Terminal –** A railroad engaged primarily in switching and/or terminal services for other railroads (i.e., they are not typically involved in line-haul moves between two geographical locations). Switching and terminal railroads are often categorized with short line railroads due to their operational and revenue characteristics, except in cases where they are owned by one or more Class I carriers.

Small railroad ownership takes on many different forms, of which many are represented by one or more Minnesota railroads:

- **Class I Parent(s) –** Typically a jointly owned switching or terminal railroad, such as the Terminal Railroad Association (TRRA) of St. Louis and the Belt Railway Company (BRC) in Chicago. Minnesota does not host any such railroads at this time.
- **Industry –** Usually operated for one industry, but can provide service to other unrelated firms. The most common owners are steel and forest products companies. Over the years, Minnesota has had several significant industry-owned railroads, most notably the Duluth Minnesota and Iron Range (DMIR), which was acquired by the CN in 2004 from an affiliate of U.S. Steel. A current example is the Cloquet Terminal Railroad Company, a three-mile switching railroad located in the City of Cloquet that is owned by SAPPI Paper.
- **Holding Company –** A railroad that is owned by a corporation holding several short lines. The two largest are Rail America currently with 47 short line properties and the Genesee and Wyoming with 43 properties. Rail America owns one property in Minnesota, the Otter Tail Valley Railroad, and Anacostia and Pacific, another major short line holding company, operates the Northern Lines Railway.
- **Public –** This includes state and county/city/municipality-owned, as well as Federally owned (typically for military purposes). At present, there are no publicly operated railroads in Minnesota; however, several Minnesota short lines operate under a lease agreement over trackage that is owned by regional railroad authorities. Most notably, these include the Minnesota Prairie Line, the North Shore Scenic, and the Minnesota Southern Railway.

- **Independent –** Railroads that are independently owned and operated (e.g., Progressive Rail, Inc., Minnesota Commercial Railway, etc.), with the underlying infrastructure either directly owned by the operator or by a third party, such as a Class I railroad or public agency. Most of the small railroads in Minnesota are independently owned, although several, including the Red River Valley and Western, have multiple operating entities in Minnesota and the Dakotas.

A listing of each of Minnesota's active freight railroads, their parent companies, and miles operated, is shown in Table 1.1. In the case where the railroad property is owned by a public entity, the owning agency and parent company of the operator are both indicated.

Table 1.1 Freight Railroads Operating in Minnesota

Railroad	SCAC[a]	Parent Company/ Owning Agency	Rail Miles Operated in Minnesota[b]	% Total MN Rail Miles Operated
Class I Railroads				
Burlington Northern Santa Fe	BNSF		1,686	29.3%
Canadian National	CN		479	8.3%
Canadian Pacific	CP		1,240	21.5%
Union Pacific Railroad Co.	UP		665	11.5%
Regional and Local Railroads				
Dakota, Minnesota and Eastern (includes former Iowa, Chicago and Eastern)	DME	CP	564	9.8%
Minnesota Northern Railroad, Inc.	MNN	KBN Inc.	257	4.5%
Minnesota Prairie Line	MPLI	TCWR (RRVW); Minnesota Valley Regional RR Authority	94	1.6%
Minnesota Southern Railway, Inc.	MSWY	Independent; Buffalo Ridge Regional Rail Authority	42	0.7%
Minnesota, Dakota and Western	MDW	Independent	6	0.1%
North Shore Scenic Railroad	NSSR	Independent; St. Louis and Lakes Counties Regional Railroad Authority	25	0.4%
Northern Plains Railroad	NPR	Independent	51	0.9%
Otter Tail Valley Railroad	OTVR	RailAmerica	72	1.3%
Progressive Rail, Inc.	PGR	Independent	97	1.7%
Red River Valley and Western Railroad Co.	RRVW	Independent	32	0.6%
St. Croix Valley Railroad, Inc.	SCXY	KBN Inc.	60	1.0%
Twin Cities and Western Railroad Co.	TCWR	Red River Valley and Western	234	4.1%
Switching and Terminal Railroads				
Cloquet Terminal Railroad Company, Inc.	CTRR	SAPPI Paper	3	0.1%
Minnesota Commercial Railway	MNNR	Independent	125	2.2%
Northern Lines Railway	NLR	Anacostia and Pacific	28	0.5%
Total Miles Operated (including Trackage Rights)			**5,760**	**100.0%**

[a] Standard Carrier Alpha Code, an industry standard two- to four- letter abbreviation.

[b] Mileage shown for each carrier includes trackage rights mileages; thus the total miles shown for all carriers exceeds physical mileage.

1.2.1 Major Carrier Profiles

As described in Technical Memorandum 2B, four Class I railroads and their affiliates provide the substantial majority of rail service from the standpoint of many key measures such as traffic handled and mileage operated (over 80 percent). Given their importance, it is useful to take a closer look at the characteristics and recent trends of each of the four Class I railroads serving the State. The available information for the smaller railroads is quite limited; in many cases they are privately held, and, until recently, only one of the major holding companies was publicly held and thus subject to reporting requirements.

BNSF Railway

The BNSF Railway is one of the four largest United States railroads, along with the Union Pacific Railroad, CSX, and Norfolk Southern. It operates in 28 states and 2 Canadian provinces; has 32,000 route-miles (1,598 in Minnesota); and employs 40,000 people systemwide (2,422 in Minnesota). In 2008, the railroad had total assets of $36.403 billion, and annual revenues of $18 billion systemwide ($752 million in Minnesota). BNSF dominates many markets in Minnesota; its business strategy in the State emphasizes bulk freight, consisting primarily of coal, ore and agricultural commodities, along with intermodal traffic along the northern corridor "High Line" between the Pacific Northwest, the Twin Cities and Chicago. BNSF intermodal service in the Twin Cities is split between St. Paul's Hub Center, which handles domestic traffic, and Union Yard in Minneapolis, which serves the international liner trade. While BNSF is the dominant railroad in Minnesota, its Minnesota operations constitute only a small part of its total network and revenue.

BNSF's network covers the western half of the United States, serving all of the major markets in the region. The firm connects to eastern markets through all five primary gateways (Chicago, St. Louis, Kansas City, Memphis, and New Orleans) and several minor interchange locations, including a southeastern connection at Birmingham, Alabama. North American service is provided through connections with Canadian and Mexican railroads.

BNSF moves more intermodal traffic than any other rail system in the world. In 2008, more than 4.6 million intermodal shipments (truck trailers or containers) were transported on BNSF's rail lines. According to the BNSF, the railroad is one of the largest grain-hauling railroads in the United States, transporting more than 1 million carloads of agricultural commodities in 2008, nearly one-half of which were corn and wheat movements. Among the industrial products carried by BNSF's carload services are lumber, newsprint, printing paper, paperboard, propane, lube oil, motor oil, asphalt, canned beverages, coiled sheet steel, recycled iron and steel, cement, asphalt, gypsum, crushed stone, limestone, iron ore, soda ash for glass, and kaolin clay for paper.

Union Pacific Railroad

The Union Pacific Railroad (UP) is the largest railroad in North America, operating 32,400 route-miles in the western United States, and employing over 50,000 people, of which 456 work in Minnesota. 2008 gross revenues virtually matched BNSF's revenues of $18 billion, and carloads totaled 9.26 million. The railroad serves 23 states, every major West Coast and Gulf Coast port, and four of the five largest gateways between the East and West at Chicago, St. Louis, Memphis, and New Orleans. The railroad has one of the most diversified commodity mixes in the industry, including chemicals, coal, food and food products, forest products, grain and grain products, metals and minerals, automobiles and parts, and of course intermodal. UP is the nation's largest hauler of chemicals, much of which originates along the Gulf Coast near Houston, Texas. With access to the coal-rich Powder River Basin in Wyoming and coalfields in Illinois, Colorado, and Utah, the railroad moves more than 250 million tons of coal annually. UP's intermodal services, which largely parallel BNSF's network linking the large West Coast ports with major markets in the interior, handled 3.16 million units in 2008, 31 percent less than BNSF. BNSF's longstanding dominance of the Nation's largest intermodal lane between Los Angeles and Chicago provided a substantial boost over UP; differences in intermodal market strategy account for the rest.

UP gained entry to Minnesota through its 1994 acquisition of the Chicago and North Western. At present the firm owns approximately 462 miles of track in the State, and operates over an additional 203 miles through trackage rights. Volume in 2008 amounted to 19.1 million tons of freight originated and/or terminated in Minnesota. UP's business strategy in the region has focused on developing unit train and carload markets, which are heavily oriented toward agricultural crops, ethanol, and coal. Intermodal is not much in the picture at present, with the exception being a twice weekly Road Railer service between Chicago and Minneapolis that is operated under contract with the Norfolk Southern's Triple Crown subsidiary. There has been some interest in starting service to the south and southwestern United States.

Canadian National

Canadian National Railway Company (CN), headquartered in Montréal, Canada, operates the largest rail network in Canada and the only transcontinental network in North America. The company operates a network of approximately 20,264 track miles in eight Canadian provinces and 16 U.S. states. CN's Canadian operations span across Canada from Nova Scotia to British Columbia. Through a series of acquisitions that began in 1999 with the purchase of the Illinois Central, CN gained control of an extensive network in the central United States along the Mississippi River valley from the Great Lakes to the Gulf of Mexico.

In Minnesota, CN has had a long-standing presence with its Duluth Winnipeg and Pacific (DW&P) subsidiary. However, much of CN's current 436 miles of

track came through its recent acquisitions of the Wisconsin Central (2001) and Duluth, Minnesota and Iron Range (DMIR) (2004). The latter had the well-known operation between the Iron Range and the ports of Twin Harbors and Duluth/Superior, and has made the CN the largest carrier of iron ores in North America. The Wisconsin Central acquisition allowed the CN to create a through route to Chicago, thereby forming a transcontinental link from western Canada through the United States; secondarily, it also gave the road access to St. Paul from the east. However, volumes on that route are modest, as CN lacks a yard in the Twin Cities, and enters the region over trackage owned by the CP. CN does not offer intermodal service in Minnesota, even though intermodal trains destined for Chicago and western Canada ply its northern Minnesota main line daily.

Company-wide, the firm employed an average of 22,000 people in Canada and the United States in 2008, with 440 located in Minnesota. In the same year, gross revenues amounted to $8.4 billion Canadian and carloads totaled 4.61 million, placing CN in fifth place among the seven Class I railroads. Traffic mix is quite evenly balanced among carload, unit train, and intermodal, and between the United States and Canada. Thus, 54 percent of traffic is U domestic and cross-border, 23 percent is international, and 23 percent is Canadian domestic.

Canadian Pacific Railroad

Based in Calgary, Alberta, the Canadian Pacific Railway (CPR) provides freight transportation services with 15,700 employees over a 14,000-mile network in Canada and the United States, of which 1,240 miles and 1,050 employees (not including DME/ICE) are located in Minnesota. CP's rail network stretches from Vancouver to Montréal, and also serves major cities in the United States such as Minneapolis, Chicago, and New York City. In 2008, 2.64 million carloads generated revenues of $4.9 billion Canadian, placing the firm in sixth place among the Class I railroads, behind CN and ahead of Kansas City Southern (KCS). Over half of the CP's freight traffic is in coal, grain, and intermodal freight. It also ships automotive parts and automobiles, sulfur, fertilizers, other chemicals, forest products, and other types of commodities. The busiest part of its railway network is along its main line between Calgary and Vancouver.

Currently the second largest railroad in Minnesota, CP has had a lengthy presence in the State through its controlling ownership of the Soo Line, a railroad that served the upper Midwest. In 1985, CP purchased the remaining assets of the Milwaukee Road, giving it a more direct through route between Chicago and the Twin Cities. Combined with CP's existing lines west of the Twin Cities, a stronger link between Chicago, the upper Midwest and western Canada could thus be established through gateways at Portal, North Dakota and Noyes, Minnesota. Subsequent to the Milwaukee acquisition, the CP's midwestern network shrank considerably through a series of line spinoffs. This trend was reversed in September 2007 when CP initiated acquisition of the Dakota Minnesota and Eastern (DME) and its affiliate the Iowa, Chicago and Eastern

(ICE); ironically, the latter had been spun off by the CP in 1997, and had passed through several owners prior to its reacquisition. Combined, the DME and ICE properties added 472 miles of track (564 total, including trackage rights) in Minnesota, and 2,500 route-miles throughout the Upper Midwest to the CP's portfolio. Many elements of DME's operations are slowly being absorbed into the CP, but the firm is expected to remain as a stand-alone entity under the CP umbrella.

The DME acquisition brought with it rights to build an extension west into Wyoming's Powder River Basin (PRB). Planning for this somewhat controversial and costly ($6 billion in 2006[2]) extension had begun in 1997, with the DME receiving final Surface Transportation Board approval to construct the line nine years later in February 2006. By the time this approval was secured however, the future of this project had started to dim. The likelihood of its construction was further diminished subsequent to the CP transaction, with the recession, turmoil in the financial markets, flattening electricity demand, and possible imposition of new regulations on carbon-based fuels from pending climate change legislation all contributing factors. Although CP remains publicly committed to its construction, recent actions indicate that the project has ceased being a high priority.

Prior to the DME acquisition, Minnesota had become more of a through state for the CP, and traffic volumes thus depend heavily on general economic trends in North America, and not so much on local conditions. However, with the DME acquisition this trend has been reversed to some degree. The commodity mix remains largely the same, consisting largely of agricultural products, ethanol, fertilizers, and coal, most of which moves in high-volume unit train service. Intermodal service is available at Shoreham Yard in the Twin Cities, with access to all major markets on the CP, including Chicago, Calgary, Winnipeg, Vancouver and points east. Service to Kansas City and Mexico is likely to be implemented in the near future. In 2009, CP projects to handle approximately 83,000 lifts at Shoreham, a decline of more than 20 percent from previous years.

1.3 FREIGHT RAIL INDUSTRY ENVIRONMENT

The present rail industry is a reflection on its history as one of America's oldest large-scale geographically dispersed commercial enterprises. From its beginnings in the 1830s to World War I, the railroad industry had established itself as the dominant form of land transportation through its ability to move large volumes of passengers and freight much more rapidly and efficiently than any other mode. However, by the 1920s, when the rail network had reached its

[2] http://www.dmerail.com/Media/News%20Releases/060815%20STB%20WDR%20Ruling.pdf.

largest size of more than 250,000 miles, it was generally recognized that too many lines had been constructed, that competition among railroads had weakened the financial outlook for the once all-powerful industry, and that trucks were evolving to the point where they could compete for freight. It was also apparent that automobiles, buses, and – somewhat later – airplanes would take most of the passenger traffic away. The faster and more flexible highway mode had begun to make inroads into the railroad's traffic during the 1920s, a trend that then continued largely unbroken – with the exception of World War II – for almost 70 years.

By the 1990s, the size of the rail network had declined by almost half, and the rail industry's shares of traffic and especially transportation revenue had dropped dramatically. Mergers, which had begun almost as soon as railroads were first constructed, have continued until only a handful of major carriers remain. At the same time as the primary railroad network was being consolidated, many lower density lines were spun off as small railroads. By 2007, these railroads operated one-third – 45,800 miles – of the 140,100-mile U.S. network, and, for commodities other than coal and intermodal, they handled 41.5 percent of all rail shipments in North America.[3] Short lines perform a critical transportation function for local agriculture and industrial products shippers, connecting them to the Class I railroad mainline services, for whom they generate a significant volume of revenue (20 percent for BNSF, for example).

