

# Minnesota Comprehensive Statewide Freight and Passenger Rail Plan

*Financial and Implementation Plan*

## draft technical

## memorandum 9

*prepared for*

**Minnesota Department of Transportation**

*prepared by*

**Cambridge Systematics, Inc.**

*with*

**Kimley Horn & Associates  
TKDA, Inc.**



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November 2009

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# Table of Contents

<b>Executive Summary .....</b>	<b>ES-1</b>
<b>1.0 Federal Funding Sources .....</b>	<b>1-1</b>
1.1 Surface Transportation Funding Programs .....	1-1
1.2 Passenger Rail Funding Programs .....	1-2
1.3 Summary Federal Funding Issues.....	1-4
<b>2.0 Financial Plan .....</b>	<b>2-1</b>
2.1 Principle: More than One.....	2-1
2.2 Financial Tools .....	2-2
<b>3.0 Preliminary Screening of Passenger Rail Investments.....</b>	<b>3-1</b>
3.1 Institutional Roles and Responsibilities for Rail .....	3-1



# List of Tables

Table 2.1	Minnesota Regional Railroad Authorities .....	2-5
Table 2.2	Freight System Costs, Public and Private Shares.....	2-8
Table 2.3	Freight System Costs, Annual Public Costs.....	2-9
Table 2.4	Base Case and Best Case Assumptions .....	2-12
Table 2.5	Passenger Rail Corridor Operating Costs .....	2-13
Table 2.6	Farebox Recovery Scenarios.....	2-13
Table 2.7	Total Possible Annual Costs, State Rail Plan.....	2-14
Table 3.1	Approaches to Rail Program Administration .....	3-5





# List of Figures

Figure 2.1 Freight Rail System Improvement Costs.....2-7  
Figure 2.2 Phase I Passenger Rail Infrastructure Cost.....2-11  
Figure 3.1 Passenger Rail Project Decision Process.....3-2



# Executive Summary

This technical memorandum assesses strategies for financing, programming, and managing the proposed state rail program. Section 1.0 summarizes Federal funding sources; Section 2.0 presents the financing plan; and Section 3.0 discusses institutional strategies. All financial numbers in this memorandum are draft and will be finalized in the Final Report based on some changes in cost assumptions included in Technical Memorandum 6 (Investment Needs) in response to comments received at the most recent round of stakeholder committee meetings; and in the development of a “best case” scenario. Based on the analysis to-date, the total annual public (non-Federal) cost of financing (capital and operating) the complete 20-year program ranges between \$269 and \$494 million depending on Federal contributions and whether the base case or best case cost estimates are realized.



# 1.0 Federal Funding Sources

## 1.1 SURFACE TRANSPORTATION FUNDING PROGRAMS

The most recent surface transportation authorization legislation, the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), enacted in August 2005, authorizes the full range of surface transportation programs for highways, transit, rail, safety, and research programs. This legislation also maintains or expands certain Federal programs with applicability to freight rail projects or passenger rail improvements.

**Surface Transportation Program (STP).** The STP Program (Title 23 USC Section 133, 104(b)(3), 140) provides flexible funding for projects on any Federal-aid highway, bridges on public roads, transit capital investments, and intracity and intercity bus terminals and facilities. Eligible freight projects include preservation of abandoned rail corridors, bridge clearance increases to accommodate double-stack intermodal trains, and freight transfer yards. Project funding decisions are made by Mn/DOT with approval from the Federal Highway Administration (FHWA).

**Congestion Mitigation and Air Quality (CMAQ) Improvement Program.** The CMAQ Program (Title 23 USC Section 149) funds transportation projects that improve air quality in nonattainment and maintenance areas for ozone, carbon monoxide, and particulate matter. CMAQ funds have been used for freight-related projects that reduce truck traffic by expanding rail capacity, such as construction of highway-rail intermodal transfer facilities, freight rail track rehabilitation, rail sidings, and new locomotives for yard operations. CMAQ funding decisions in nonattainment areas are made by metropolitan planning organizations, and funds are distributed by Mn/DOT.

**Rail Line Relocation Grant Program.** The Rail Line Relocation Grant Program (created by Section 9002, Title XI, SAFETEA-LU) provides grants to states for local rail line relocation and improvement projects that reduce highway congestion, enhance quality of life, or expand economic development activities. While SAFETEA-LU authorized \$350 million per year for this program, no funds for this program were appropriated until FY 2008, when Congress appropriated \$20,040,000, of which \$5,250,000 was earmarked for 9 specific “noncompetitive” projects. Another \$25,000,000 was appropriated in FY 2009, of which \$17,100,000 was earmarked for 23 projects.

**Transportation Infrastructure Finance and Innovation Act (TIFIA).** SAFETEA-LU amended the TIFIA program originally created in 1997 by the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). This credit assistance program provides funding for up to one-third of the total cost of a major transportation project of national or regional significance, in the form of secured

loans, loan guarantees, or lines of credit. TIFIA has been expanded to include private rail projects such as public or private rail facilities providing benefits to highway users, intermodal freight transfer facilities, access to freight facilities, and port terminal transfer facilities. Congress has directly authorized funds for the subsidy costs of extending this credit (so applicants do not bear that cost, unlike the RRIF program) and annual awards are limited to \$2.2 billion a year. Two freight rail projects making use of TIFIA credit were the Alameda Corridor rail line relocation and grade separation project in Southern California, and the ReTRAC rail relocation project in Reno, Nevada. The Alameda Corridor was funded through a freight car fee, and the Reno project is being repaid from hotel tax receipts. Final project funding decisions are made by a multi-administration Credit Council within the U.S. Department of Transportation, and are subject to approval by the Office of Management and Budget.

**Private Activity Bonds (PAB).** PABs are tax-exempt bonds issued to finance the activities of private firms. SAFETEA-LU added that highway and freight transfer facilities (including highway-rail transfer) could use PABs. Mass transit projects and high-speed rail facilities (over 150 mph) already were eligible for PABs, up to a \$15 billion limit for transportation-related PABs. The program is administered by the U.S. Department of Transportation.

**Rail Rehabilitation and Improvement Financing (RRIF) Program.** This program provides loans and credit assistance for freight and passenger railroad projects. Eligible projects include acquisition, improvement or rehabilitation of intermodal, or rail equipment or facilities, including track, bridges, yards, buildings and shops, and new intermodal or railroad facilities. Direct loans can fund up to 100 percent of project cost, but Congress did not authorize or appropriate any credit subsidies for this program, so loan applicants must pay for the cost of borrowing to the government. This program is administered by the Federal Railroad Administration, and final award decisions are overseen by the U.S. DOT Credit Council and the OMB.

## 1.2 PASSENGER RAIL FUNDING PROGRAMS

Minnesota is connected to a high-speed rail corridor designated by the U.S. Department of Transportation under authorization first granted in 1991. However, as a recent Amtrak study on high-speed rail corridors noted:

The biggest factor separating the Congressional intention for high-speed rail first made manifest in 1991 from its accomplishment has been the failure of the legislative branch to allocate the substantial resources

necessary to make high-speed rail attainable in the designated corridors (or for the executive branch to propose such investments).<sup>1</sup>

This omission was remedied finally with the passage of the **Passenger Rail Improvement and Investment Act of 2008 (PRIIA)** in October 2008, which created three new passenger rail investment programs for states:

1. **State Capital Grant for Intercity Passenger Rail (Section 301 of PRIIA)** - \$380 million per year is authorized for grants to states for capital costs of facilities and equipment necessary to provide new or improved passenger rail service. These grants, providing a Federal share of up to 80 percent of total capital costs, will be administered by the U.S. Secretary of Transportation through the Federal Railroad Administration.
2. **Congestion Grants (Section 302 of PRIIA)** - An average of \$65 million is authorized out of the Intercity Passenger rail program for projects to reduce congestion in bottlenecks on high-priority corridors. These grants will support projects to reduce congestion, facilitate ridership growth, or improve on-time performance and reliability of intercity passenger rail services.
3. **High-Speed Rail (Section 501 of PRIIA)** - \$300 million a year is authorized for grants to states to bring about high-speed rail (reasonably expected to reach speeds of up to 110 mph) in Federally designated corridors. These grants also will be awarded on a competitive basis by the FRA.

Before the incoming Congress could consider how to appropriate funds for these newly authorized purposes, Congress enacted an economic stimulus appropriations bill, the **American Reinvestment and Recovery Act of 2009 (ARRA)**, which appropriated an additional \$8 billion for projects in the three programs described in PRIIA. The legislation also outlined a process by which the FRA would develop a strategic plan for administering the new appropriated funds, followed by a detailed grant program, followed by a competitive grant application cycle.

The strategic plan issued in April 2009 and the grant application guidance in June 2009 are available on the FRA web site. A detailed explanation of the initial grant process is beyond the scope of this State Rail Plan, and since the first round of applications in August and October of 2009 have passed, that grant cycle is not necessarily applicable to the projects identified in this Plan.<sup>2</sup> The overall grant process does offer hints of future calls for grant applications, spending whatever

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<sup>1</sup> High-Speed Rail: A National Perspective, page 5-2. Report found at <http://www.amtrak.com/servlet/ContentServer/Page/1241256467960/1241245669133>.

<sup>2</sup> Mn/DOT submitted a Track 1(a) application in conjunction with the Ramsey County Regional Railroad Authority for \$135.8 million for design and construction of the Union Depot Multimodal Transit Hub and a Track 3 application in cooperation with the Wisconsin Department of Transportation for \$600,000 for preparation of a Service Level NEPA document for a HSR route connecting Milwaukee and the Twin Cities.

might be unexpended from the \$8 billion ARRA funds and applying funds appropriated for FY 2010 toward PRIIA programs.

The FRA developed a three-tier grant distribution process to address projects from the three PRIIA rail programs. These three tiers are likely to characterize future grant cycles:

1. **Projects.** Track 1 grants, due in August 2009, supported final design and construction of rail projects or development of final environmental clearance and project design documents necessary to apply for future project grants. This set of applications focused on near-term projects, often for rail segments or facilities authorized by the Intercity Rail and Congestion Relief programs rather than HSR corridors. Environmental clearance was necessary for construction funding, and the grant applications required extensive information on capital projects, and also included information on performance measurements that represented the public benefits associated with the projects.
2. **Programs.** Track 2 grants, due in October 2009, supported a longer-term commitment to an overall program of passenger rail improvements on a corridor basis. These corridor-level plans outlined a series of individual projects for Intercity Rail and HSR services, and would lead to Letters of Intent between the FRA and state(s) to support completion of project planning activities for corridor-level services for which the aggregate benefits of multiple projects would exceed the values of each distinct project. States were required to have an overall environmental assessment complete (Service-Level NEPA), and a Service Development Plan (which described purpose and need, service and operations plans, capital project implementation, and financial plans).
3. **Planning.** No ARRA funds could be used to develop plans or environmental clearance documentation to bring corridors to the level of detail to be eligible for Project or Program funding. However, the FRA allocated funds from FY 2009 appropriations for 50/50 Federal/state matching funds for planning activities, including state rail plans, service development plans, and service-level environmental documents.

## 1.3 SUMMARY FEDERAL FUNDING ISSUES

States have more reasons than ever to plan for Federal financial participation in intercity passenger rail corridors, with new demonstrations of legislative authority and funding for such programs. This financial plan includes different levels of Federal financial participation in Phase I projects in the State Rail Plan, even though no one can really anticipate future levels of Federal funding. However, the following observations can inform expectations of Federal assistance in the future.

**Heavy Competition.** FRA received 214 applications from 34 states totaling \$7 billion for Track 1, 3, and 4 applications in August 2009, and 45 applications



from 24 states totaling \$50 billion for Track 2 applications in October 2009. The U.S. Department of Transportation received 1,400 applications totaling \$57 billion in September 2009 for grants under a \$1.5 billion supplemental discretionary transportation program created by ARRA, referred to by U.S. DOT as Grants for Transportation Investment Generating Economic Recovery or TIGER grants. Competition for future FRA grant cycles will likely be similarly tough. This means that Mn/DOT should put forth the most compelling grant applications possible. While PRIIA authorizes programs with up to 80 percent Federal funding, the FRA can be expected to continue to show preference for states that leverage Federal funding with non-Federal investments.

**Future Appropriations.** Federal FY 2010 appropriations for high-speed and intercity passenger rail programs authorized in PRIIA are in the range of \$1.2 billion to \$4 billion (in the Senate and House versions of the U.S. DOT appropriations bills, respectively). The requirement in PRIIA that grant applications must be coordinated with an approved state rail plan was waived in the ARRA and FY 2010 appropriations, which makes sense, since the FRA has yet to issue guidelines for what will be acceptable as a state rail plan. However, this State Rail Plan was prepared to meet the state rail plan elements enumerated in PRIIA. Completion of this State Rail Plan will put Minnesota in a competitive advantage to other states once the guidelines are issued and future grants require state rail plans.