In addition to rationalizing the network, the industry greatly improved operating efficiency through the use of better technologies for track, equipment, and communications and operations control. New technologies allowed the operation of longer trains with heavier cars and smaller crews, and the costs of shipping by rail continued to decline. New vehicle designs allowed railroads to compete effectively with both barge and truck competition. Larger cars and better track structure enabled much cheaper transport of coal, grain, and other bulk materials. Multilevel automobile carriers allowed railroads to compete effectively with trucks for serving automobile assembly plants. Intermodal innovations, especially the introduction of double-stack container trains, allowed railroads to remain competitive for long-haul shipments of general merchandise.

The net effect of these improvements, combined with long-term economic growth has resulted in a situation where rail traffic has grown in terms of ton-miles and tonnage, but not in terms of revenue and commodity value transported**.** Whereas railroads produced 28 percent of intercity freight ton-miles in 2005, they carried only 5 percent of the value of commodities

[3] Martland, Carl D. and Steve Alpert, *Research Priorities for Regional and Short Line Railroads*, Research Report prepared for the American Short Line and Regional Railroad Association, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, December 2006.

transported by all modes in the United States.[4] The railroads' modest share of overall freight value and revenues produced is caused by several factors, of which the nature of the commodities handled by the railroads, service quality (trip times, reliability) vis-à-vis motor freight, and the markets served by the railroads have had the most influence. Railroads attain their greatest efficiency and competitive advantage over other modes when handling large volumes over longer distances in point to point service. Thus, coal has been the single largest commodity hauled for many years, accounting for around 40 percent of originated tons, followed by chemicals, farm products, and nonmetallic minerals, each with between 7 percent and 9 percent of total tons. Intermodal is in fifth place with over 6 percent of originated tons. The actual share is somewhat higher, as figures for the commodity-specific categories include some traffic that moves intermodally in addition to carload and unit train service.

Competitive pricing has been a critical factor in the railroads' ability to stabilize and at least maintain its market share. Rail rates to shippers dropped following economic deregulation in 1980, allowing the railroads to hold market share, but at the cost of revenue and profitability. Between 1980 and 2002, railroad freight revenues remained essentially flat in current dollars, and were only partially offset by increases in productivity, sale of assets, and other business strategies. The result was a relatively low rate of return on investment for the railroads. In the 1980s, calculations by the Interstate Commerce Commission (predecessor to the Surface Transportation Board) indicated that the railroads' return on net investment (ROI) fluctuated between 2 and 6 percent, compared to a cost of capital that ranged between 12 and 18 percent. Since then, the industry's rate of ROI has improved, albeit slowly.

Following the recession of 2001-2002, the railroads' ROI began to surpass historic trends, reaching a high of 10.17 percent in 2007 for the Class I railroads as a whole. However, this still placed the industry below the Surface Transportation Board's calculated cost of capital of 11.33 percent, and the industry as a whole continues to generate less revenue than is desirable from the standpoint of it needs. While these rates of return may seem robust for transportation carriers, railroads must carry the full burden of building and maintaining their own infrastructure. They are among the most capital intensive of all industries and thus require far greater access to capital. Between 1995 and 2004, the rail industry invested 17.8 percent of its revenues in capital (16.7 percent between 1998 and 2007). By contrast, U.S. manufacturing industries spent an average of 3.5 percent, with the electric utility industry topping the group at 11.6 percent. And with few exceptions, the rail industry must continue to make capital investments and maintain track, bridges, and locomotives across its network regardless of the business cycle. It cannot disinvest itself of mainline track or

[4] From forthcoming AASHTO Freight Bottom Line Update, based on IHS-Global Insight Transearch Insight data.

discontinue maintenance during recessions without ceasing revenue-generating service. This situation has also encouraged the railroads to be highly risk-averse.

The relatively low rates of return, high maintenance costs, and lack of liquidity (i.e., the inability to quickly and easily sell track and right-of-way), has traditionally made railroad stock less attractive to Wall Street and investors looking to invest in high growth and profit industries. This has resulted in a persistent shortfall or gap between what the railroads "should" be investing out of their revenues to maintain the rail network, expand it, and grow market share and what they can afford to invest. Through the 1990s, this shortfall was about $2 billion annually for the Class I railroads. The gap closed during the 2002-2007 traffic boom, but was still estimated at about $1 billion per year despite record revenues and investment by the railroads in recent years. It should be noted that the largest share of capital investment goes to maintaining existing infrastructure in a state of good repair, and purchasing new rolling stock. Relatively little is left over for infrastructure expansion and this investment is focused on high growth, high density, and most profitable lanes.

The rise in returns from 2003 onward has in part occurred due to a rapid rise in traffic volumes without associated increases in capacity among both the railroads and their highway competition. This allowed railroads to raise rates and generate greater profits, thereby boosting stock prices and generating greater attention on Wall Street. To deal with this new business environment, the railroads adopted a number of strategies. A primary strategy has been to focus on their "hook-and-haul" business – the high-density, long-haul freight movements where large volumes enable economies of scale in operation and keep service profitable. This meant giving priority to intermodal container movements from West Coast ports, unit coal trains from the Powder River Basin to Midwest, Southeast, and East Coast utilities, and unit grain trains to Pacific Northwest and Gulf ports. Railroads faced especially strong political pressure to maintain capacity, service, and price in the energy and intermodal markets, so infrastructure expansion has been focused on the coal lines out of the Powder River Basin and the intermodal lines out of Ports of Los Angeles and Long Beach.

A second strategy has been to increase prices and reduce service to divest of lower-profit traffic. This happened across many rail markets, where growing bulk and intermodal traffic was squeezing out carload traffic. The use of such strategies to allocate rail service makes business sense from the railroads' perspective, but for individual shippers and some short lines that are "captive" to a single railroad, higher rail rates and inferior service mean lower profits, smaller market share, and in some cases the risk of business failure.

Because the carload business still accounts for a large and a profitable element of the railroads' business, the railroads are pushing a third strategy, which is to encourage consolidation of carload traffic at centers on their main lines. Logistics parks, transload centers, and grain consolidation facilities enable the railroads to continue to provide carload service, but do it as a more operationally simple "hook-and-haul" operation. To provide collection and distribution services to

these centers, the Class I railroads continue to transfer low-density branch lines to short line railroads, who can operate at lower cost than the Class I railroads, and encourage shippers to truck shipments to the centers. This has been an effective strategy in maintaining rail services in some markets, but at the cost of transferring risk to the short line operators and, where trucks are substituted for rail, increased pavement and bridge maintenance costs to the public sector.

In recent years, the short line industry has consisted of a mix of profitable and marginal performers. The volume of traffic handled by a short line has a direct impact on track maintenance levels, speeds, service reliability, and ultimately the financial viability of the short line service. High-volume markets and lines have done relatively well; low-volume markets and lines struggle. Consolidation of short line ownership and some consolidation of low-density lines and collector/distributor functions has improved the business outlook for short lines in some areas, but in very low-volume markets or where short lines do not connect to emerging consolidation centers, short lines in Minnesota and elsewhere are not meeting critical volume thresholds, and services and investment in track and equipment is declining.

Beyond volume, short lines face three specific problems as an industry: 1) they face high costs to upgrade track and bridges to carry the newer, heavier, higher capacity, 286,000-pound cars preferred by shippers and Class I railroads; 2) railcar availability, which is partially controlled by the Class I railroads, is a continuing problem; and 3) the Class I railroads generally set prices and access conditions.

Table 1.2 lists the financial metrics for the Class I railroads serving Minnesota for the years 2005 and 2008. Although traffic volumes peaked in 2007, financial performance continued to improve in 2008, which was well after the freight recession began during the fourth quarter of 2006. Noteworthy is the extent to which BNSF's and UP's revenues grew over just three years, increasing by around 30 percent in both instances, with lesser but still substantial improvements in operating and net income. This increase in a large part reflects the efforts to improve traffic mix and revenue yield, plus surcharges from the doubling in petroleum fuel prices that occurred between 2005 and mid-2008.

Revenue growth among Canadian carriers CP and CN during the period shown was less than half of UP and BNSF. This diminished performance in comparison to UP and BNSF, (as well as CSX and NS), in part may explain the recent acquisitions by the CP of the DME/ICE, as well as the CN's purchase of the Elgin, Joliet and Eastern (EJE) in the Chicago region. By adding these properties, the companies hope to gain top- and bottom-line growth that will help maintain their competitive positions among the major railroads.

The impact of the recession that did not fully hit the railroad industry until the fourth quarter of 2008 is not yet fully apparent in these data. While traffic declines have been substantial – through mid-October 2009, U.S. carloads among

Class I carriers has been off by 18 percent, and intermodal by 16.5 percent[5] – the financial effects have been modest thus far. Although the Class I carriers clearly will not match the financial results of 2008 in 2009, by many metrics the railroads have managed to maintain their profitability and capital investment levels rather well thus far. Industry analysts attribute these positive results to pricing discipline and effective cost management. Short lines have been impacted more severely, with a drop in carloads exceeding 25 percent.[6] This greater drop can be ascribed to the differing commodity mix and customer characteristics from the Class I railroads.

Table 1.2 Metrics for Class I Railroads Serving Minnesota
2005 and 2008

	BNSF		UP		can		CP[a]	
	2008	**2005**	**2008**	**2005**	**2008**	**2005**	**2008**	**2005**
Financial Metrics[b]								
Operating Revenues	$18,018	$12,987	$17,970	$13,578	$8,482	$7,240	$4,932	$4,392
Operating Income	$3,912	$2,927	$4,075	$1,795	$2,984	$2,624	$1,057	$1,002
Net Income	$2,115	$1,534	$2,338	$1,026	$1,895	$1,556	$619	$543
Per-Share Net Diluted	$6.08	$4.02	$4.54	$3.85	$3.95	$5.54	$3.98	$3.39
Operating Cash Flow	$3,977	$2,606	$4,070	$2,595	$2,031	$2,624	$1,079	$1,051
Depreciation	$1,397	$1,075	$1,387	$1,175	$725	$627	$491	$445
Capital Expenditures	$2,175	$1,750	$2,780	$2,169	$1,400	$1,180	$856	$884
Year-End Position								
Total Assets	$36,403	$30,436	$39,722	$35,620	$26,720	$22,188	$15,469	$10,891
Total Debt	$9,555	$7,154	$8,927	$7,416	$7,911	$4,214	$4,845	$5,389
Common Shareholder's Equity	$11,131	$9,508	$15,447	$13,707	$4,179	$4,580	$5,993	$4,386
Financial Ratios								
Debt/Capital Ratio	44.5%	42.7%	36.6%	35.1%	42.8%	35.5%		
Return on Equity	10.7%	10.1%	15.1%	7.8%	18.3%	16.8%	8.2%	9.4%
Operating Data								
Total Freight Revenue	$17,503	$12,606	$17,118	$12,856	$7,641	$6,905	$4,815	$4,266
Carloads (000)	9,994	10,024	9,261	9,544	4,615	4,841	2,644.7	2,676
Revenue Ton-Miles (millions)	664,384	596,575	562,600	548,800	177,951	179,701	124,532	125,303
Operating Ratio (%)	77.6%	76.8%	77.3%	86.8%	65.9%	63.8%	78.6%	77.2%
Average Employees (000)	40.9	39.5	48.2	49.7	22.7	22.2	15.7	16.5

[a] Financial measures reported in Canadian Dollars.

[5] Association of American Railroads, Weekly Rail Traffic Report, October 22, 2009 (http://□www.aar.org/□NewsAndEvents/□PressReleases/□2009/□10_WTR/□102209_□RailTraffic.aspx).

[6] Railcar Management Inc., *Railconnect Short Line Traffic Index* for the week ending October 17, 2009 indicated a 27 percent year-over-year cumulative decline in traffic between the first 41 weeks of 2009 versus 2008.

[b] Financial data shown in millions, except for per-share net diluted.

1.3.1 What's Next for the Freight Rail Industry?

Overall, the rail industry today has become stable, productive, and competitive, with enough business and profit to operate, but not to replenish its infrastructure quickly or grow rapidly. The railroads' return on investment has been increasing; a major achievement of an industry that just a few decades ago was struggling financially. However, as economic growth picks up, it is risky to assume that rail traffic (or freight in general) will simply resume its former growth patterns, and with it, that the private railroad industry will be able to maintain, let alone increase investment to expand capacity and improve service. More likely, the railroads stand at the threshold of major changes that may be as extensive as those that occurred following deregulation in 1980. Three factors are particularly concerning:

1. A rapidly changing customer base;
2. Ongoing initiatives to modify economic regulation; and
3. Shifting modal economics.

Although any or all of these potential changes may impart some beneficial effects on railroad industry, they also have the potential to be negative, or at the very least engender substantial uncertainty that will affect their willingness to invest. Each of these elements is elaborated on below.

Customer Base

Although a railroad's traffic base constantly evolves to some degree, three of its most important sectors are expected to undergo major transformations: automobiles, international trade, and coal. With the bankruptcy of General Motors, the United States' largest domestic automaker, and the substantial distress by most others, longstanding patterns of auto manufacturing and distribution are being upended. Annual sales volumes, which regularly exceeded 17 million units only a few years ago, are now running at less than 10 million, and few analysts expect them to exceed 13 to 14 million any time in the next decade. Not only is the automobile industry a significant railroad customer, ranking sixth in 2007 revenues by commodity, many other important rail-oriented industries, such as chemicals and steel, are also substantial suppliers to the auto industry.

International trade, the primary driver behind the boom in intermodal traffic from mid-1980s until 2006, has ceased being an engine of growth for the railroads. Although volumes are expected to increase as the economic recovery gets underway, it is unlikely to reach the levels of growth that were achieved in recent years. Trade patterns will be more dispersed, both with overseas trading partners as well as the ports through which goods will flow in North America. This will result in an imbalance of capacity in certain areas of the rail network, and increased uncertainty, thereby making long-term capital planning more

difficult. It could also cause (and already has to some extent) a rethinking of intermodal strategy among the railroads, which may result in renewed efforts to develop services that cater to domestic shipments. While the market for domestic shipments is far larger than for imports, it is also far more service and cost-competitive.

Finally, coal, which has represented roughly one-quarter of the railroad's revenues and upwards of 40 percent of its ton-miles, faces considerable uncertainty as a fuel. Major recent discoveries of natural gas in the United States as well as rising concerns about greenhouse gas emissions are likely to result in either stable or lower demand for coal in future years. Compounding these effects are pending regulations that mandate cleaner emissions. Coal -burning plants will be required to implement scrubbing, which will affect the heavy dependence on low-sulfur Powder River Basin (PRB) coal, of which the distance to consuming markets has been a big driver of ton-mile growth since the 1980s. Once PRB coal requires scrubbing, coalmines that are located more closely to the electric utility plants will become more attractive, since the cost of transportation far exceeds that of the coal itself. Midwestern coalfields are likely to benefit, as will the Mississippi River System and its barge industry, which has served some of these markets in the past.