**Environmental Clearances.** Environmental planning is an eligible use of Federal highway and transit funding programs, which allows transportation and transit agencies to work projects through environmental clearance to other project development tasks, building a pipeline of ready projects for construction funds as they are made available. No such planning program was created for passenger rail projects,<sup>3</sup> and so unless states have been spending their own funds for environmental studies, many states were not fully ready for the PRIIA and ARRA project construction funds once they were made available. This financial plan will recommend creating state revenue streams to support passenger rail project planning to position the state for future Federal funding.

**Sophisticated Applications.** FRA grant applications required detailed information on not just the projects to be funded but also the benefits expected from the projects. TIGER grant applications required even more specific benefit cost analyses and assessment of performance metrics. If future transportation grant programs require similar levels of detail for rail and other transportation programs, Mn/DOT should consider expanding capacity through staffing and consultant resources to meet the increasingly complicated processes of seeking Federal funding.

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<sup>3</sup> With the exception of modest appropriations in FY 2008 and FY 2009 for passenger rail improvements, which funded some environmental studies, including an EIS for the Northern Lights Express project.

**Future Authorizations.** SAFETEA-LU expired at the end of August 2009, and has been extended by short-term bills enacted by Congress. Longer-term authorization of Federal surface transportation programs has been complicated by the coincident financial troubles of the Federal Highway Trust Fund (HTF). The Senate has not produced a draft of a long-term authorization bill, but the House Transportation and Infrastructure Committee has published a six-year proposal, totaling over \$500 billion (almost \$250 billion more than expected HTF revenues). The House proposal calls for dramatically streamlined Federal funding programs, offering multimodal flexibility for states. The bill also requires more performance management by state DOTs, and also creates a \$50 billion HSR program. This legislation may require Mn/DOT to work with Legislators to consider whether the structure of state highway, transit, and rail funds are sufficiently flexible to take advantage of funding flexibility that may come in this new legislation.

## 2.0 Financial Plan

### 2.1 PRINCIPLE: MORE THAN ONE

This financial plan has been created with a unifying principle, an acknowledgment that there is no single action for the State of Minnesota to take right now to bring about the benefits associated with the projects in this Comprehensive State Freight and Passenger Rail Plan. That is because this Plan identifies:

- Actions that will require funding and ownership by **more than one** entity or actor;
- Projects that will be delivered over **more than one** year; and
- Rail improvements that will necessitate application of **more than one** funding method.

**More than One Actor.** The Minnesota Legislature may have directed the Department of Transportation to conduct a state rail plan, but the fact that the State directed, funded, and will own the plan does not necessarily imply that the State will be solely responsible for funding the plan's projects. The plan identifies a number of freight railroad projects that are typically funded by the private owners of this infrastructure, and may not require direct public funding, but could be abetted by tax incentives or loan programs. Some projects may attract Federal funding through loans or grants. Other types of projects may provide promising benefits for regional or local governments and those governments may assist with funding. This financial plan will identify a variety of entities that could be expected to participate in delivering these kinds of projects.

**More than One Year.** This plan lists improvements in the freight and passenger rail networks needed over the next 20 years. The plan has big numbers associated with statewide needs, but not all improvements will need to be accomplished in the first year, or in the first 5 years. Many projects will be completed over time, and could be funded through a series of capital bond issues and annual appropriations. Complex high-speed passenger rail projects would proceed through planning, design, and construction phases, and would not require instantaneous funding. The relatively large 20-year capital needs in this plan should not be seen as a daunting obstacle, but rather as a goal which can be achieved over time.

**More than One Method.** The extensive research conducted for this plan has revealed that there is no one, single, "silver bullet" answer that will pay for all the State's rail needs. Rather, a varied set of financial tools will be described which can be used to deliver the goals of this plan. Painting a room requires more than a single brush to do the job effectively; a painter needs broad brushes

to cut around frames and sills, narrow brushes for window sashes, rollers for walls. Similarly, a variety of financial approaches will be needed to advance the projects identified in this plan. While the national intercity rail initiative is often compared to the early stages of the interstate highway program, there is at least one major difference – the lack of a single dedicated funding source. Therefore, this memorandum will outline a suggested set of financial tools.

## 2.2 FINANCIAL TOOLS

This section will describe potential tools for private- and public-sector investments in rail infrastructure. The tools could address some or all of the following financial elements:

- Try to gain access to capital with lower interest costs, gentler terms than bank debt;
- Gain access to capital on the front end, then agree to pay debt over time in smaller slices;
- Offer lower cost capital or tax incentives to improve return on investment calculations for private investors for rail projects; and
- Offer loans or incentives to reduce one-time outlays for state government, or in the cases of loan programs, provide for revolving funds that can make future loans with repayment proceeds, and reduce future state outlays.

### 2.2.1 Tools for Private Sector Investments:

**Expanding MRSI Loan Program.** The Minnesota Rail Service Improvement program is a revolving loan program similar to those in many states originally begun with Federal Local Rail Financial Assistance capital in previous decades. However, as described in earlier chapters, the program has not been recapitalized regularly (unlike other state loan programs in the Midwest like Iowa or Kansas) and the current maximum loan amount of \$200,000 may be limited in offering assistance for short line/regional railroad operators seeking funding to address infrastructure needs identified in this report such as upgrading track or bridges for heavier weights. A revolving loan program may not be the answer for every railroad operator (given the collateral requirements), but recapitalization of the fund and expansion of the loan limit would put more of the State’s money to work in addressing infrastructure upgrades identified in this report.

**Offering Assistance for RRIF Applicants.** The Railroad Rehabilitation and Improvement Financing program, a Federal financial program administered by the Federal Railroad Administration, has been expanded by Congressional authorization, up to \$35 billion in authority to issue loans or credit

enhancements.<sup>4</sup> However, Congress has never appropriated funding to offset the cost to the Federal government for extending this credit to the railroad industry, nor has the government appropriated any funding to provide for Federal consideration of the funding applications. As a result, applicants for RRIF loans must pay for access to this capital – paying a credit risk premium that offsets the cost of borrowing from the government, and paying an application fee that pays for Federal consideration of the loan application itself. The application fee and costs of loan application analysis can range from \$50,000 to \$100,000 per loan, and the credit risk premium, which depends on the creditworthiness of the applicant, could range from 1 percent to 12 percent of the total loan amount.

In some cases, short line railroads may not have sufficient liquidity to finance the development of the loan application or the cost of capital (through the credit risk premium), nor have the luxury of waiting for Federal acceptance of the loan itself. States may not be able to do anything about the loan preparation and processing time, but could provide some financial assistance to loan applicants in the interest of attracting nonstate-funded capital investments in railroad infrastructure in Minnesota. Oregon has a program that provides financial assistance for RRIF loan applicants,<sup>5</sup> and a small appropriation of state funds from the Minnesota State Legislature could effectively offer access to RRIF funding for Minnesota applicants, bringing about improvements in railroad infrastructure.