Economic Regulation

The Staggers Rail Act of 1980, which substantively deregulated the rail industry, brought about a regulatory regime that recognized the generally modal and intermodally competitive nature of the freight transportation market, and that in a competitive market, regulation has a negative rather than positive effect on economic efficiency. Although stakeholders have raised a variety of concerns, notably access to and service adequacy, the most vocal complaints have been about rates. Staggers placed the burden of challenging rate reasonableness on the shipper, an imposition that some believe to be discriminatory. Over the years, several procedural changes were undertaken in response to pressures from stakeholders, particularly by so-called "captive" shippers who believe that railroads are engaging in discriminatory practices against shippers of agricultural and extractive commodities that have little or no modal competition. The industry has shifted towards a value of service or demand-based pricing strategy and away from the cost-based strategy pursued by the ICC in the modern regulatory era. Some have argued that this pricing strategy has succeeded from the railroad's perspective primarily due to the absence of modal competition in many regions. Railroads have countered with the argument that many of their customers are large entities that have substantial market power in their sectors, and therefore are simply looking for a better deal than they can negotiate by themselves. They have also stated that any attempt to coercively define the shipper-carrier carrier relationship would impair the future viability of the railroad industry.

Thus far, the railroads have successfully fended off a series of legislative attempts at changing the fundamental conditions of the Staggers Act. However, since 2006 the Surface Transportation Board has made significant changes to their procedures to make them more attuned towards shippers. This more "shipper-friendly" attitude was also evident recently when the STB issued several rate case decisions in favor of shippers that only a short time ago would likely have favored the railroads. Furthermore, the current Congress is developing legislation that may further adjust the regulatory balance by modifying provisions that the railroad industry has long enjoyed. How these changes may impact the financial performance of the industry is not known, but they are very unlikely to improve them.

Shifting Modal Economics

Significant challenges faced by motor freight, the railroad's primary competitor and sometime collaborator, stand to influence future rail traffic in a direction that could either benefit or disadvantage them. The rail industry's improving financial performance that began in the early 1990s is in part attributable to disproportional increases in costs faced by motor carriers versus railroads. Rising diesel prices, growing highway congestion, reduced driver utilization resulting from new hours of service regulations, and a continuous shortage of long-haul truck drivers at prevailing wages, not only raised costs but also narrowed the service gap. One outcome was the development of new intermodal business with long-haul trucking firms who could use the railroads to carry their shipments in some major lanes as a transparent substitute to over-the-road line-haul operation. Two of the largest truckload firms, J.B. Hunt and Schneider National, have subsequently become among the railroad's largest customers.

The recession has given the trucking industry a reprieve on fuel cost and availability of labor, and over the road rates have dropped back to levels not seen since the mid-1990s. While these low costs will continue as long as demand remains soft, once economic growth picks up again, trucking costs will increase more rapidly than rail, and for the same reasons that they were high before: fuel costs and lack of labor. As oil reached its peak price in mid-2008, trucking firms spent more than 40 percent of their total costs on fuel versus approximately 20 percent for railroads. To the extent that these trends reappear, the effects on the rail industry will be largely positive.

The impacts of evolving Federal transportation policy add to the uncertainty. The Highway Transportation Trust Fund, which for decades has funded most capital investment in highways through user fees, is insolvent. Starting in FY 2009, the Federal Government has used general funds to bridge shortfalls, but longer-term solutions are very much still in flux. However, some form of increased user fees seem inevitable, irrespective of how highway investments will be funded. While there is some agreement in the trucking industry about the need to increase these fees, many in the industry are demanding a

productivity boost in return through changes in Federal truck size and weight regulations. Maximum weight has been set to 80,000 pounds since 1983, and long combination vehicles were limited to certain highways located primarily in the West since 1991.

The economic impact of a nationwide increase in truck size and weight on the rail industry has been a matter of contentious discussion for many years. However, any significant changes in truck size and weight beyond current limits that are broadly applicable will provide productivity gains to trucking firms that will tilt modal economics towards highway transport. Short lines are likely to bear the brunt of these impacts disproportionately, given their heavy orientation towards small volume carload traffic.[7] However, given the traffic mix of Minnesota's short lines, which are primarily oriented towards low-value bulk commodities, this may be less of a concern than in other states.

Mn/DOT's 2006 examination of the TS&W issue was rather incomplete from a rail perspective. Impacts on rail traffic were not quantified, in large part because most of the TS&W proposals affected short-haul truck trips not economically attractive to rail, even short lines. Also Mn/DOT's proposals covered only non-Interstate highways.[8]

1.4 FREIGHT RAIL INVESTMENT AND FINANCING PRACTICES

Being privately owned, it is obvious that the sources of funds to operate, maintain and improve a freight railroad are drawn from private capital. However, while this is largely true, there are exceptions, some recent, and others longstanding. This is particularly the case with short lines, where some degree of public funding has been rather common. Table 1.3 lists the typical sources of funding for operations and maintenance, and the primary categories of capital investment by carrier type. Entries marked with a gray background indicate funding from public sources, which could be through direct (grants, loans, etc.) or indirect (tax credits, abatements, etc.) means.

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[7] One recent study found that an increase in truck weight from 80,000 to 97,000 pounds could reduce merchandise traffic volumes by 44 percent, and overall traffic by 17 percent. Carl Martland, *Estimating the Competitive Effects of Larger Trucks on Rail Freight Traffic*, September 2007.

[8] *Minnesota Truck Size and Weight Project: Final Report*, prepared by Cambridge Systematics for Mn/DOT (June 2006).

Table 1.3 Typical Sources of Funding of Rail Operations and Infrastructure

	Typical Sources of Funding	
Cost Category	**Class I Carriers**	**Class II and III Carriers**
Operations and Maintenance	Private capital – Cash flow	Private capital – Cash flow, loans, etc.
Capital Maintenance and Expansion	Private capital – Cash flow, loans, stock, etc.	Private capital – Cash flow, loans, stock, etc.
		Tax credits, public loans and grants
Cars and Locomotives	Private capital – Direct ownership, third-party lease	Private capital – Direct ownership, third-party lease)
Grade Crossings	Private capital – Cash flow	Private capital – Cash flow
	Federal Section 130 and state/local match	
Customer Facilities	Private capital – Customer cash flow, loans, etc.	Private capital – Customer cash flow, loans, etc.
	Freight rail and economic development assistance programs	

Carriers pay for **ongoing expenses** out of cash flow. If they cannot do so, then they are engaged in an unsustainable business, and will eventually be unable to continue operations. Over the years, this has occurred with both large and small railroads, but only with small railroads since the advent of the modern rail era in 1980. Public funds have been used to support rail operations, primarily on an emergency basis.

Capital maintenance and expansion is usually financed through cash flow and some form of loans or stock. Short lines have done the same, although they have also been able to tap into Federal investment tax credits since 2006, and state programs that offer low-cost loans and grants. Programs vary substantially by state, and are discussed in a subsequent section of this Memorandum. In addition, the Federal Railroad Rehabilitation and Improvement Financing (RRIF) loan program has been available since 2001. (This program has seen most extensive use by regional railroads, including the DME and ICE.)

Cars and locomotives are financed similarly to other capital investment needs, although most equipment now is leased to carriers by third-party owners. With a broad market for highly standardized rolling stock, it is often less costly for carriers and shippers to lease instead of purchase equipment.

Grade crossing improvements are generally funded by public sources through the long-standing FHWA Section 130 program, with responsibility for ongoing maintenance absorbed by the railroad. More extensive rail/highway initiatives, such as quiet zones, grade separations and sealed corridors, are primarily paid for through public funds, but through sources other Section 130.

The facility owner generally funds **customer facilities**, although railroads sometimes contribute. Beyond the usual sources of private funding, many states, including Minnesota, offer low-interest loans, outright grants and tax credits through their industrial development programs.

1.5 VALUE OF RAIL INDUSTRY TO MINNESOTA

Economic development of Minnesota was heavily shaped by the railroads, which opened up access to its fertile lands and connecting the region together through an integrated network. As the rail system matured and other modes became more prevalent, the singular importance of railroads declined. However, they continue to provide considerable value to the State, through their services to shippers, employment of its residents, and support of its institutions through various taxes. Having a measure of these different attributes provides an indication of the railroads' significance to the State, and reveals some of their characteristics as commercial enterprises.

The consultant team considered several measures for value, both direct and indirect. Direct measures include carrier revenues associated with traffic handled in Minnesota, payroll size, services purchased, taxes paid, capital invested, and valuation of plant and property. More indirect measures include the value of goods transported, indirect employment, and the contribution to state GDP of industries served. While some of these measures were discussed in earlier task memoranda, in this section two direct measures that are of particular interest to Mn/DOT are examined:

1. Employment, and,
2. Plant and property.

The following sections detail and provide estimates for each of these measures. Data for much of the material that follows was obtained through e-mail correspondence with the Minnesota Department of Revenue (MNDOR).

1.5.1 Employment, Wages, and Payroll Taxes

Employment is an indication of the importance of the railroad industry to the State's workforce, directly as a career choice, and indirectly as a market to which goods and services can be sold, in effect the multiplier effect from employment-driven economic activity. Given the massive contraction in rail employment over the past 50 years, it is useful to note not only current employment, but also the number of retirees and beneficiaries that are drawing railroad pensions.

Data on industry employment and wages are readily available from several sources. The Railroad Retirement Board (RRB), a Federal agency that administers the railroad retirement system (which is separate from Social Security), maintains statistics on active and retired employees. Information on aggregate wages paid by state was drawn from the AAR's state fact sheets, for which 2007 is the most current year.[9]

[9] http://www.aar.org/~/media/AAR/InCongress_RailroadsStates/Minnesota2.ashx.

In 2008, Minnesota RRB records indicated employment of 4,500 individuals. With typical average wages of $71,400 (plus $28,400 in fringe benefits), the total freight-related payroll of Minnesota's railroad employees added up to $321.3 million. These figures include Amtrak employees domiciled in Minnesota, which totaled 43 individuals in 2008.[10]

Estimating the contribution to state revenues through payroll taxes were developed as follows: Since the distribution of wages among Minnesota's railroad employees is not known, the Minnesota Department of Revenue recommended that a recent study published by the Minnesota Taxpayer's Association be used as the basis.[11] Calculating effective average tax rates from this information yields the following for the "average" railroad employee:

- Married couples filing a joint return (assuming two children): 3.87 percent at $75,000, 4.41 percent at $100,000, and 5.13 percent at $150,000; and
- Single filers (nonseniors): 4.96 percent at $50,000, 5.4 percent at $75,000, and 5.81 percent at $100,000.

Again using the recommendation of MNDOR, assuming that 25 percent of workers are singles earning $75,000, and 75 percent are married couples with household incomes of $100,000, produces an average effective tax rate of 4.66 percent. Thus, the net revenue to the State from payroll taxes of active railroad employees amounts to 4.66 percent of $321.3 million, or $15.0 million.

In addition to the 4,500 active employees, 7,600 retired employees live in Minnesota, and a further 7,986 are beneficiaries of railroad retirement. This latter group is made up of spouses and survivors of deceased railroad employees. For all retired railroad employees, the industry-wide average annual remittance was $23,760, $8,800 for spouses, and $14,580 for survivors. In Minnesota, the net payout to these beneficiaries amounted to approximately $277 million in 2008, not much less than the active payroll.

[10] http://www.amtrak.com/pdf/factsheets/MINNESOTA08.pdf.

[11] http://www.mntax.org/cpfr/documents/Income_Tax_Burden_Study_TY2006_FINAL_MCPFR.pdf.

1.5.2 Plant and Property

In Minnesota, railroads pay an annual assessment on the property that they use for conducting their business. The Commissioner of Revenue, using data supplied by the railroads, estimates the value of property that is used for operating purposes annually. The estimate is not based on direct evaluation of each individual property, but rather carrier financial data. For publicly held carriers, property values are calculated on the basis of cost, income, stock price and debt levels; for privately held firms, original cost and income are used. In Minnesota, these property tax rates are uniform, and the treatment for rail yards and main lines is identical. Property that is not used for operating purposes is assessed and taxed by the local jurisdiction in which it is located.

For taxes payable in 2008, MNDOR estimated a market value of rail property at $676,443,314. The taxable value of these properties was set at $13,381,650 resulting in a net tax of $20,657,836.

Since the market value of rail property is estimated from an allocation of current revenues attributed to activity in Minnesota, the current average capital spending to revenue ratio for the industry as a whole, 14.7 percent between 1998 and 2007, can be applied to estimate annual expenditures for capitalized maintenance and infrastructure improvements. This permits an indication of the industry's ability and willingness to maintain its plant and property, and offers a comparison with estimates for capital needs. Using the above figures, 2008 capital investment in Minnesota would have been roughly $100 million. This amount appears to represent a minimum, and reflects continued disinvestment from noncore routes, particularly among the smaller railroads. This is evident from the cost estimations provided in Technical Memorandum 6, given the significant investment required to bring the lower density network up to viable commercial standards.

2.0 Minnesota Agency Organization and Rail Programs

2.1 INTRODUCTION

Minnesota's railroads, with their significant and long-time presence have a broad range of interactions with government agencies at all levels, including the Federal, state, and local governments. While the nature of these interactions vis-à-vis the rail industry range from minimal to major, collectively they significantly affect rail industry behavior and performance in the State. This section examines the institutional roles and responsibilities of these agencies and relates the perspectives of rail industry stakeholders to their current effectiveness and potential for improvement, particularly as Minnesota embarks on a broader vision for rail.

With this Rail Plan having a statewide focus, the primary emphasis is on the state departments, programs, and legislative mandates that affect railroads. Beyond the state-level interactions, several Federal agencies also have important institutional roles.

This section consists of two sections: Section 2.1 examines the roles and responsibilities of the state departments, regional agencies, and, to a lesser degree, Federal agencies from the perspective of the rail industry. Mandates and application of Minnesota statutes with relatively minor impacts on the industry are summarized, and the perspectives of rail industry stakeholders presented. Section 2.2 evaluates the two programs that involve public investment in Minnesota's railroads – the Minnesota Rail Service Improvement (MRSI) and the Railroad-Highway Grade Crossing Safety Improvement Program, both of which are administered within Mn/DOT.

2.2 INSTITUTIONAL ROLES AND RESPONSIBILITIES FOR RAIL IN MINNESOTA

Seven departments in the Minnesota State government, along with a handful of regional agencies have ongoing roles and responsibilities as they relate to the rail industry. In addition, the most important Federal agencies that impact the activities of the railroads are briefly reviewed as well. A more extensive listing of the mandates, organization, procedures, and resources for each of the agencies are provided in Appendix A.

2.2.1 Minnesota State Agencies

Minnesota Department of Transportation

With its mandate to handle transportation issues for the State, the Minnesota Department of Transportation (Mn/DOT) has the most extensive interactions with the rail industry on a regular basis. Mn/DOT consists of 6 divisions, 24 offices, and 8 districts located throughout the State. Offices that have significant interactions with the rail industry are as follows:

- **Office of Freight and Commercial Vehicle Operations (OFCVO)**. Located within the Modal Planning and Project Management Division, OFCVO has primary responsibility in handling freight-related matters for the State, including policy development, multimodal planning, and investment processes. Prior to the recent creation of the Office of Passenger Rail, Mn/DOT's rail-oriented programs were all located within OFCVO, which presently include the Rail Grade Crossing Improvement program, Operation Lifesaver, the Minnesota Rail Service Improvement (MRSI) program, the track inspection program, and management of various state-owned rail assets, which include 57 bridges. This office has a staff of 70, of which the 50 are assigned to commercial vehicle operations and 20 to other freight and rail functions.
- **Office of Passenger Rail (OPR)**. This office was established in 2009, under the Modal Planning and Project Management Division. Its purpose will be to coordinate and manage Mn/DOT activities related to intercity passenger rail, including planning. With this Office only being recently launched, staffing levels and responsibilities (some of which may be shifted from OFCVO) are still being determined.
- **Office of Transit**. Also located within the Modal Planning and Project Management Division, this Office administers grant programs for capital and operating assistance to transit services outside of the Twin Cities metropolitan area, and provides coordination and planning support for nonmotorized travel and telecommuting. Although intercity passenger rail services would not generally fall under the Office of Transit, certain elements could be included such as station improvements and connections with local transit services in outstate locations.
- **Office of Environmental Services (OES).** This office, located within the Engineering Services Division, conducts environmental review for FHWA projects, including air/water quality and analysis, endangered species, noise, regulated materials and waste, and erosion control. Although OES generally focuses on highway projects, more recently it has become involved in some rail-related activities.
- **Office of Land Management (OLM)**. Part of the Engineering Services Division, OLM provides a variety of services for managing and acquiring real estate for transportation purposes. OLM acquires abandoned rail rights-of-

way under the direction of OFCVO, and maintains extensive records on rail property in the State.

Given the central role of Mn/DOT as the state agency with the most extensive interaction with the railroads on nonadministrative matters, stakeholders had the most comments about Mn/DOT.

Mn/DOT organizational structure: Stakeholders perceive that Mn/DOT fails to devote significant and consistent attention to rail-related matters that are commensurate with its importance to the State, and senior management has tended to view it with indifference. Only a small part of the department's 4,000 employees are involved with modes other than highways. The Office of Freight and Commercial Vehicle Operations, where rail-related planning and program management is conducted, is primarily focused on the CVO portion of its responsibilities, and is not viewed as an effective advocate for rail within the department.

The recent changes in Mn/DOT senior management have resulted in greater interest in a multimodal approach that includes rail. However, stakeholders indicated that more is necessary, and that organizational changes to strengthen the position of rail within Mn/DOT are needed, either within the Office of Freight, or some other structure. This issue is further examined in the concluding section of this Memorandum.

Autonomy of the eight Mn/DOT Districts discourages coordination and distribution of funds according to department political considerations instead of need. Furthermore, regional staff ability varies greatly, with some having little knowledge or interest in addressing rail-related matters. A common outcome is a lack of coordination and communication with stakeholders.

Planning: Planning efforts that incorporate rail as a mode have traditionally occurred outside of the standard Mn/DOT planning processes. This has placed rail at a distinct disadvantage, particularly for project funding, long-term transportation investment strategies and needs assessments. However, Mn/DOT has recently made a concerted effort to include multimodal freight in its Minnesota Statewide Transportation Plan 2009-2028. For example, there is a freight dimension to the Infrastructure Preservation Policy, which includes freight objectives and performance measures.

Mn/DOT could improve recognition of rail-related needs as well in day-to-day highway engineering activities. The agency has been slow to adopt current standards, such as overpass clearances (Federal standard is 23 feet, 7 inches), and take into consideration future rail system needs when highway projects are being designed. For example, when planning an overpass over a single-track rail line, if traffic projections indicate potential need for a second track, sufficient horizontal clearance should be provided to do so. The marginal cost of providing space for two tracks is often modest, and far less expensive than rebuilding the overpass at a later date to accommodate a second track.

Safety: OFCVO is involved in administering several safety-related initiatives, including Operation Lifesaver, and monitoring of grade crossing and right-of-way trespassing incidents. In 2008, OFCVO was given responsibility to administer two new safety mandates that are defined by statute:

- **Walkway legislation (MN Statutes 219.501).** Effective August 1, 2008 railway companies were required to provide walkways next to portions of rail tracks where employees work on the ground performing switching activities at least one shift per day, five days per week. Mn/DOT can order modifications to meet set standards for walkways constructed before or after the effective date. Although this mandate is quite limited in scope, the expected benefits are unclear, and there is concern that efforts will be made to expand these provisions, which could impose a substantial burden on short lines. Legislators should not be drawn into bargaining between management and rail labor.
- **Track inspection program (MN Statutes 219.015)**. Instituted in July 2008, Mn/DOT was directed to employ a state rail safety inspector to participate in the Federal Railroad Administration's Federal State Rail Safety Partnership Program. This inspector would collaborate with existing FRA inspectors to examine track, right-of-way, civil works and other facilities, including enforcement of the walkway legislation. The cost of the inspector is being covered through an assessment of Class I railroads operating in Minnesota. Having an additional resource to inspect track may provide Mn/DOT with a better picture of conditions in the field, and improve efforts to manage the MRSI program.

Minnesota Pollution Control Agency

The Minnesota Pollution Control Agency (PCA) monitors environmental quality, offers technical and financial assistance, and enforces environmental regulations. Three of eight divisions regularly intersect with the rail industry: Industrial, Remediation, Prevention, and Assistance. However, most interactions are related to hazardous materials releases and facility permitting.

Permitting and clean-up: With the most common interaction following the occurrence of an environmental mishap, some rail carriers perceive that the PCA primarily focuses on enforcement, rather than working cooperatively to develop effective solutions that minimize risk.

Emissions reduction: Some states, such as California and Texas, have programs that aid railroads in acquiring (usually through grants) emissions reduction technologies, such as genset locomotives and standby systems. Genset locomotives, which shut down automatically when they are not in use, are far less polluting in switching applications. This program could be administered through the MNPCA or Mn/DOT.

Minnesota Department of Agriculture

Given the significance of agriculture to Minnesota's economy, the Department of Agriculture is a substantial state function. The department consists of 12 divisions, of which the Agricultural Development, Marketing Services, and the Pesticide and Fertilizer Management Divisions most commonly interact with the rail industry. Agriculture Development and Marketing Services develop new markets and uses for agricultural products, of which the most noteworthy recent development from the perspective of the rail industry has been ethanol.

The Pesticide and Fertilizer Division enforces regulation of chemicals used for the control of noxious weeds, which the rail industry became subject to on June 1, 2009 through an amendment to Minnesota Statute 18B.346, Pesticide Application on Railroad Property. Applicants must be properly trained in the use of restricted-use pesticides on railroad property, which must only be used for their intended use as specified on the label. Since the railroads almost entirely rely on third-party specialists to apply pesticides, this is already being done.

Minnesota Department of Employment and Economic Development

The Department of Employment and Economic Development (DEED) is the State's principal economic development agency, with responsibilities for managing the unemployment and job services programs and retaining and attracting businesses to the State. Four divisions make up DEED, of which railroads interact with three: Workforce Development, Unemployment Insurance, and Business and Community Development (BCD).

Although DEED participates in Mn/DOT's Rail Advisory Committee, there is little active coordination between DEED, Mn/DOT, and the railroads in retaining existing or attracting new businesses. At times DEED has had in-house rail expertise, but it has not been a consistent focus, and coordination with Mn/DOT has generally been infrequent. Stronger focus on this function should be provided, either at DEED or Mn/DOT.

Minnesota Department of Revenue

Collecting taxes to fund state programs is the Department of Revenue's (DOR) primary function. Most importantly for the railroads, the agency administers the property and corporate tax collection process. For the former, while DOR administers the collection process, revenues are dispersed to local jurisdictions. The DOR also enforces compliance of state purchasing regulations of other state departments, including Mn/DOT.

Treatment of railroads by the DOR is viewed to be acceptable for the most part, although two issues have been of concern, particularly to short lines:

1. **Recognition of Federal tax credits for short line infrastructure investment:** Minnesota has not adjusted its tax structure to conform to the U.S. Federal Tax Maintenance Track Credit that was reauthorized and expanded in the

Railroad Safety Enhancement Act of 2008, thus treating the Federal tax credit as ordinary income. With a total impact on Minnesota's Class II and III railroads of approximately $200,000, this does not have a major financial impact; however, it is discriminatory, and from that standpoint should be rectified.[12]

2. **Diesel fuel sales and use tax (MN Statutes 297A.62):** In 2000, Minnesota imposed a diesel sales and use tax on railroads that was viewed as discriminatory by the railroads. Since motor carriers and air carriers pay a separate petroleum excise tax, they are not subject to this tax via an exemption provided in MN Statute 297.68 subd. 19(1). Following a series of court challenges led by the CP, the Eighth Circuit Court of Appeals ruled in favor of the railroads on November 6, 2007, following an appeal of a summary judgment by the Federal district court. Taxes collected by the State under this provision have yet to be refunded to some of the railroads. The outstanding amount is unclear, although one estimate places the amount at several million dollars.

Minnesota Department of Public Safety

The Department of Public Safety (DPS) provides a one-stop shop for most safety-related functions in which the State is involved, including law enforcement, emergency management, and driver and vehicle services. Consisting of 12 divisions and offices, DPS' involvement with rail is primarily through law enforcement functions, and collection of accident statistics including grade crossing incidents. At one time, DPS also collected data on railroad accidents, a function that is handled Federally by the Federal Railroad Administration.

In the DPS realm, two issues are of concern to railroads: trespassing on rights-of-way, and the authority of railroad police. Trespassing is not permitted in yards, but along main lines it is only a major misdemeanor. This raises serious safety concerns, and exposes railroads to potential liability. Carriers feel that these risks could be reduced if their own officers had the authority to make arrests. Minnesota and Wyoming are the only two states where railroad police are not deputized, and thus must rely on local law enforcement authorities whose priorities may differ.

2.2.2 Regional Authorities and Metropolitan Planning Agencies

Regional Rail Authorities

Through legislative action in 1980, a mechanism was created for counties to preserve and improve local rail service for both industrial shippers and/or

[12] Edward A. Robinson, CPA, *Minnesota Railroad Track Maintenance Credit for Small Railroads,* undated.

passenger traffic. The means through which such preservation could take place was through the creation of Regional Rail Authorities (RRA), of which 12 currently exist. Section 398A of the Minnesota Statutes grants significant powers to these authorities, including the ability to acquire and dispose of property, apply for state and Federal funds, exercise eminent domain, and levy taxes.

The performance of Regional Rail Authorities has been mixed**.** Many authorities are only minimally active and have not developed into robust entities. Only a few of the authorities have a regular funding stream, with the others funded sporadically, if at all. However, some have been very active, and have effectively utilized different elements of the statute. The RRA's clustered around the Twin Cities region have all been active to varying degrees in acquiring and preserving rights-of-way and even some active facilities, and planning for future transit and regional rail uses. Among rural authorities, the Minnesota Valley RRA, and the St. Louis and Lakes Counties RRA stand out. The former owns and oversees development of the Minnesota Prairie Line (MPL), a 94-mile line from Norwood to Hanley Falls, while the latter operates a tourist line (the North Shore Scenic) and is active in rail service development in their regions.

Metropolitan Council

Established in 1967, the Metropolitan Council was created to coordinate planning and development within the Twin Cities metropolitan area and to address issues that could not be adequately addressed within existing governmental arrangements. In addition to being one of the oldest regional planning agencies in the United States, the Metropolitan Council is also unique in not only having planning responsibilities, but also operational responsibility through its Metro Transit division, operator of the core bus system and the Hiawatha Light Rail line. Metro Transit is also overseeing operation of the new Northstar Minneapolis to Big Lake commuter rail service.

Close cooperation with the Metro Council is a prerequisite to a successful statewide initiative to improve Minnesota's rail system. Many of the most critical bottlenecks are located in the Twin Cities, affecting both future freight and passenger needs. Efforts to expand regional rail service will draw on much of the same infrastructure as intercity services, and the public's investment will be maximized if the intercity rail services are closely coordinated with Metro Transit.

2.2.3 Federal Agencies

At least nine Federal departments, agencies, and boards are involved in rail-related matters. The U.S. Department of Transportation (U.S. DOT) has the most extensive involvement, both directly with the carriers and indirectly in conjunction with the state departments of transportation and regional jurisdictions. The purpose and relationship of the agencies that are most heavily involved with the railroad industry are summarized below (descriptions on the others can be found in Appendix A).

- **Federal Railroad Administration (FRA) –** One of the modal agencies within U.S. DOT, the Federal Railroad Administration holds responsibility for developing and enforcing railroad safety rules, manages the Railroad Rehabilitation and Improvement Financing (RRIF) program, provides oversight of Amtrak for U.S. DOT, and manages a small research program. With the passage of the Passenger Rail Improvement and Investment Act (PRIIA) in 2008, and the subsequent provision of capital funding for intercity passenger rail in the American Recovery and Reinvestment Act (ARRA), the FRA was tasked with managing these programs. Traditionally, the vast majority of FRA personnel and financial resources have been devoted to safety enforcement activities.
- **Federal Transit Administration (FTA) –** The FTA administers formula and grant funding for the development of public transportation in urban and rural areas, supports existing and recommends funding for new services, and coordinates research and training. Through the New Starts process, the FTA establishes criteria and evaluates applicants seeking Federal funding for new transit lines. The most common funding requests for rail transit entail urban light rail, rapid transit (which is fully grade-separated), and commuter or regional services. While light rail and rapid transit usually operate over dedicated trackage, commuter services utilize the freight network, and thus are subject to FRA and railroad industry standards that are administered by the Association of American Railroads (AAR). The FTA presents an option for funding some improvements where intercity operations are shared with commuter rail and transit.
- **Surface Transportation Board (STB) –** Established in 1996 as a success to the long-lived Interstate Commerce Commission, the Surface Transportation Board adjudicates disputes over rates and services between shippers and carriers, and has administrative authority over railroad mergers and line abandonments. In 2008, the PRIIA expanded its role to mediate conflicts between passenger rail operators with freight rail owners. This new provision is intended to address long-standing concerns about enforcement of Amtrak's statutory rights to operate passenger trains over the freight network.

2.3 MINNESOTA PUBLIC RAIL PROGRAMS

2.3.1 Minnesota Railroad Service Improvement Program

Established in 1976, the Minnesota Railroad Service Improvement Program (MRSI – MN Statute 222.50) was designed to preserve rail service on marginal lines that were subject to abandonment. The legislation provides a set of provisions and funding mechanisms to preserve rail service, through both public and private means. The core of the program was and still is a loan program to which both rail shippers and carriers can apply, with funds to be repaid over a

period of 10 to 15 years, depending on the negotiated contract. Funds can be used for rail line rehabilitation; line acquisition; improving, extending and moving rail sidings; construction of grain storage bins; fertilizer storage; building warehouses along rail sidings; and improving the speed of loading into rail cars. The MSRI Program provides funding for projects in the following five categories:

1. **Rail Purchase Assistance –** Financially assist regional rail authorities in acquiring rail lines. State funds only require repayment when a line is sold and or ceases to serve a transportation function.
2. **Rail Rehabilitation –** Provide low- or no-interest loans to rehabilitate and preserve rail lines (replace rail, ties, ballast, etc.) to either an operating railroad or regional railroad authority. Approval is subject to a set of requirements that include a cost/benefit analysis, shipper survey, and rehabilitation needs assessment.
3. **Loans for Capital Improvements –** Provides loans to shippers for rail sidings, storage buildings, loading equipment, etc., with a limit of $200,000 per application. In recent years, loans have been used solely for rail-related improvements, and not for storage buildings and other customer facilities.
4. **Rail User and Rail Carrier Loan Guarantee –** Assists shippers and carriers to obtain financing by guaranteeing up to 90 percent of a loan for rail line rehabilitation and rolling stock acquisition.
5. **State Rail Bank –** Acquire and preserve abandoned rail lines for future transportation use or for current use as utility corridors.