In addition, the State could consider offering loan guarantees to RRIF applicants, either to protect against default, or to offer payment of a year's principal and interest, much like municipal bond insurance used to work. This kind of credit enhancement could be offered without cost or with a modest premium. Paying the premium to obtain a lower credit risk premium would be a good use of the applicant's resources, and would be another effective way for the State to provide access to this large pool of relatively low interest capital. If Minnesota created statutory authorization for a credit assistance program, appropriated funds could be used for both purposes (application fee grants, RRIF application guarantees).

**State Maintenance Tax Credits for Rail Improvements.** Short line railroads have access to a Federal railroad maintenance tax credit for funds expended on maintaining or improving rail infrastructure. The tax credit covers 50 percent of eligible maintenance spending, up to a limit based on the number of line miles of the railroad. A similar tax credit could be tailored to certain freight rail improvements, such as bringing track and structures up to 286,000-pound load standards. The tax incentive, added to the overall rate of return on the rail

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<sup>4</sup> More information on the RRIF program, including application and eligibility procedures, can be found at <http://www.fra.dot.gov/us/content/177>.

<sup>5</sup> Division 25, Chapter 741, Oregon Administrative Rules, found at [http://arcweb.sos.state.or.us/rules/OARS\\_700/OAR\\_741/741\\_025.html](http://arcweb.sos.state.or.us/rules/OARS_700/OAR_741/741_025.html).

improvements, might make such improvements very attractive to short line railroads. Not only would that tax incentive encourage rail investments in building load capacity, the incentives may attract private capital of short line holding companies to improvements in Minnesota instead of in other states.

**Rail Investment Tax Credit for Class I Railroads.** Freight railroads are seeking Federal legislation to create a tax credit for investments made in expanding railroad capacity.<sup>6</sup> Freight rail investments outlined in this State Rail Plan include positive train control and infrastructure improvements that would improve the physical and operating capacity of Class I railroads in Minnesota. Creating a state income tax credit for these rail investments modeled after the Federal program, in which 25 percent of annual spending on capacity expansions – track, structures, terminals, yards, signal and communication systems, and intermodal facilities – can be credited in establishing state tax liability.

**Broaden Access to the Transportation Revolving Loan Fund.** State Infrastructure Banks (SIB) in many states offer local governments access to capital to help finance local match funding for Federal transportation projects or to help finance otherwise local contributions to projects such as utility readjustments and right-of-way purchases. Federal law allows use of Federal highway funds to capitalize these revolving loan funds, in which public agencies are allowed to borrow money to meet local matching requirements for transportation projects.

The Minnesota Transportation Revolving Loan Fund (TRLF) is authorized by state law to be used to “provide loans for public transportation projects eligible for financing or aid under any Federal act or program or state law.” Rail-highway grade crossings are the only rail projects listed as an eligible expense, but the overall connection of eligibility to Federal programs would seem to broaden the application of TRLF for more rail-related projects. However, the Minnesota State Legislature could clarify eligibility for rail owners, and funding for freight and passenger rail projects.

## 2.2.2 Public Investment Tools

**Broaden Funding Sources for Regional Rail Authorities.** Regional Railroad Authorities, authorized under state law, could assist in the development of passenger rail service through station construction and operation, rolling stock purchases, or sharing in passenger rail operating expenses. This could be done with cash contributions for annual operating subsidies (for operations and rolling stock) and financed costs for station development. Table 2.1 lists the Regional Railroad Authorities created by Minnesota counties, and includes information on those authorities which have exercised their property tax authority.

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<sup>6</sup> H.R. 1806, Freight Rail Capacity Expansion Act of 2009.

**Table 2.1 Minnesota Regional Railroad Authorities**

County/Name	Created	Tax Rate		Tax Collections (Millions of Dollars)	
		Bonds	General	Bonds	General
Anoka	1987	0.586	0.562		2.405
Buffalo Ridge <sup>a</sup>	1988				
Carlton					
Chisago					
Dakota	1987	–			0.140
Dodge					
Goodhue	1982				
Hennepin	1980	–	0.380	2.879	3.080
Isanti					
Itasca	1987	–			0.048
Lac qui Parle	1983				
McLeod					
Minnesota Valley <sup>b</sup>	1982				
Morrison		–			0.024
Mower					
Olmsted					
Pine					
Ramsey		–	0.035		1.701
Scott					
St. Louis and Lake	1985	–			0.705
Stearns	1984				
Wabasha					
Washington	1987	–			0.571
Winona					

Sources: Creation dates taken from authority information available on county web sites. Tax rates taken from county web sites. Tax collection amounts are 2004 data from a Minnesota Department of Revenue report on Special Taxing District Levies by Major Purpose, available at [http://www.taxes.state.mn.us/taxes/property\\_tax\\_administrators/other\\_supporting\\_content/pay04\\_tab38.pdf](http://www.taxes.state.mn.us/taxes/property_tax_administrators/other_supporting_content/pay04_tab38.pdf).

<sup>a</sup> Created by Nobles and Rock Counties.

<sup>b</sup> Created by Carver, Redwood, Renville, Sibley, and Yellow Medicine Counties.

Many of these Authorities were created to rescue and support freight rail branch lines subject to the abandonment surge from Federal deregulation and the bankruptcy of the Milwaukee railroad in the early 1980s. Many of the most active Authorities also are supporting passenger rail studies for commuter and intercity

projects. This interest in passenger rail could lead to an ongoing role in delivery of intercity passenger rail service.

Most studies of new state-supported service by Amtrak assume that local governments will be responsible for station construction and operation. Ramsey County has been leading efforts to redevelop the St. Paul Union Depot, for the purposes of affecting development patterns on the eastern side of downtown, attracting future HSR service to downtown rather than alternate sites, and offering connections from HSR and commuter rail service to planned Central Corridor light rail service. Since local governments gain financially from development spurred by rail station development, it may make sense to expect local governments, independently or through their Regional Railroad Authorities, to be responsible for station development. State lawmakers may need to adjust property tax limits to allow urban Authorities to support regional and intercity rail projects, and may want to consider other local option taxes or fees to augment the property tax, since only 8 of the 24 authorities have levied property taxes.

**Create State Rail Revenue Sources.** Rather than jostling among all other worthy competitors for limited state general funds or state capital budget bond funding, state rail supporters would be better served by specific revenue streams dedicated to freight and passenger rail projects. Dedicated revenues could be used for the following two major purposes:

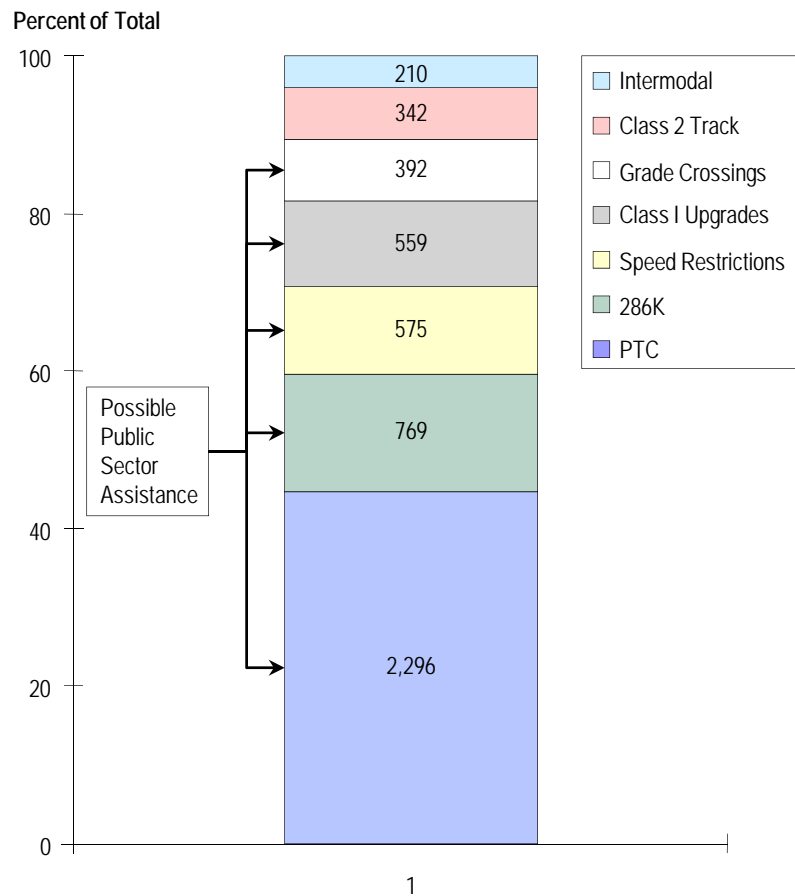
1. **Bonds for Capital Investments** – Dedicated sources of stable funding could accelerate capital investments by issuing revenue bonds backed by a portion of the revenues. This would mean that rail projects would compete against each other, not against other items in the State’s capital budget supported by general obligation bonds. Using these revenues to issue bonds rather than funding capital investments through annual revenue collections would allow for larger, more complete projects. Completing a project faster rather than in phases over time also will allow tax dollars to accomplish more results than having project cost inflation reduce the total amount of investments made on an annual basis.
2. **Annual Funding** – The other portion of dedicated revenues would support annual contributions for the following kinds of purposes:
  - Funds to offset general taxes reduced through tax credit programs for freight system improvements;
  - Funds for increased grade crossing improvements;
  - Operating costs for passenger rail services; and
  - Funds for environmental planning, engineering design and specifications, ridership, revenue and financial analyses, and Federal funding applications for passenger rail corridors.



### 2.2.3 Freight System Financial Plan

The State Rail Plan identifies \$5.1 billion in improvements for the freight rail system not otherwise related to passenger rail projects. Figure 2.1 describes the elements in the freight system improvements, including engineering and contingencies. Four sets of improvements lend themselves to possible public sector financial participation, indicated in the figure: Class I upgrades, Positive train control, 286,000-pound Track upgrades, and Grade Crossing improvements.

**Figure 2.1 Freight Rail System Improvement Costs**  
*Including Contingencies, (Millions of Dollars)*



Investments in the privately owned and operated freight rail system in Minnesota will expand capacity to serve rail shippers, provide uncongested movement of rail shipments for the benefit of shippers and communities, and improve rail safety. Since those investments will benefit the overall economic climate for the State, this plan recommends some form of public investment in some of these freight improvements (even though the State Rail Plan is not a financially constrained plan that must match investments to available funding). The plan recommends the following public support, shown in Table 2.2.

- **Twenty-Five Percent Investment Tax Credits for Class I Railroad Spending on Positive Train Control and System Upgrades** - This plan assumes a tax credit program that would offer state income tax credits equal to 25 percent of eligible spending for these purposes. Even though the Federal mandate for full implementation of positive train control is 2015, this plan will assume gradual implementation of this new technology over all Class I track in Minnesota over the span of this State Rail Plan. There could be changes in the pace and scope of implementation on all Class I miles in the State, either from the extension of the 2015 deadline or the regulatory requirements that specify which rail lines would need the new system. The final report will include a best case lower-cost estimate for PTC implementation.
- **Maintenance Tax Credit for 286K Upgrades** - A state tax credit for short line rail improvements to track and structures to accommodate standard 286,000-pound train cars could be calibrated to offset 10 percent of the total costs of the upgrades. For ease of analysis, gradual implementation of the upgrades was assumed.
- **Grade Crossing Improvements** - Mn/DOT receives roughly \$5 million annually in Federal grade crossing protection funds, matched by \$600,000 in state funding. The remaining funding to bring about the replacement of all grade crossing safety devices would come from additional state funding.

**Table 2.2 Freight System Costs, Public and Private Shares**  
*Including Contingencies (Millions of Dollars)*

	Total Cost	Public Share	Private Cost
Class I Upgrades	\$558.60	\$139.65	\$418.95
Other Class I Improvements	\$210.00	-	\$210.00
PTC	\$2,296.00	\$574.00	\$1,722.00
286K Restrictions	\$768.60	\$76.86	\$691.74
Non-Class I Speed Restrictions	\$575.40	-	\$575.40
Grade Crossings	\$392.00	\$392.00	-
Class II Track Upgrades	\$341.60	-	\$341.60
<b>Total</b>	<b>\$5,142.20</b>	<b>\$1,182.51</b>	<b>\$3,959.69</b>
<b>Percent of Total</b>		<b>23%</b>	<b>77%</b>

Assuming that these tax credits would be timed equally over the 20-year plan horizon, and assuming that state funds would augment continued Federal grade

crossing funding,<sup>7</sup> the following Table 2.3 translates the public funding shares into annual costs. If the PTC deadline were not extended, and the 25 percent public share were to be needed upfront, financing this \$574 million cost would result in annual costs of approximately \$40 million rather than the \$28 million in the table.