Although the scope of the MRSI legislation is similar to that found in other states, the program as implemented fails to match the success of some of the more robust programs in other states. Particular concerns were raised about four elements:

1. **Project Funding Options –** These should offer a broader range of project funding options, from higher loan limits for shippers and railroads to outright grants for some projects where the applicant cannot fully capture the potential benefits. Coupled with greater funding flexibility should be an increase in the maximum loan amount to at least $1 million. However, increasing loan limits will introduce contracting complications that may make the loans less attractive to private entities, and the administrative burden for both the applicant as well as the program administrator would be substantially higher. This issue must be addressed if the loan program is expanded.
2. **Applicant Qualification –** Stakeholders found qualification requirements unnecessarily limiting, which sometimes forces political approaches that subvert the process and divert funding from other meritorious projects. Requirements for asset collateral make MRSI unsuitable for railroads that lease most of their property from a private entity, which is often a Class I railroad. (The Federal RRIF loan program suffers from the same limitations.)

Although MRSI loans do permit acquisition of rolling stock including locomotives, none has occurred thus far, as the program is viewed as uncompetitive. With rolling stock being a readily marketable secured asset, shippers and carriers requiring cars and locomotives can obtain equipment cost-effectively in private markets. However, with the impending tightening of emissions regulations starting in 2010, the traditional sources of locomotives for small railroads – old Class I cast-offs – will no longer be available. Since small railroads can rarely afford new or rebuilt locomotives, programs that assist in the acquisition of new low-emissions and fuel-efficient locomotives should be implemented. Programs providing public matching funds for the acquisition of new low-emissions locomotives are in place in several states including Texas, California, Illinois and Pennsylvania. This may require a change to Minnesota's constitution, which forbids outright funding of rolling stock.

3. **Program Administration –** Stakeholders spoke highly of Mn/DOT staff that administers the MRSI program, but they felt that staffing was insufficient for the program as currently structured. In part, this is because the same staff also manages other rail-related activities. If a larger program is established, staffing levels will need to be increased.

4. **Program Funding –** Over the years, appropriated funding levels have fluctuated considerably and have often been minimal, with total state participation since 1976 amounting to $56 million dollars, or less than $2 million per year. Program expansion will require larger and more stable funding sources. For the investments that are funded through loans, preventing raids on the revolving fund account as loans are repaid would enhance program stability.

Presently, 216 miles of abandoned rail corridors are in Mn/DOT's preservation program. In addition, hundreds of miles are controlled by other agencies, of which the majority are managed by the Department of Natural Resources for recreational purposes. Thus far, there have not been any attempts to convert a banked property back to a transportation use in Minnesota, although there have been a few in other states. Since there has not been any experience with reversion in Minnesota, it is difficult to anticipate how the process will actually work, and it is not clear whether the existing Minnesota statutes sufficiently protect this option. A review of the relevant statutes and administrative processes may be advisable prior to instituting proceedings for a reversion.

2.3.2 Rail-Highway Grade Crossing Safety Improvement Program

Mn/DOT's rail-highway grade crossing protection program was established in 1974 to leverage off of the Federal Highway Administration's 23 USA Section 130 program. Since then, the program has participated in the installation of active warning devices (lights, gates, or a combination of the two) at more than 1,300 grade crossings out of the approximately 4,500 crossings located in Minnesota. Through improvements in infrastructure and public education, grade crossing

incidents have declined substantially. Whereas the State experienced 400 vehicle/train collisions and 50 fatalities in 1972, by 2008 vehicle/train collisions had dropped to 52 – an 80 percent decline – and only 6 fatalities.

The types of projects that can be funded through this program are constrained to the following:

- Crossing signals and signal upgrades;
- Crossing closures and consolidations;
- Removal of visual obstructions that impede sight distances; and
- Improving roadway geometrics.

The program does not fund crossing surfaces, which are usually absorbed by the local jurisdiction or the railroad. Projects are selected on the basis of a consistent process that takes into account traffic counts, accident statistics, identified hazards, and other conditions.

Grade crossing improvements are funded through a combination of Federal, state, local, and railroad funds, with the Federal match being 90 percent, and state and local parties being responsible for the balance. Present Federal funding amounts to approximately $5.7 million annually, with an additional $600,000 state contribution. Once installed, railroads are commonly responsible for maintaining the systems.

This program functions well, but suffers from a number of limitations that reduce its potential efficacy:

Funding: With Minnesota's rail network being the ninth largest in the nation, the current Federal and state funding levels are insufficient to meet continuing needs for new grade crossing projects and replacement of obsolete systems.

Replacement of signage and obsolete active crossing warning devices: Out of the more than 1,300 active systems currently installed, 270 systems or 21 percent are over 30 years of age, thus beyond their typical design life of 20 to 25 years. Once they reach that age, the electronics are completely obsolete and parts are often difficult to obtain. Mn/DOT is in the process of designing a statewide lifecycle planning process, which must address replacing approximately 60 crossing systems each year. Additional funding will be necessary to undertake this effort, the source of which has yet to be identified.

Program Flexibility: Many stakeholders indicated a desire to see the program broadened beyond its primary focus on active crossing systems, to include the full range of options including quiet zones, sealed corridors, grade separations, etc. Implementation of expanded passenger operations in particular will result in the demand for a greater variety of solutions to address highway/rail interactions and right-of-way protection, for which expertise is generally not available at local jurisdictions. This does not mean that a state program should necessarily fund these more expensive solutions, but rather act as a

clearinghouse and developer of common standards that can be applied statewide.

Project Prioritization: Although the OFCVO staff administers the grade crossing program and oversees the evaluation of potential projects, the eight Mn/DOT districts have considerable autonomy in establishing investment priorities. This leads to inconsistent application of funding to projects, and needless delays in implementing improvements at high-priority grade crossings. Planning and distribution of funds should be centralized instead of done by each of the eight Mn/DOT Districts.

Furthermore, the absence of statewide funding prioritization contributes to the lengthy delays from the time when improvements are initially identified to when they can actually be implemented. The backlog is now upward of five years, which is considerably longer than in some other states. Also, once improvements are programmed, it is difficult to adapt funding priorities to changing needs, such as when volumes on a low-density rail line increase substantially.

3.0 Rail Agency Organization and Programs in Other States

3.1 INSTITUTIONAL ROLES AND RESPONSIBILITIES FOR RAIL

Earlier sections of this memorandum described some of the ways in which the rail-related programs and activities of public agencies affect one another. This section discusses the kinds of programs that various state rail agencies use to assist freight and passenger rail operations, and describes the dimensions of how such programs are administered in state government.

3.1.1 Administration

Approaches to administering rail programs are as varied as the programs themselves. In most cases, some form of rail responsibility is assumed within a state DOT, but the delivery of other rail programs may be shared by other divisions within a DOT or by completely separate state agencies. The Virginia Department of Rail and Public Transportation conducted a survey in 2005 of rail program administration in states, which identified a number of states to consider emulating. Table 3.1 summarizes information on these states from the 2005 report and information from the state agency web sites.

Among most of these 11 states, including Minnesota, the rail-related functions are administered by a division, office or bureau within the DOT. In Virginia and Ohio, separate organizations within a cabinet-style Transportation Department administer rail programs. Each of these states administers some form of freight rail assistance, even if aimed at short line railroads or railroad shippers. Amtrak reports that only 14 states provide funding for 20 state-supported train routes, so not every state will have passenger rail funding activities, and not every one of those 14 states invest in capital projects for passenger rail improvements. In most states in the table, passenger and freight funding programs are administered by the rail office, or at least within the DOT. A majority of the states in the table separate rail safety and grade crossing funding functions into completely separate agencies.

Table 3.1 Approaches to Rail Program Administration

Characteristics	California	Florida	Illinois	Michigan	Minnesota	New York	North Carolina	Ohio	Pennsylvania	Virginia	Washington
Rail Division in DOT?	●	●	●	●	●	●	●		●		●
Separate agency attached to DOT?								●		●	
Office responsible for freight programs?	●	●	●		●	●	●	●	●	●	●
Rail freight programs in DOT?				●							
State funding for freight rail projects?	●	●	●	●	●	●	●	●	●	●	●
Office responsible for passenger programs?	●	●	●	●		●	●	●		●	●
Passenger programs in DOT?					●				●		
State operating support for Amtrak?	●		●	●		●	●		●	●	●
Separate unit for HSR?	●	●		●							
HSR in DOT?				●							
Office responsible for rail safety?		●			●	●	●				
Separate rail safety agency?	●		●					●	●	●	●
Office responsible for grade crossings?		●			●	●	●	●			
Separate grade crossing agency?	●		●	●					●	●	●
Rail Division	●	●	●				●				
Bureau of Passenger Transportation				●							
Freight, Rail and Waterways					●						
Freight and Passenger Rail Bureau						●					
Rail Development Commission								●			
Bureau of Freight Rail, Ports and Waterways									●		
Department of Rail and Public Transportation										●	
State Rail and Marine Office											●

Sources: Agency web sites, 2005 VDRPT Draft Report.

California, Texas, Ohio, and Florida had created independent high-speed rail authorities to focus on high-speed rail systems in the states. Ohio combined its authority into the Ohio Rail Development Commission in 1994, Texas abolished its authority in 1995, and Florida's authority has been generally inactive and unfunded from 2004 through 2009 (and FDOT is leading HSR efforts at present). Each of these states were or are considering implementation of HSR projects along new locations in excess of 150 mph, and creating a special purpose authority to focus on this very complex and expensive undertaking made sense to these states. However, any such organization will still need to coordinate with a state DOT for grade crossings and terminal access issues.

3.1.2 Lessons for Minnesota

Mn/DOT's Office of Freight and Commercial Vehicle Operations (OFCVO) consolidates freight investment, safety and grade crossing programs into one division. This central unit offers a single point of contact for railroads, and allows state rail staff to become better versed in freight railroad issues and challenges. The recent creation of a Passenger Rail Office will help to coordinate among passenger rail projects and corridors identified in this Comprehensive State Freight and Passenger Rail Plan. Coordination among freight and passenger rail investments as outlined in this Plan will be a responsibility of the head of the Modal Planning and Program Management Division.

An organizationally separate rail department like Virginia or Ohio might not fit within Minnesota's cabinet style departmental organization. Moreover, for Mn/DOT, organizational separation might not be as necessary as internal capacity-building. If the two offices for freight and passenger rail programs receive additional responsibilities and funding to implement this State Rail Plan, both offices could need additional staff and/or consultant resources to administer (planning, programming, grant administration, and monitoring) these new programs. Building up staff capacity to operate and grow new programs as they are funded would ensure overall program effectiveness, keep up with new Federal and state funding streams and requirements, and manage overall performance. The Minnesota Legislature is likely to require transparency and accountability from Mn/DOT for new programs as they are funded, just as the Legislature directed the preparation of this State Rail Plan.

As passenger rail corridors advance beyond environmental and planning stages, Minnesota could consider authorization of corridor-level special purpose authorities or joint powers authorities, much like the Northstar Commuter Rail system was originally planned by Mn/DOT and delivered by the Northstar Commuter Rail Development Authority and operated by Metro Transit.

3.2 PUBLIC RAIL PROGRAMS

3.2.1 Rail-Eligible Corridor Investments

Some states have identified major intercity corridors that enable economic activity, and focus infrastructure investment in modes within these corridors. These programs will allow for capacity expansion and congestion relief in road and rail facilities. Examples include:

- *Interregional Trade Corridors* (Minnesota): In 2000, Mn/DOT designated a primary set of highways for moving goods and people between regional trade centers in Minnesota. This set, called for the Interregional Corridor System (IRC), is comprised of 2,939 miles of highways. As described in the Minnesota Statewide Transportation Plan (STP), 2009-2028, the IRC represents only 2 percent of all roadway miles in the State, but it carries approximately 27 percent of all vehicle miles traveled and the majority of freight traffic. To complement the IRC system, Mn/DOT also designated a set of Regional Corridors that connect smaller trade centers with larger ones or with IRCs. As highlighted in the STP, "many of the Regional Corridor routes serve as the primary transportation linkage into and out of entire regions, especially in Greater Minnesota, providing critical support to the region's ability to move people and freight in a cost-effective way."
- *Goods Movement Action Plan (California):* California's cabinet agencies for transportation and environmental issues have cooperated to identify a program of investment in freight systems that increase capacity, reduce freight-related greenhouse gas emissions, and improve security. The program, which allocates $3.1 billion in bond financing, identified and evaluated projects with assistance of stakeholders. More information can be found at http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.
- *Strategic Intermodal System (Florida):* Florida's Legislature directed the DOT to plan for near- and long-term investments in a network of intermodal transportation infrastructure: commercial airports, ports and waterways, freight rail and transit terminals, passenger and freight rail facilities, and highways. The SIS network carries "more than 99 percent of all commercial air passengers, virtually all waterborne freight tonnage, almost all rail freight, and more than 68 percent of all truck traffic and 54 percent of total traffic on the State Highway System." More information can be found at http://www.dot.state.fl.us/planning/sis/strategicplan/.
- *Connect Oregon (Oregon):* Oregon created a program for allocating $100 million in lottery-backed bonds to transportation improvements to connect the highway system to other modes, including rail, air, marine and transit. The program is administered through a performance-based application review process, and its success is demonstrated in its third program in 2009, after $100 million allocations in 2005 and 2007. More information can be found at http://www.oregon.gov/ODOT/COMM/CO/overview.shtml.

3.2.2 Freight Rail Improvements

Many states have programs to offer financial assistance to freight railroad operations. In some cases, these programs are focused on short line or regional railroads, and can involve public ownership of rail lines with private operators. Other programs offer tax incentives for expansion of facilities, spurs or lines for new or expanded business development. Some states offer assistance through revolving loan programs while others make direct grants. Examples include:

- *Freight Railroad Preservation Program (Wisconsin):* In addition to a loan program for freight rail improvements, Wisconsin invests appropriated funds in grants to local governments and railroads for public ownership of short line railroad lines operated by private railroads. $78 million has been distributed to local governments and railroads since the program was created in 1993. More information can be found at http://www.dot.wisconsin.gov/localgov/aid/frpp.htm.
- *Stimulus-Funded Freight Rail Improvements (Ohio):* Ohio took advantage of modal flexibility in the highway allocations in the American Recovery and Reinvestment Act of 2009, allocating $61 million to 21 rail-related projects in the summer of 2009. The Ohio Railroad Development Commission is administering the projects, identified through the Commission's planning activities. More information can be found at http://www.dot.state.oh.us/Divisions/Rail/Programs/special/Pages/default.aspx.
- *Nebraska Advantage Act (Nebraska):* Industrial projects, including rail access projects, investing more than $3 million and creating 30 jobs are eligible for refunds of sales tax on capital purchases and a 10 percent income tax credit for capital investments made. More information can be found at http://www.neded.org/content/view/119/308/.

3.2.3 Passenger Rail Investments

Most investments in passenger rail capacity by states are expanding the facilities of freight railroads over which the passenger services will operate. As such, in many cases, these passenger rail investment programs provide operating benefits for the freight railroads and can be characterized as investments in shared corridors. Examples from two states are as follows:

- *North Carolina Railroad Improvements (North Carolina):* The 317-mile railroad between Charlotte, Raleigh and Morehead City is a publicly owned private railroad. North Carolina has invested $30 million in track improvements on the corridor between Raleigh and Charlotte (the path of state-supported Piedmont Route passenger service), with $35.5 million in projects underway, and another $87 million in improvements in planning and engineering stages. North Carolina DOT prepares design plans and provides construction funds, and Norfolk Southern (which holds an operating lease on the NCRR) produces final plans and performs the construction work.