It is estimated that the freight railroads currently are making capital investments in Minnesota at a rate of about \$100 million per year, but these investments are mostly oriented toward routine maintenance rather than capital improvements. On a national level in the American Association of Railroads (AAR) National Capacity Study, the railroads report being able to finance \$96 billion of \$135 billion (70 percent) in identified capacity expansion needs through 2035. This would be achieved through projected earnings from revenue growth, higher volumes, and productivity improvements. It does seem likely that global economic and environmental trends will improve the competitiveness of freight rail service in the long term. Clearly, this is what a shrewd investor like Warren Buffet is betting on with his purchase of BNSF. If the railroads could finance 70 percent of the identified freight-only railroad needs in Minnesota that would bring them close to the \$4 billion (77 percent of total) private sector investment shown in Table 2.2, plus an additional \$700 million contribution to the shared passenger-freight needs described below. If relief can be gained from the PTC mandate (as assumed in the best case financial forecast currently being developed), then it is possible that the freight railroads can meet the financial elements allocated to them in this Plan.

**Table 2.3 Freight System Costs, Annual Public Costs**  
*Including Contingencies (Millions of Dollars)*

PTC, 25% Tax Credit	\$28.70
Class I Upgrades, 25% Tax Credit	\$6.98
286K, Tax Credit	\$3.84
Grade Crossings	\$14.00
<b>Total</b>	<b>\$53.53</b>

<sup>7</sup> The House authorization proposal mentioned earlier calls for the consolidation of many separate highway safety programs into a combined, performance-driven system. Even if the separate highway-rail grade crossing program were not continued, this analysis assumes that Mn/DOT will choose to maintain historical levels of Federal funding for this purpose.

## 2.2.4 Shared Freight and Passenger Rail Corridors Financial Plan

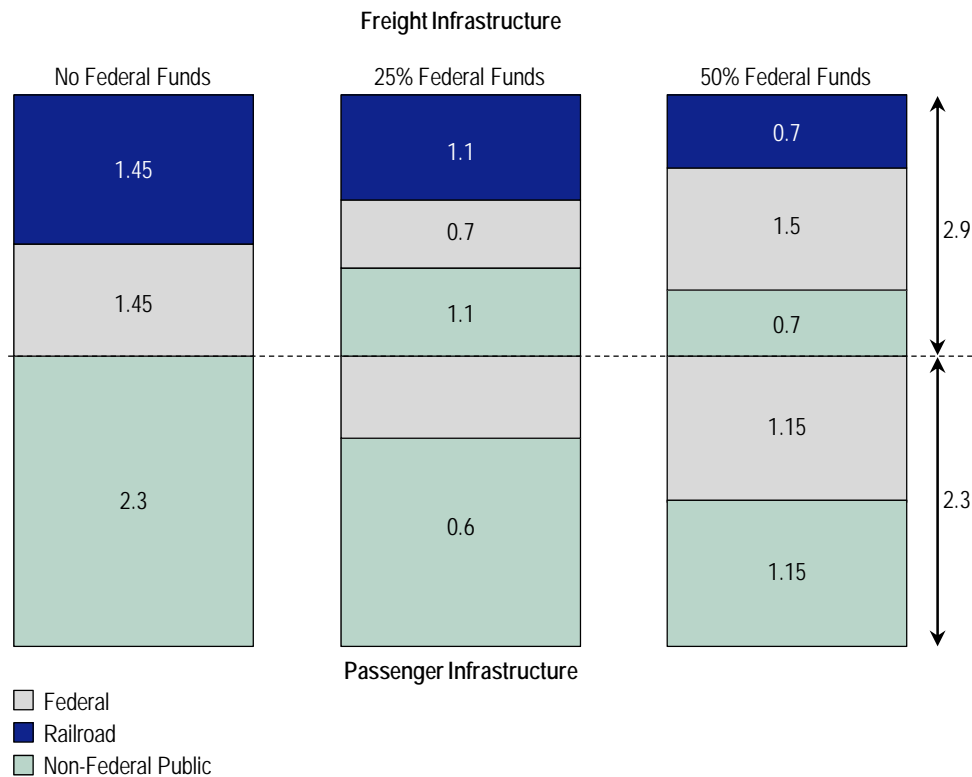
The State Rail Plan needs assessment identified approximately \$2.9 billion in freight-related infrastructure improvements for the Phase I priority projects, and \$2.3 billion in passenger-specific infrastructure improvements necessary (the financial plan will consider capacity access rights as an expense associated with rail service operations). This financial plan will assume that the public and private sectors will share equally in the costs of freight rail improvements in shared freight/passenger corridors. The actual share will be subject to a detailed operational analysis and negotiation process with each railroad owner that will determine private and public benefits and respective cost responsibilities. Passenger-specific investments are those improvements solely necessary for passenger rail operations, and since those improvements are likely to have limited benefits for freight rail operations, this financial plan assumes these costs will be borne by the public sector.

This analysis began with an assessment of likely public and private cost sharing. Since the amounts of available Federal funds over the span of the State Rail Plan is speculative, and since those Federal grants are likely to be highly sought after, this financial plan does not assume that Mn/DOT can count on full 80 percent Federal funding of the capital needs for the Phase I priority projects. Instead, two possible Federal funding alternatives are included in these subsequent tables: one in which Federal funds comprise 25 percent of applicable costs, and one in which Federal funds are 50 percent of costs. The Federal Transit Administration (FTA) today typically tries to limit Federal contributions to urban transit New Start projects to 50 percent in a similarly highly competitive grant process.

Figure 2.2 illustrates the relative public/private shares of these freight and passenger investments for the Phase I projects, and includes the two ranges of Federal funding possibilities. If these 20-year capital costs for the public (non-Federal) costs were financed over time through state revenue bonds, the annual debt service costs for a single bond issue for the entire public costs would be the following:

No Federal funds .....	\$300 million
25% Federal funds.....	\$225 million
50% Federal funds.....	\$150 million

**Figure 2.2 Phase I Passenger Rail Infrastructure Cost**  
*Billions of Dollars*



Timing of bond financing that matches project development and receipt of Federal funds may bring about a different annual cost of debt service over the span of the State Rail Plan, but capital costs for the actual projects also may be significantly different after full engineering plans and host railroad negotiations are completed, so the annual figure will serve as an adequate representation of possible annual funding requirements for the entire Phase I program, to illustrate the possible needs for state rail program revenue sources.

These infrastructure costs do not capture the capital and operating costs associated with actually delivering intercity passenger rail services. These costs include the costs of the trains themselves (rolling stock), costs of operation and maintenance of the routes (equipment and infrastructure maintenance, personnel costs for operation and maintenance, system costs for providing the services like security, ticketing, and insurance), and whatever additional costs access to the freight railroad lines might cost. The plan further assumes that train operations on all Phase I routes will be provided by one party (Amtrak or another private provider). Making this assumption allows the rolling stock costs and any other costs of access to the freight network to be assumed by this party, and this informs the subsequent financial analysis.