Improvements since 2001 have shortened trip times from Raleigh to Charlotte by 35 minutes. More information on these improvements can be found at http://www.bytrain.org/track/.

- *Rail Enhancement Fund (Virginia):* Virginia created a special fund administered by the Department of Rail and Public Transportation (collected from a portion of car rental taxes) to apply to projects to expand rail facilities for passenger and freight projects. VDRPT created a public benefit methodology that measures prospective fund applications against a series of performance measures. VDRPT, in conjunction with a Rail Advisory Board, has recommended a six-year investment plan which allocates $150 million in enhancement funds to corridor projects for commuter and intercity passenger rail and freight corridors. More information can be found at http://www.drpt.virginia.gov/projects/files/REF%20Application.pdf.

3.2.4 Rail Safety Programs

Thirty states cooperate in enforcing Federal rail safety regulations and in supporting Federally certified rail safety inspectors. These state programs, funded solely with state resources, effectively leverage the efforts of the Federal Railroad Administration, and are coordinated through the FRA's eight regional safety offices throughout the country.

The Federal Surface Transportation Program dedicates $220 million to funding highway-rail grade crossing protections. A number of states augment this Federal funding with state resources, aimed at allocating resources on a safety risk-based process. States and railroads update grade crossing inventory information which is collected and maintained by the U.S. DOT and is then used by states in making safety improvement decisions. In most states, grade crossings are maintained by the railroad operator (including the road surface between the rails, and active warning devices), although some states provide crossing maintenance assistance to railroads. Grade crossing funds are administered by the Federal Highway Administration, and the Federal Railroad Administration provides assistance for overall grade crossing accident education and prevention.

3.3 PUBLIC-PRIVATE PARTNERSHIPS

As this section discusses the institutional and implementation issues for passenger and freight rail projects, such projects can be examined to determine the extent to which the private sector can or should be involved. Mn/DOT has limited legal authority to implement some of these public-private partnership (PPP) approaches, but the state of the practice has changed since Mn/DOT legislation was created. This section describes some of these approaches, how Mn/DOT programs could be expanded, issues raised by PPP implementation, and possible applications for projects identified in this Plan.

Types of Public-Private Partnerships

The 2004 U.S. DOT *Report to Congress on Public-Private Partnerships*[13] defines a PPP as:

A public-private partnership is a contractual agreement formed between public and private sector partners, which allow more private sector participation than is traditional. The agreements usually involve a government agency contracting with a private company to renovate, construct, operate, maintain, and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party will be given additional decision rights in determining how the project or task will be completed.

PPPs vary by the extent to which the public sector transfers project responsibility, risk and ownership to the private sector. Table 3.2 describes PPP methods:

Table 3.2 Public-Private Partnerships Infrastructure Approaches[a]

Approach	Description
Traditional Approach	
Design-Bid-Build (DBB)	The traditional method of project delivery in which the design and construction are awarded separately and sequentially to private firms.
Public-Private Partnerships Approaches	
Design-Build (DB)	Combines the design and construction phases into a single fixed-fee contract, thus potentially saving time and cost, improving quality, and sharing risk more equitably than the DBB method.
Private Contract Fee Services/Maintenance Contract	Contracts to private companies for services typically performed in-house (planning and environmental studies, program and financial management, operations and maintenance, etc.)
Construction Manager at Risk (CM@R)	A contracted construction manager (CM) provides constructability, pricing, and sequencing analysis during the design phase. The design team is contracted separately. The CM stays on through the build phase and can negotiate with construction firms to implement the design.
Design-Build with a Warranty	A DB project for which the design builder guarantees to meet material workmanship and/or performance measures for a specified period after the project has been delivered.
Design-Build-Operate-Maintain (DBOM), Build-Operate-Transfer (BOT), or Build-Transfer-Operate (BTO)	The selected contractor designs, constructs, operates, and maintains the facility for a specified period of time meeting specified performance requirements. These delivery approaches increase incentives for high-quality projects because the contractor is responsible for operation of the facility after construction. The public sector retains financial risk, and compensation to the private partner can be in the form of availability payments.

[13] Report found at http://www.fhwa.dot.gov/reports/pppdec2004/index.htm.

Approach	Description
Design-Build-Finance (DBF), Design-Build-Finance-Operate (DBFO), or Design-Build-Finance-Operate-Maintain (DBFOM)	DBF, DBFO, and DBFOM are variations of the DB or DBOM methods for which the private partner provides some or all of the project financing. The project sponsor retains ownership of the facility. Private sector compensation can be in the form of tolls (both traffic and revenue risk transfer) or through shadow tolls (traffic risk transfer only).
Long-Term Lease Agreements/Concessions (brownfield)	Publicly financed existing facilities are leased to private sector concessionaires for specified time periods. The concessionaire may pay an upfront fee to the public agency in return for revenue generated by the facility. The concessionaire must operate and maintain the facility and may be required to make capital improvements.
Full Privatization	
Build-Own-Operate (BOO)	Design, construction, operation, and maintenance of the facility are the responsibility of the contractor. The contractor owns the facility and retains all operating revenue risk and surplus revenues for the life of the facility. The Build-Own-Operate-Transfer (BOOT) method is similar, but the infrastructure is transferred to the public agency after a specified time period.
Asset Sale	Public entity fully transfers ownership of publicly financed facilities to the private sector indefinitely.

Source: Public Sector Decision-Making for Public-Private Partnerships, NCHRP Synthesis Report 319, 2009, Table 1.

[a] Listed from least private involvement to greater.

Table 3.3 describes some of these PPP methods according to the involvement of the public and private sector in elements of surface transportation projects:

Table 3.3 Types of Public-Private Partnerships Approaches in Surface Transportation Projects

	Responsibility for Project Element					
PPP Method	Design	Construction	Maintenance	Operations	Financing	Ownership
Traditional Design Bid Build						
Fee-Based Contract Services						
CM at Risk						
Design Build (DB)						
DB with Warranty						
DB Operate Maintain (DBOM)						
DB Finance Operate (DBFO)						
Build Operate Transfer (BOT)						
Build Own Operate (BOO)						

Source: Connecticut Transportation Strategy Board, Connecticut Electronic Tolls and Congestion Pricing Study – Final Report – Volume 2: Background Report, April 2009, Table 4.1, page 4-4, found at http://www.ct.gov/opm/lib/opm/tsb/reports_tsb/final_report_tolling_study.pdf.

Legend: Public Sector Public/Private Private Sector

Public-Private Partnership Guidelines

Mn/DOT has authority to design and construct transportation projects through design-build (DB) contracts.[14] From 1996 through 2002, Mn/DOT awarded DB on a lowest bid basis, and changed to a best value award basis in 2002. Since 2002, Mn/DOT has awarded seven DB highway projects totaling more than $860 million. Four more projects funded through the American Recovery and Reinvestment Act of 2009 are being procured through DB.

Minnesota statutes do not restrict DB projects to highway projects. However, given the structure of the legislation (which limits the number of DB contracts on an annual basis and requires an annual report on DB contracts), Mn/DOT might seek more explicit authority to use DB for rail projects.

Mn/DOT has had authority[15] since 1993 to enter into PPPs for toll roads through a development agreement that "may provide for any mode of ownership or operation approved by the road authority,"[16] specifically authorizing BOT or BTO methods. This authority does not extend to other transportation projects such as railroad projects.

Institutional Considerations

The 2007 FHWA *User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States*[17] offers extensive advice to states ready to implement PPP programs. Mn/DOT would do well to spend time deciding what kind of PPP program they want to have before executing a program to advance railroad projects. The 2007 FHWA PPP Guidebook offers a series of questions to prompt internal discussions of PPP program development.

What is the institutional context for the PPP program? States implement PPP programs to address a variety of problems. For some, PPPs might address internal agency capacity constraints to manage mega-projects; for others, PPPs appear to be a means of bringing private capital to address state funding shortfalls; for others, ongoing entreaties from the private sector may be the cause for creating a program to handle the requests. A state should also be clear about what kind of criteria it will use to assign projects to PPP delivery.

Does the sponsoring agency have the statutory and regulatory authority for PPPs? Having the legal authority to proceed with PPP projects is a necessary condition for a state; otherwise, private firms would have no assurance that a PPP contract with the State will be binding and enforceable. Mn/DOT has some

[14]Minnesota Statutes, Section 161.3410 to 161.3428.

[15]Minnesota Statutes, Section 160.84 to 160.98.

[16]Section 160.85 (4)(a).

[17]Found at http://www.fhwa.dot.gov/ppp/pdf/ppp_user_guidebook_final_7-7-07.pdf.

legal authority to enter into certain kinds of PPPs, but not necessarily for rail projects; therefore, the legislature and Mn/DOT should craft a statutory and regulatory regime that offers the flexibility to solicit PPP proposals to implement rail projects in this Plan or to solicit or accept PPP proposals for other surface transportation projects.

What are the potential public and private partner responsibilities, risks, and returns? PPP projects are likely to be most successful when they balance the risks and returns between the public and private sector in a way that shares rewards and mitigates risks for both parties. Careful delineation of risks and rewards is a productive step in crafting a sustainable, productive PPP program. This also necessarily involves quantifying relative costs and benefits for a project for the public and private sector parties, so that relative shares of costs (capital and operating) can be allocated between partners. This benefits assessment is part of the PRIIA state rail plan guidelines, and was also part of the recent U.S. DOT Transportation Investment Generating Economic Recovery (TIGER) grant program, and is likely to be required by future Federal funding programs.

Does the sponsoring agency have the capabilities and resources to develop and manage a PPP program and the resulting projects? While a new PPP program will likely require specialized advice for program definition and procedures, Mn/DOT would be wise to carefully connect the PPP procedures with the overall agency mission and responsibilities, rather than create stand-alone organizational structures that fail to recognize that PPPs are a means of advancing the public interests of the agency, not an end unto itself. Therefore, part of the PPP program development process should be an analysis of the public sector resources necessary to implement the program. This not only requires an assessment of the kinds of knowledge, skills and abilities required of program personnel, but also what kind of outside assistance would be necessary to analyze proposals and draft contract documents.

What kind of procurement approach should be used to select qualified PPP teams? Public concerns about PPP methods can be mitigated through careful contracts and monitoring. A recent NCHRP report[18] offers a thorough discussion of how the PPP procurement process can be designed and executed in a way that protects the public's interests as it secures the resources of the private sector for projects, including various suggestions for how proposals are structured, solicited, evaluated, awarded and administered. While many PPP resources focus on procurement processes to attract the private sector, this report concludes that if the procurement process is designed with sufficient and appropriate transparency, then the PPP process is much more likely to achieve and sustain the public acceptance and political support it needs to be successful.

[18] *Public Sector Decision-Making for Public-Private Partnerships*, NCHRP Synthesis Report 319, 2009.

Applicability for Rail Projects

General Assessment. A recent TRB report, Funding Options for Freight Transportation Projects[19] describes a number of freight projects funded and implemented through different methods, including some PPPs. The report also summarizes a number of general provisions for public investments in freight transportation projects.

Projects likely to be chosen for public contributions:

- Projects with construction cost beyond the capacity of private infrastructure owners/operators or local/regional governments;
- Institutionally complex projects, as indicated by the number of public jurisdictions and private sector entities;
- Likely availability and cost of financing in the private credit markets to fund the projects;
- Eligibility for funding through established Federal or state programs (lack of such programs may lead to public funding through PPPs);
- Need for extensive upfront planning (including environmental clearance), coordination and seed money (this is the case for new passenger rail services with revenue risk); and
- Project risks associated with the novelty of organizational or technological solutions (high-risk, high-return projects may need governmental assistance).

Effective public management of a PPP program for rail would also contain elements of the freight investment programs cited in the TRB study:

- Strong capabilities to evaluate project benefits and shared costs, and standard economic valuation methods.
- Decision-making must be transparent and consistent.
- Decision-making criteria must define when state resources are needed (as opposed to regional or local) and when projects qualify for state funding (even if such projects are not uniformly distributed across the State.
- PPPs can accomplish state goals:
    - Projects which are part of the state transportation planning process;
    - Projects that have measurable external benefits and which would not have been begun or completed without public assistance; and

[19] *Funding Options for Freight Transportation Projects*, TRB Special Report 297, April 2009.

- PPPs should be subject to periodic reviews to assess the economic value of the completed projects (compared to estimated value) and the projects' success in meeting other goals.

The California High-Speed Rail Authority[20] has also identified a number of factors that need to be decided for projects to attract private sector investments:

- Firm, dependable public funding commitments;
- Fair and transparent public regulatory requirements;
- Firm public sector support and funding commitments for the project in questions;
- Clear legislation enabling public-private partnerships; and
- Unwillingness by the private sector to accept risks associated with the environmental process, which firms feel is best borne by the public sector.

Practical Examples. Mn/DOT has a growing number of freight rail PPPs to examine for lessons in attracting and leveraging public investment in private infrastructure. PPPs can be used to resolve access or bottleneck issues, like the Alameda Corridor project in Los Angeles, California or the Sheffield and Argentine Flyovers in Kansas City, Missouri; resolve community impact issues like the ReTRAC project in Reno, Nevada; improve passenger rail throughput and reduce grade crossing impacts such as the CREATE project in Chicago, Illinois; or provide economic development for endpoints and reduce truck traffic such as the Heartland Corridor project in Ohio, Virginia and West Virginia.

The experience of the Capitol Corridor Joint Powers Authority between San Jose and Sacramento offers lessons for PPPs in passenger rail expansion. The State of California has provided steady funding for additional trainsets, track and signal improvements, dedicated maintenance of way crews and equipment, and operating assistance. As a result, service on the Capitol Corridor has improved frequency (8 daily to 24 daily trains from 1996 to 2009) and reliability of service (current 90 percent OTP in July 2009), leading to greater ridership (from 463,000 to 1,693,000, from 1996 to 2009). This has required investment in rolling stock, freight rail infrastructure and a commitment from the public and private sectors to improving service levels through careful coordination of service planning, dispatching and maintenance.

[20] California High-Speed Rail Authority Expression of Interest in Implementing a High-Speed Intercity Passenger Rail Corridor, September 2009, page 51, submission in Federal Railroad Administration Docket 2008-0140.

4.0 Conclusions and Preliminary Recommendations

4.1 INTRODUCTION

This memorandum anticipates that Minnesota will adopt and advance a rail vision and rail program, implementing many improvements to freight and passenger rail system over the next years. To guide the program and realize the public and private benefits of improved rail service, Mn/DOT must also anticipate reorganizing and expanding its internal capabilities. Mn/DOT's current organizational structure and allocation of roles and responsibilities are appropriate and effective for oversight and management of its current program. However, the current structure will not be as effective in overseeing and managing a greatly expanded rail program.

This section addresses these issues by providing preliminary recommendations on organizational and program structure. The recommendations are intentionally high-level and general at this time, and we expect that the recommendations will change and be developed in more detail as Mn/DOT, the Legislature, and rail stakeholders review the rail vision and make decisions about the scope and scale of rail services, infrastructure, and programs. The final recommendations on rail institutional roles and responsibilities and rail programs will be incorporated into the Task 9 Technical Memorandum on Funding and Programming.

4.2 MINNESOTA RAIL INSTITUTIONAL ROLES AND RESPONSIBILITIES

States are sufficiently unique in their economies, transportation systems, geographies, and political mandates that no uniform organizational approach to managing and coordinating freight and passenger rail activities is warranted. The typical state DOT organizational structure allocates roles and responsibilities among five groups:

1. Office of the secretary (or director) responsible for the overall policy and technical direction of the agency and accountable politically and administratively to the state's governor or transportation commission;
2. Planning division responsible for assessing transportation needs and trends, developing solutions, and tracking implementation and performance;

3. Operations or modal division responsible for carrying out state transportation programs and often overseeing rail, transit, water, and airport operations as well as state and local highway programs;
4. Engineering division responsible for design, construction, and inspection of highways, bridges, and other transportation facilities; and
5. Administration division responsible for personnel, legal services, communications, information systems, contracting, and procurements of goods and services.

In Minnesota, responsibility for freight and passenger rail are part of the Modal Planning and Program Management Division, which as its name describes has responsibility for planning as well as oversight of modal programs. The Mn/DOT Office of Freight and Commercial Vehicle Operations develops statewide railroad plans that guide investment and policy decisions. Mn/DOT's Office of Transit is primarily responsible for the planning and programming of transit services in Greater Minnesota, which is defined as the 80 counties outside of the seven-county Twin Cities metropolitan area. Both groups have been effective at carrying out their roles and responsibilities, which to date have focused largely on safety, regulatory enforcement, and administration of limited planning and capital grants. In 2009, recognizing the emerging importance of intercity passenger rail in response to Federal programs, Mn/DOT organized a new Office of Passenger Rail.

As Mn/DOT expands it rail program, the freight and transit offices will be tasked to take on much broader and proactive roles, including rail corridor and service development, public-private partnerships, and rail-related economic development in addition to their established roles and responsibilities in safety and grant administration. Mn/DOT and the freight and transit offices will find an increasing need to coordinate activities across planning, operations, and engineering, and with many more stakeholders outside of Mn/DOT and state government.

Many states do this through cross-division coordinating committees that meet on a regular or ad hoc basis to deal with freight and passenger rail issues, policies, and programs. This is a popular approach because it can be done quickly, does not usually require legislative action, and avoids the often-complicated work of reorganization within the constraints of civil service seniority and salary guidelines.

However, experience in other state DOTs suggests that coordinating committees alone are not sufficient. They usually lack a strong mandate to coordinate policies and programs across independent standing divisions, and they do not provide a clear point of contact for private sector railroads, shippers, and passenger rail authorities trying to work with the State. Outside parties often find that they can bottle up state DOT rail planning and programming decisions by playing to the differing interests of individual divisions within committees. Or conversely, when they find that they cannot get consistent answers from

coordinating committees, then the more politically active shippers, carriers, and passenger rail groups turn to legislators and legislative committees for answers, mandates and earmarks thereby bypassing the state DOT altogether. Neither outcome is productive for the state DOT, the economy, or the community.

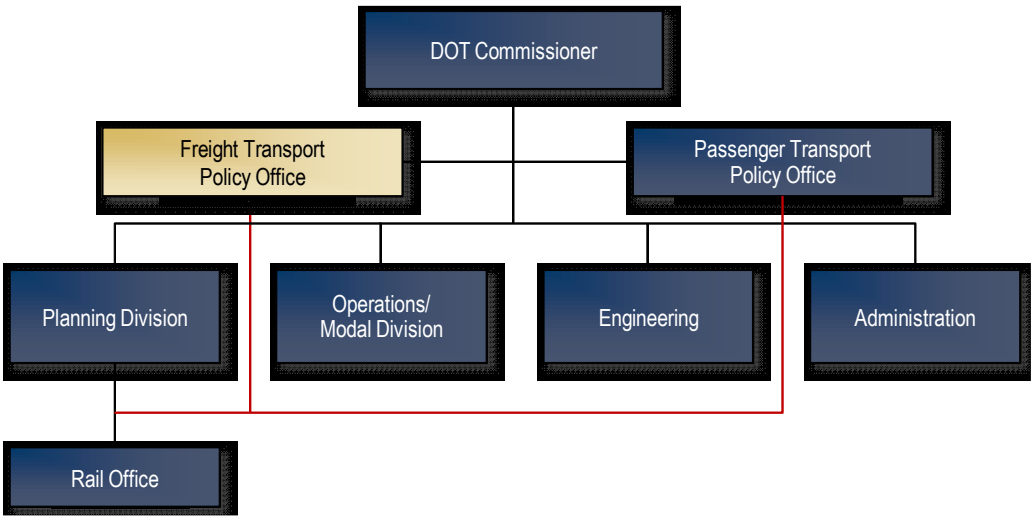
A reasonably successful alternative, which a number of state DOTs have implemented and which Mn/DOT may wish to consider as an option, is to create commissioner-level freight and passenger policy offices. The freight policy office is generally charged with oversight and coordination of freight transportation across all modes, including rail, and the passenger transportation policy office is charged with oversight of passenger transportation across all modes, including highway, air, intercity rail, and regional/commuter rail. (Since many state DOTs are essentially organized around automobile passenger transportation, it is often sufficient to create only the freight policy office.)

Where states have created commissioner-level freight and passenger transportation offices they have generally charged them to act as the champions for their markets – freight shippers and carriers for the freight office, and automobile, bus, passenger rail, and transit riders for the passenger office. Each is tasked to answer the question: How well is the state DOT meeting the travel needs of their customers? But each is also tasked to chair a coordinating committee that represents planning, operations, and engineering (or the individual modes if the state DOT is organized around modal administrations).

Creating commissioner-level offices provides a clearer point of contact, especially for private sector railroads, shippers, and legislators and staff interested in rail issues and projects, and a single point of contact can help to minimize confusion stemming from internal state DOT discussions of alternative rail policies and programs. It also enables a more visible and policy-focused platform for coordination of state DOT and state economic development policies and activities. This is particularly important for freight rail, which is tied directly to economic activity and economic development. Finally, it provides a visible point of contact for multistate coordination of freight and passenger transportation. Both freight rail and intercity passenger service are heavily interstate transportation activities, and the designation of a secretarial-level office makes diplomatic outreach to adjoining states and Federal agencies easier.

How the state DOT organizes the subgroups for planning and management of freight rail and passenger rail programs is important, but less critical than ensuring strong policy leaderships, coordination, and public visibility. As noted in the introduction to this section, there is not a one-size-fits-all approach to state DOT organizations, especially for freight and passenger rail. Figure 4.1 provides a general sketch of an approach that Mn/DOT may wish to consider, but as a sketch it overlooks many institutional considerations such as the number of staff available for each office and subgroup, budget capacity, etc., which may determine if there should be separate freight rail and passenger rail offices, or separate planning and program management offices, etc.

Figure 4.1 Organizational Option



4.3 MINNESOTA RAIL PROGRAMS

In parallel with the restructuring of organizational roles and responsibilities will be a requirement to reorganize existing rail funding programs and establish new programs. Figure 4.2 blocks out the types of rail funding programs that Mn/DOT may wish to consider. The figure shows logical program elements by rail plan element (e.g., infrastructure, grade crossings, operations, etc.) for freight and rail. Freight rail is further broken down in programs applicable to Class I railroads and short line railroads; passenger rail is likewise subdivided into intercity passenger rail programs and regional passenger rail programs.

The figure sketches in about a dozen rail programs; however, not all need to be new or standalone programs. Mn/DOT and the legislature can modify existing programs or create new programs to achieve the purposes of these programs, and they also can collapse or subdivide the programs further. These options will be dictated by the source of funding, legislative committee jurisdictions, and state and Federal regulations.

The following paragraphs provide short descriptions and rationales for the programs. As with the institutional roles and responsibilities, we expect that the specifics of the rail programs will change and be developed in more detail as Mn/DOT, the Legislature, and rail stakeholders review the rail vision and make decisions about the scope and scale of rail services, infrastructure, and programs.

Figure 4.2 Rail Funding Programs

Mn/DOT Rail Plan Elements	Freight		Passenger	
	Class I RR	Short Line RRs	Intercity Pax Rail	Regional Pax Rail
Infrastructure (Rail Lines, Bridges, Tunnels….)	Revolving Fund Loans and Grants		PRIIA	FTA New Starts
	Public-Private Partnerships		State and Local Capital Program Funds	
Grade Crossings/ Separations, ROW Protection	FHWA Section 130/Local Match			
	State Grade Crossing Safety Program			
				FTA Safety Grants
Operations and Maintenance		State Revolving Fund Loans and Grants	Intercity Service Operating Funds	Regional/MPO Service Operating Funds
Rolling Stock		State Revolving Fund Loans and Grants	PRIIA	FTA Capital Program
	Emissions Reduction Grants			
Customer Facilities	State Revolving Fund Loans and Grants		*N/A*	*N/A*

Infrastructure (Rail Lines, Bridges, Tunnels, etc.) Programs

- **Freight**
  - **Revolving Fund Loans and Grants –** To help defray the costs and risks of investment in major improvements to the rail network that are expected to have a long asset life (e.g., 30 to 50 years or more). Unless there are compelling public benefits, the State should expect improvements made to Class I railroad lines to be paid back over time from revenues generated by freight service. An alternative approach, applied in some states to specific projects, is to front-end the cost of the improvement using state funds and charge the railroads on a per-use basis. This has the advantage of leveraging the State's ability to borrow money at rates below commercial market rates and allows the railroads to pay-as-they-go, treating the cost as an expense rather than a capital cost and liability.
  - **Public-Private Partnerships –** To share costs and risks between the public and private sector where there are significant public and private sector benefits. As discussed in the prior section on public-private partnerships, the partnerships can be used to facilitate many combinations of rail system design, construction, maintenance, operation, and related services.

- **Passenger**
  - **PRIIA –** To underwrite the cost of passenger rail infrastructure and services (which may include improvements that maintain freight services while accommodating new or expanded passenger service).
  - **FTA New Starts –** To underwrite the costs of metropolitan transit and regional commuter rail infrastructure and services.
  - **State and Local Capital Program Funds –** To underwrite the cost of passenger rail infrastructure and services that cannot be funded through Federal programs or to provide state and local match for Federal grants.

Grade Crossings/Separations, ROW Protection

- **Freight and Passenger**
  - **FHWA Section 130/Local Match –** To cover the cost of grade separations, installation of crossing controls and other rail right-of-way improvements to reduce the risk of collisions between trains and cars and trucks and between trains and pedestrians.
  - **State Grade Crossing Safety Program –** To cover the cost of grade separations, etc., paralleling the Federal Section 130 program, but to cover more crossings sooner than can be achieved with Mn/DOT's allotment of Federal funds. Minnesota has a large number of grade crossings. Public safety and fast and reliable train operations may dictate a more aggressive grade crossing safety program.
  - **FTA Safety Grants –** To cover the cost of grade separations, etc., on commuter rail and transit lines not covered under New Starts or other state initiatives.

Operations and Maintenance Programs

- **Freight**
  - **State Revolving Fund Loans and Grants –** To help defray the costs and risks of investment in major improvements to short line railroad lines. This program would continue long-standing state practices of selectively subsidizing improvements to short line tracks and bridges both to ensure safe operation and upgrade their car carrying capacity to the de facto industry standard of 286,000 pounds. This program would extend the current MRSI program.
- **Passenger**
  - **Intercity Service Operating Funds –** To subsidize the cost of operating intercity passenger rail services.
  - **Regional/MPO Service Operating Funds –** To subsidize the cost of operating regional commuter rail and transit services.

Rolling Stock Programs

- **Freight**
  - **State Revolving Fund Loans and Grants –** To help defray the costs and risks of investment in new locomotives for short line railroad lines. This program would extend the current MRSI program. States have also used such programs to underwrite the purchase of specialized rail cars (e.g., grain hoppers, ethanol tank cars, etc.) to meet the needs of local shippers and short line railroads.
  - **Emissions Reduction Grants –** To underwrite the cost replacing energy-inefficient locomotives with more fuel-efficient and less polluting equipment. Fuel costs, energy security concerns, and pending greenhouse gas emissions reduction goals have led to the creation of Federal and state programs to accelerate the replace locomotives and other rail equipment with more efficient, less polluting equipment.
- **Passenger**
  - **PRIIA –** To underwrite the cost of passenger rail locomotives and cars used in intercity passenger rail service.
  - **FTA Capital Program –** To underwrite the cost of passenger rail locomotives and cars used in regional commuter rail and transit service.

Customer Facilities Programs

- **Freight**
  - **State Revolving Fund Loans and Grants –** To help defray the costs and risks of investment in rail sidings, storage buildings, and related facilities for rail customers. This program would extend the current MRSI program.

A Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota State Agencies					
Minnesota Department of Agriculture	To enhance Minnesotans' quality of life by ensuring integrity of the food supply, health of the environment, and strength of the agricultural economy.	Divisions: • Agricultural Finance/Rural Finance Authority • Agricultural Development • Dairy and Food Inspection Division • Human Resources Division • Lab Services Division • Plant Protection Division • Agricultural Marketing Services Division • Agricultural Statistics Division • Finance and Budget Division • Information Technology Division • Pesticide and Fertilizer Management Division • Commissioner's Office Division	• Enforces new pesticide application law (2008) along rail rights-of-way • Promotes development of new markets for agricultural products, including ethanol	The department employs 450 people with a biennial budget of approximately $170 million.	
Minnesota Department of Employment and Economic Development (DEED)	The State's principal economic development agency. Mission: To support the economic success of individuals, businesses, and communities by improving opportunities for growth.	Operating Divisions: • Business and Community Development • Workforce Development • Unemployment Insurance • Communication, Analysis and Research	Programs: • Promotes business recruitment, expansion and retention, which may impact rail industry • Workforce development • International trade • Community development	DEED receives authorization for its biennial funding – both state and Federal dollars – through the State of Minnesota budget process. FY 2010-2011 Budget is $736 million	http://www.deed.state.mn.us/index.htm

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota State Agencies (continued)					
Minnesota Department of Natural Resources (DNR)	Work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.	Divisions: • Ecological Resources • Enforcement • Fish and Wildlife • Forestry • Lands and Minerals • Parks and Recreation • Trails and Waterways • Waters	• Protects the state's natural heritage • Manages the state's water resources, sustaining healthy waterways and ground water resources. • Supports natural resource-based economies, including management of state forests, school trust lands, and providing other economic opportunities in a manner consistent with sound natural resource conservation and management principles. • Provides outdoor recreational opportunities, including management of rail trails, which are typically leased from Mn/DOT	Biennial FY 2008-2009 budget of $733.1 million, of which 19.5% went for forest management, 24.7% for fisheries and wildlife, 20% for parks, recreation, trails and waterways (incl. Rail trails), and 9.1% for land and minerals. The department has a staff of	http://www.dnr.state.mn.us/index.html

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota State Agencies (continued)					
Minnesota Department of Public Safety (DPS)	One-stop shop for most safety-related functions in which the State is involved, including law enforcement, emergency management, and driver and vehicle services.	Divisions: • Administrative Services • Alcohol and Gambling Enforcement • Emergency Communication Networks • Bureau of Criminal Apprehension • Office of Justice Programs • Driver and Vehicle Services • Homeland Security and Emergency Management • Office of Pipeline Safety • State Fire Marshal • State Patrol • Office of Traffic Safety	• Monitors rail/highway grade crossing accidents (also done by Mn/DOT) • Previously tracked railroad accidents	FY 2008-2009 biennial budget from general fund of $1.1 billion.	http://www.dps.state.mn.us/