This financial plan includes two scenarios for these operating costs, a base case and a best case. The base case includes conservative assumptions about rolling

stock costs, operating costs on a train mile basis, and ridership and revenue. The best case offers an alternative based on certain different assumptions, explained in the following Table 2.4.

**Table 2.4 Base Case and Best Case Assumptions**

Cost Element	Treatment in Base Case	Treatment in Best Case
Rolling Stock	Trainsets assumed for corridor service only	Twenty percent cost discount for probable system operation benefits of sharing trainsets among all corridors
O&M Costs	\$70/train mile, similar to Amtrak systemwide figures	\$55/train mile, similar to higher performing state-supported train services
Capacity Access Costs	Costs of access to freight rail network similar to that negotiated for Northstar service	Fifty percent lower capacity access fees to account for operation by Amtrak (with statutory right of access) or different negotiation outcome with the freight railroads
Ridership and Revenue	Baseline ridership and revenue estimates used for project evaluation	Assuming 50 percent higher ridership and 25 percent higher revenues

These two cases, combined with two Federal funding alternatives applied to rolling stock costs (no assumptions are made about whether the capacity access costs are eligible Federal expenses), are shown in Table 2.5. While the rolling stock and capacity charges are annualized as if financed, this does not presume that the State would be the entity financing these costs. Instead, the analysis presumes that the contracted passenger rail operator would be expected to procure rolling stock and pay applicable capacity access charges. This would allow the operator to maximize cost savings from pooled equipment purchases and any available equipment leasing options not available to the State. This plan further assumes that the State should not subsidize more than 25 percent of O&M costs for passenger rail services. According to Amtrak monthly financial records, state-supported passenger rail routes cover more than 85 percent of their total O&M costs (not including depreciation). To the extent that early operations of passenger rail routes do not meet this 85 percent farebox recovery ratio, the difference could be made up by Regional Railroad Authorities or joint powers agencies of multiple railroad authorities.

**Table 2.5 Passenger Rail Corridor Operating Costs**  
*Millions of Dollars*

	Base Case		
	No Federal Funds	25% Federal Share	50% Federal Share
Rolling Stock Cost	\$711.00	\$711.00	\$711.00
Rolling Stock, Less Federal Share	–	\$533.25	\$355.50
Capacity Rights	\$637.30	\$637.30	\$637.30
Annualized Capital Costs	\$93.76	\$81.40	\$69.04
O&M Amount	\$187.80	\$187.80	\$187.80
25% State Share	\$46.95	\$46.95	\$46.95
Annual Operating Cost	\$140.71	\$128.35	\$115.99
	Best Case		
Rolling Stock Cost	\$568.80	\$568.80	\$568.80
Rolling Stock, Less Federal Share	–	\$426.60	\$284.40
Capacity Rights	\$318.65	\$318.65	\$318.65
Annualized Capital Costs	\$61.71	\$51.82	\$41.93
O&M Amount	\$148.36	\$148.36	\$148.36
25% State Share	\$24.21	\$24.21	\$24.21
Annual Operating Cost	\$85.92	\$76.04	\$66.15

Best Case: Base case, rolling stock costs reduced 20 percent for system synergies, capacity rights reduced 50 percent, O&M costs reduced 21 percent, Revenues increased 25 percent.

Annualized Capital Costs assume RRIF type financing, 25-year term, 4.8 percent annual interest rate, for non-Federal capital costs.

When these reduced O&M and increased revenue figures are compared to the base case, it offers a more optimistic performance assessment as shown in Table 2.6.

**Table 2.6 Farebox Recovery Scenarios**  
*Millions of Dollars*

	Base Case	Best Case
O&M Cost	\$187.80	\$148.36
Revenue	\$107.60	\$134.50
Farebox Recovery	57%	91%

Totals for all Phase I corridors.

Best case includes reduced O&M costs, 50 percent higher ridership, 25 percent higher revenues.

## 2.2.5 Total Freight and Passenger Rail Costs

When the annual public sector costs of the freight only infrastructure costs are combined with shared freight/passenger infrastructure annual costs and the annual operating cost estimates, the resulting Table 2.7 offers a range of possible annual costs associated with the State Rail Plan projects.

Earlier in the financial plan, a set of dedicated state revenue sources was recommended, with two uses of the funds: support of revenue bonds and annual costs of the rail plan. Looking at Table 2.7, the relative sizes of these two funding pools can be seen. The annual costs associated with financing the costs of the public (non-Federal) passenger rail infrastructure ranges from \$150 to \$300 million. The costs of supporting freight and passenger operations would range from \$119 to \$194 million, and the total annual public cost could range from \$269 to \$494 million. This information should help inform legislative consideration of state revenue sources needed to implement freight and passenger rail improvements in Minnesota.

**Table 2.7 Total Possible Annual Costs, State Rail Plan**  
*Millions of Dollars*

	No Federal Funds	25% Federal Matching Funds	50% Federal Matching Funds
<b>Base Case</b>			
Phase I Infrastructure Costs	\$300.58	\$225.43	\$150.29
Freight Only Improvements, Public Share	\$53.53	\$53.53	\$53.53
Phase I Operating Costs	\$140.71	\$128.35	\$115.99
Subtotal Annual Cash Costs	\$194.24	\$181.88	\$169.52
Total Annual Costs, Capital and Cash Costs	\$494.81	\$407.31	\$319.81
<b>Best Case</b>			
Phase I Infrastructure Costs	\$300.58	\$225.43	\$150.29
Freight Only Improvements, Public Share	\$53.53	\$53.53	\$53.53
Phase I Operating Costs	\$85.92	\$76.04	\$66.15
Subtotal Annual Cash Costs	\$139.45	\$129.57	\$119.68
Total Annual Costs, Capital and Cash Costs	\$440.03	\$355.00	\$269.97

Best Case includes discounted rolling stock, reduced O&M costs, reduced capacity rights costs, higher revenues.

Passenger rail Phase I costs presume traditional Minnesota public debt, 20-year term, 5 percent annual interest.

Annual Operating Costs include RRIF debt for rolling stock and capacity access, 25-year term, 4.8 percent annual interest.