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota State Agencies (continued)					
Minnesota Department of Revenue	Manages the state's revenue system by administering 28 different taxes, collecting over $17 billion annually. This money funds state programs including education, local government aid, property tax relief, social service programs, and highways.	Divisions: • Appeals and Legal Service • Collection Division • Communications • Corporation Franchise • Criminal Investigations • Financial Management • Facilities Management • Human Resources Management • Individual Income Tax • Information Systems • Property Tax • Sales and Use Tax • Special Taxes • Tax Operations • Tax Research • Withholding	• Oversees property tax collection process (revenues actually go to local jurisdictions) • Ensures that contractors hired by Mn/DOT are in compliance with state purchasing regulations. • Collected diesel taxes from railroads (which were subsequently found to be unconstitutional)	The department's budget in the 2008-2009 biennium totaled $270.2 million, with a departmental staff of 1,354 full-time equivalent employees.	http://www.taxes.state.mn.us/taxes/index.shtml
Minnesota Pollution Control Agency	Monitors environmental quality, offers technical and financial assistance, and enforces environmental regulations. Finds and cleans up spills or leaks that can affect health and environment. Staff develop statewide policy, and support environmental education	Agency consists of eight divisions, of which three interact with the rail industry: • Industrial • Remediation • Prevention and Assistance	Rail-related activities: • Permitting for new facilities • Responds to hazmat releases	950 staff working at 8 offices, $355 million biennial budget	http://www.pca.state.mn.us/

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota Department of Transportation (Mn/DOT)					
Mn/DOT Office of Environmental Services (OES)	Instills environmental values into the transportation community by creating a public understanding of ecological concepts, building an awareness of environmental issues, conducting scientific investigations, and provide guidance on environmental regulations.	OES is one of the offices under the Engineering Services Division of Mn/DOT.	Conducts environmental review for FHWA projects, and more recently rail, including the following aspects: • Air/water quality and analysis • Endangered species • Noise analysis • Regulated materials and waste • Erosion control	Viewed as short-staffed	http://www.dot.state.mn.us/environment/index.html
Mn/DOT Office of Freight and Commercial Vehicle Operations	Reviews MNDoT's role in freight transportation and develops strategies for Mn/DOT to improve its knowledge and integration of freight transportation into policy, planning, and investment processes.	Office of Freight and Commercial Vehicle Operations is one of the offices under the Modal Planning and Program Management Division of Mn/DOT.	Programs: • Multimodal freight planning • Hazmat (truck only) • Oversize/overweight permits • Property carriers • Passenger carriers • Rail grade crossing improvement program • Grade crossing safety and licensing • Port development program • Operation Lifesaver • Rail abandonment/banking • Manage state-owned rail bridges (57)	70 employees in entire department, of which most work in CVO.	http://www.dot.state.mn.us/ofrw/freight.html Current planning projects of note: Regional multimodal Freight Plans, Minnesota State Rail Plan, Minnesota Interstate Truck Parking Study – Phase II

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Minnesota Department of Transportation (Mn/DOT) (continued)					
Mn/DOT Office of Land Management	Acquires rights-of-way and provides a wide range of real estate services, including high accuracy surveys, aerial photography, state, city and county maps to primarily support planning and design of Mn/DOT projects.	Office of Land Management is within the Engineering Services Division	Acquires rights-of-way for new transportation investments, abandoned rail rights-of-way for rail-banking.		http://www.olmweb.dot.state.mn.us/
Mn/DOT Office of Transit	To help people and communities meet their mobility needs by supporting safe, responsive, efficient, and environmentally sound transit services and by safely accommodating bicycles and pedestrians to help everyone move smarter, safer, and more efficiently.	Office of Transit is one of the offices under the Modal Planning and Program Management Division of Mn/DOT.	• Grant programs provide operating and capital assistance to fund public transit service outside the Twin Cities metropolitan area and capital assistance to nonprofit organizations to fund vehicles to transport elderly and persons with disabilities statewide. • The Office of Transit also maintains a statewide system plan for bicycle transportation, supports bicycle and pedestrian systems, and promotes non-travel alternatives such as teleworking.	Currently no involvement with rail planning	http://www.dot.state.mn.us/transit/index.html

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Regional and Local Agencies					
Metropolitan Council	The Minnesota Legislature established the Metropolitan Council in 1967 to coordinate planning and development within the Twin Cities metropolitan area and to address issues that could not be adequately addressed with existing governmental arrangements. Agency provides framework for decisions and implementation for regional systems including aviation, transportation, parks and open space, water quality and water management.	Divisions and operating areas: • Regional Administration/Chair's Office • Community Development • Transportation and Environmental Services	• Transportation planning functions for Metro area • Operates the region's largest transit system, including the new North Star commuter service	Total FY 2009 employment of 3,763 FTEs, of which 20 FTEs are involved in transportation planning. $520 million FY 2009 operations budget.	http://www.metrocouncil.org/index.htm

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Regional and Local Agencies (continued)					
Regional Rail Authorities	Legislative mandate established in 1980 under Minnesota Statutes Section 398A, which provides a mechanism for counties to provide for the preservation and improvement of local rail service for industrial shippers and/or passenger traffic.	• Anoka County Regional Railroad Authority (ACRRA) • Buffalo Ridge Regional Railroad Authority • Dakota County Regional Railroad Authority • Hennepin County Regional Railroad Authority (HCRRA) • Itasca County Regional Railroad Authority (ICRRA) • Lac qui Parle Regional Rail Authority • Minnesota Valley Regional Rail Authority (MVRRA) • Olmsted County Regional Railroad Authority • Ramsey County Regional Rail Authority • St. Louis and Lakes Counties Regional Railroad Authority • Stearns County Regional Rail Authority • Washington County Regional Railroad Authority (WCRRA)	Preservation and improvement of local rail service for agriculture, industry, and passenger traffic and provides for the preservation of abandoned rail right-of-way for future transportation uses. Powers include: • Ability to acquire real and personal property within or outside its taxing jurisdiction. • Ability to hold, manage, control, sell, convey, lease, mortgage, or otherwise dispose of property. • Ability to apply for state and Federal funds. • Ability to tax. • Ability to exercise eminent domain. • Ability to collect a fee for use of its property.	Activities and budgets range from substantial to minimal.	http://www.co.dakota.mn.us/CountyGovernment/PublicEntities/RRAuthority/default.htm http://www.co.hennepin.mn.us/portal/site/HCInternet/menuitem.77d27cbcd42457649bfa04a6c8c06498/?vgnextoid=994abe2f09b7c010VgnVCM1000000f094689RCRD http://www.co.washington.mn.us/info_for_residents/transportation_division/regional_rail_wcrra/ http://www.regionalrail.org/ http://www.mesabitrail.com/RRA/background.html http://www.co.olmsted.mn.us/departments/boc/olmsted_county_regional_railroad_authority.asp http://www.ci.madison.mn.us/index.asp?Type=B_BASIC&SEC={B7B70733-8259-4EBF-802F-F2BCCC374A7E} http://www.rrb.gov/blaw/bcd/bcd02-51.html http://www.co.itasca.mn.us/Parks/bkie_trails.htm

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Federal Agencies					
Railroad Retirement Board	Administer the railroad retirement system (separate from SSI) and railroad unemployment insurance program, tax current railroads (benefits through payroll taxes), pay beneficiaries and survivors	Based in Chicago, overseen by three member Board appointed by President, responsible for actuarial analysis of railroad retirement system.	Source for information on current employment and employment patterns in rail industry, information on railroad retirees by state.	920 FTEs, approximately $110 million annual administrative budget (funded from non-appropriated funds), interacts with employees and retirees through 53 field offices across the country (including offices in St. Paul and Duluth)	http://www.rrb.gov/default.asp
U.S. DOT Federal Railroad Administration	Responsible for developing and enforcing railroad safety rules, operate Railroad Rehabilitation and Improvement Financing loan program, small research program; now responsible for administering passenger rail grant program	Major divisions: Policy/Public Affairs, Chief Counsel, Administration, Safety, Railroad Development; Safety division includes 8 regional offices	Safety inspectors enforce in 5 disciplines: track, operating practices, signals and train control, human factors and hazardous materials. FRA also works with states on highway-rail grade crossing issues, works with TSA on rail security policies, administers Federal assistance for Amtrak, administers HSIPR grants	FY09 Budget: 869 FTEs, $1.8 billion budget; FY 09 with ARRA: $11.1 B. Rail safety statistics database online, rail R&D lab at Transportation Technology Center (jointly with AAR)	Home page: www.fra.dot.gov Rail Safety data: http://safetydata.fra.dot.gov/officeofsafety/
U.S. DOT Federal Transit Administration	Administer formula and grant funding for public transportation development for urban and rural areas; support existing services, recommend new services, coordinate research and training	Major divisions: Budget and Policy, Planning, Program Management, Research, Administration, 10 Regional offices, 5 Metro offices, Communication and Congressional Affairs, Chief Counsel	Supports transportation planning, analysis of new transit services, environmental reviews, administers 19 different grant programs, supports cooperative and university research, conducts training, oversees transit safety issues, coordinates transit security with TSA	FY 09: 526 FTEs, $10.2 billion; FY09 with ARRA: $18.6 billion, supports transit professional development through the National Transit Institute, rail projects funded and analyzed through new starts program	Home page: www.fta.dot.gov;

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Federal Agencies (continued)					
U.S. DOT Federal Highway Administration	Manages Federal highway funding program for Federal aid highways, also administers highway safety funding for highway-rail grade crossing allocated to states	Broad set of administrative, planning, research, data responsibilities, administered through HQ staff in DC, regional support centers and Division offices in each state	FHWA funding for highway-rail grade crossing protection is a set-aside from the Highway Safety Improvement Program allocations to states. Each Division office has safety expertise that can offer assistance in administering grade crossing protection funds.	Federal statute allocates $220 million annually to the grade crossing program regardless of HSIP funding levels	Grade crossing page at FHWA: http://safety.fhwa.dot.gov/xings/
U.S. DOT Surface Transportation Board	Responsible for prescribed economic regulation of railroads and other surface modes (pipelines, intercity bus).	Overseen by three Commissioners appointed by President who also make decisions on administrative proceedings. Four divisions: Office of Public Assistance, Government Affairs and Compliance, Office of Economics, Environmental Analysis and Administration, Office of General Counsel, Office of Proceedings	Make decisions on rail rate reasonableness, railroad mergers, and line abandonments. Lead agency for environmental review of new rail line construction. New responsibility to mediate passenger rail conflicts with freight rail owners.	FY09: 150 FTEs, $26.8 million budget	Home page: www.stb.dot.gov
U.S. DOT Pipeline and Hazardous Material Safety Administration	Sets safety regulations for hazardous materials across all modes, and for pipeline operations	Divisions: Hazmat Safety, Pipeline Safety, Chief Counsel, Finance and Budget, Administration, Government Congressional and International Affairs. Five regional offices for Hazmat and for Pipelines, training center in Oklahoma City, headquarters in DC.	Sets regulations regarding transportation, storage, packaging, labeling of hazmat shipments on all modes, including railroads. Makes emergency preparedness grants for hazmat safety.	FY09: 417 FTEs, total budget: $172.7 million. Total resources for hazmat safety: $60.3 million, 163 FTEs	Home page: www.phmsa.dot.gov

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Federal Agencies (continued)					
U.S. Army Corps of Engineers	"Provide vital engineering services in peace and war to strengthen the Nation's security, energize the economy, and reduce risks from disasters."	Part of the U.S. Army, overseen by a Chief of Engineers and Commanding General, with four Deputy Commanding Generals. The organization is structured geographically into eight permanent divisions, one provisional division, one provisional district, and one research command reporting directly to the HQ.	Railroads are primarily impacted through USACE's management of navigable waterways, and construction permitting processes required for wetlands and waterways.	FY09: $4.7 billion, 34,600 civilian, 650 military FTEs	Home page: www.usace.army.mil/
U.S. Department of Homeland Security	Protects U.S. territory from terrorist attacks and responds to natural disasters.	Third-largest cabinet department, after DOD and Veteran's Affairs. Consists of seven divisions, of which three intersect with the rail industry to varying degrees: • U.S. Coast Guard • Transportation Security Administration • U.S. Customs and Border Protection • Federal Emergency Management Administration (FEMA)	Establishes and enforces security regulations for freight and passenger rail operations. Particular attention paid to transportation of security sensitive materials like toxic and poisonous by inhalation chemicals. CBP oversees transborder shipping and reporting. Two funding programs affect rail: freight rail security grants and mass transit grants (some of which are made to Amtrak directly). Field personnel also work on rail security regulation enforcement.	FY09: $37.6 billion, over 200,000 FTEs. Surface Transportation Security: 353 FTEs, $63.4 million. No information on regional office locations available on agency website	Home page: www.dhs.gov/

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Federal Agencies (continued)					
USDHS: U.S. Coast Guard	Protects coastlines and ports, also administers permitting process for structures across waterways.	Bridge Program administered by Bridge Division, under Director of Prevention Policy, under Assistant Commandant for Marine Safety, Security and Stewardship. Permits issued by District offices (Minnesota split between District 8 and 9)	USCG issues permits for bridges constructed or modified across navigable waterways, international bridges and alters bridges found to be obstructions to navigation. Administers the Truman-Hobbs Act, which provides Federal funds for the alteration of bridges found to be unreasonably obstructive to navigation.	Not specified	Bridge Division page: http://www.uscg.mil/hq/cg5/cg5411/Mission.asp
Industry Associations					
Association of American Railroads (AAR)	To work with elected officials and leaders in Washington, D.C. on critical rail transportation issues to ensure that the railroads meet America's transportation needs today and in the future.	AAR Subsidiaries: • Railinc • Transportation Technology Center, Inc. • Railroad Research Foundation	Sets industry standards for the physical and administrative interchange of freight cars and locomotives among railroads. Provides a variety of data services to the industry for accounting and operational purposes through Railinc Corporation, AAR's information technology arm. Also conducts and manages research on behalf of the railroads through the Transportation Technology Center (TTCI), a research, development and testing facility that develops next-generation advancements in safety and operation efficiency.	Members include the major freight railroads of the United States, Canada and Mexico, as well as Amtrak. Overall, AAR members account for more than 96 percent of intercity rail freight service and essentially 100 percent of intercity passenger service in the U.S. alone.	http://www.aar.org/Homepage.aspx

Table A.1 Inventory of Institutional Roles and Responsibilities for Freight and Passenger Rail in Minnesota (continued)

Agency/Group	Mandate (*What and Why?*)	Organization (*By whom? … Roles and Responsibilities*)	Procedures Impacting Rail Sector (*How? … Policies, Programs, Process*)	Resources (*How Much? … Staff, Budget, Technology*)	Notes/URLs
Industry Associations (continued)					
American Railway Engineering and Maintenance-of-Way Association (AREMA)	Development and advancement of both technical and practical knowledge and recommended practices pertaining to the design, construction and maintenance of railway infrastructure.	Key committees: • Structures • Passenger and Transit • Construction Track • Engineering Services • Communications and Signals • Maintenance	Committees develop and publish information and recommended practices pertaining to rail engineering and maintenance standards.	Professional staff and volunteer committees of industry experts and practitioners.	www.arema.org