## **3.0 Preliminary Screening of Passenger Rail Investments**

### **3.1 INSTITUTIONAL ROLES AND RESPONSIBILITIES FOR RAIL**

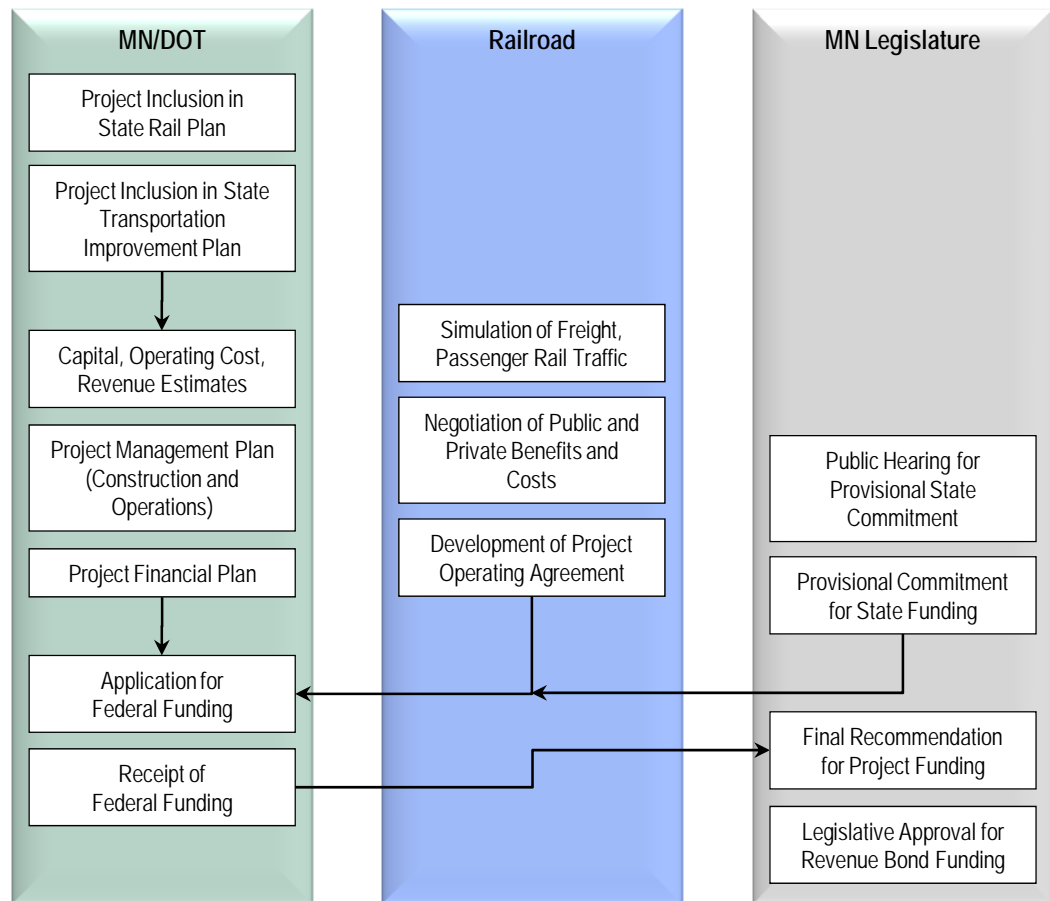
The financing of the State Rail Plan is a critical element in bringing about the improvements outlined in the plan, and financial information is a required element of PRIIA-compliant state rail plans. However, implementing these rail projects will require more than just money. This memorandum concludes with a discussion of a decision-making process for passenger rail corridor investments, and a discussion of the State's rail organization.

#### **3.1.1 Decision-Making Process**

This State Rail Plan has offered a common basis for evaluating passenger rail corridors and has recommended proceeding with Phase I priority corridors. A large proportion of the public comments on technical memoranda, and comments during advisory committee meetings and open houses, centered on concerns about the underlying data for the state rail plan, and the extent to which it differed from other corridor-level plans undertaken by regional railroad authorities or other regional groups. Just as the State Rail Plan has offered Legislators a basis on which to consider moving forward with passenger rail projects in general, the Legislature might benefit from a common, disciplined investment decision process for committing to future passenger rail spending. Without that common process, the Legislature will be making choices among competing corridor advocacy groups.

A multi-step process is recommended for making decisions on investing in passenger rail corridor projects, shown in Figure 3.1

Figure 3.1 Passenger Rail Project Decision Process



The first part of this process has begun with the completion of this State Rail Plan, and the following inclusion of projects in the State's long-range transportation plans. Once projects are included in the state plans, environmental analyses can begin that further refine the routes for passenger rail corridors.

The next step belongs to Mn/DOT (or such other state entity which may be designated), to develop a common analysis framework for preparing project estimates of capital costs, operating and maintenance expenses (which are not eligible for Federal assistance), and revenue estimates (which are crucial to determining overall public benefits and to limiting state O&M exposure). This might begin with a state-managed travel demand model on which all other project analyses (feasibility, environmental, and business planning documents) could be based. This analysis process begins to expose project planning elements to critical outside review, in the same way this State Rail Plan has been transparently developed. The result will be a much stronger project that will compete more effectively in the Federal funding competitions to come. The State also would work with project advocates to perfect project management and financing plans, elements required in a Federal grant application.

At the same time, in parallel, the State could begin working with the freight railroads that own the track or rights-of-way to be used for the passenger rail projects. The process for identifying and negotiating final capital needs and public and private benefits associated with the project will feed into the development of project operating agreement with the railroad. This formal agreement with the freight railroad is necessary to secure for future Federal funding commitments, and will force discussions to move beyond high-level conversations to detailed financial obligations.

Both the Mn/DOT and Railroad processes are necessary for completion of a Federal grant application, and this detailed information should be made available to the State Legislature before they are asked to commit state taxpayer resources to the projects. Just as committees of legislators study requests for state agency spending or capital budget development, a separate legislative committee(s) could be established for reviewing the application of dedicated state rail funds on individual projects. This would allow members to specialize in rail project review, so that the membership as a whole could trust the decisions reached by the committee(s). Once the project information is fully vetted, when the requested state funding is considered in light of total revenues and other commitments to other projects, the State could make a provisional commitment to a project in order to attract Federal funding. Final state funding commitments could await final decisions on how much Federal funding is being leveraged on the project.

This kind of decision-making process could continue the Legislative commitment to a data-driven rail planning process begun with their direction to develop this State Rail Plan.

### **3.1.2 Administration**

Governmental 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 only 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.

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.

### **3.1.3 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.

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.

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. However, this kind of special purpose, corridor-based approach might not permit a statewide system of operations. This State Rail Plan does not recommend governmental operation of the passenger rail system, as would a transit service or commuter rail service. Instead, the State is urged to contract with a single entity to provide passenger rail services that are desired. This would allow economies of scale, interoperable equipment and grow ridership among multiple city pairs.