

7 Financial Program

This chapter develops a financial program for implementing the proposed State Rail Plan. It examines potential Federal, state, regional, local, and private sector financing elements.

7.1 Federal Funding

Several programs under the existing surface transportation authorizing legislation (SAFETEA-LU) include elements which can be used to finance rail investments, including:

- Surface Transportation Program (STP);
- Congestion Mitigation and Air Quality (CMAQ) Improvement Program;
- Rail Line Relocation Grant Program;
- Transportation Infrastructure Finance and Innovation Act (TIFIA);
- Private Activity Bonds (PABs); and
- Rail Rehabilitation and Improvement Financing (RRIF) Program.

This legislation has expired and is being extended through Congressional continuing resolutions. Timing and content of reauthorization are uncertain.

Minnesota is connected to a HSR corridor designated by the U.S. Department of Transportation under authorization first granted in 1991. However, no dedicated funding sources had been identified to fund this or other corridors until 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:

- **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.
- **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.



- **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 newly appropriated funds, followed by a detailed grant program, and 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.⁴⁷ The overall grant process does offer hints of future calls for grant applications, spending whatever might be unexpended from the \$8 billion ARRA funds and applying funds appropriated for FY 2010 toward PRIIA programs.

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

- **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.⁴⁸ 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.
- **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

⁴⁷ 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 Multi-Modal 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.

⁴⁸ In the 2009 grant cycle, FRA also included a Track 4 application for passenger rail service (not necessarily infrastructure) improvements funded by FY 09 appropriations, not by the ARRA funds. It is not clear that Congress intends to fund these kinds of improvements outside of the PRIIA categories, or whether FRA intends to organize future grants beyond the three general categories summarized herein.



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).

- **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 Track 3 grants, due in August 2009, and 50/50 Federal/state matching funds for planning activities, including state rail plans, service development plans, and service-level environmental documents.

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. No such planning program was created for



passenger rail projects,⁴⁹ 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.
- **Future authorizations.** SAFETEA-LU expired at the end of August 2009, and has been extended by short-term bills enacted by Congress. The House Transportation and Infrastructure Committee has published a six-year proposal, totaling over \$500 billion (almost \$250 billion more than expected Highway Trust Fund 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.

7.2 Financial Plan

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.

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

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.

⁴⁹ 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.



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.

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 five 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. There is no one, single, “silver bullet” answer that will pay for all the State’s rail needs. 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. Rather, a varied set of financial tools will be described which can be used to deliver the goals of this plan.

Public Investment Principles

State and local jurisdictions, in integrating their investments with private parties, the Federal government, and each other, will be faced with the question of beneficial and cost-effective investment in competition with other regions and projects, as well as with other demand centers. It is assumed that, unlike much highway funding, there is not yet a dedicated funding source that can simply be allocated by need, nor may there ever be a comparable source. There is also the question of conscientious and justifiable stewardship of public tax dollars. In order to meet these needs, a set of Public Investment Criteria were developed and reviewed through the public outreach and Advisory Committees. It is recommended that these criteria form the basis of investment evaluation guidelines to aid Mn/DOT and the State in evaluating the validity of future investments in rail.

- Determine whether a project is not justified or only partially justified for private investment by Return on Investment (ROI) analysis.
- Acceptable costs are balanced by both direct and indirect public benefits, including FRA allowable measures such as employment, economic development, national security (petrochemical use), and the environment.
- The project will have Significant Utility – Good ridership, new service access, complementary to other public investments in transportation.
- Answers an identified deficiency, including the accommodation of new or expanded passenger services with travel time, cost, reliability, or predictability advantages; promotes freight and industrial growth; or corrects bottlenecks noted in public planning processes.



- Exhibits Multiple Utility – The investment succeeds in benefiting a combination of intercity passenger, local/commuter, and freight operations and capacity (the “three-for-one” principle).
- Provides a clear and acknowledged contribution to established State Priorities – Environmental and green growth goals, reduced energy use, enhanced land use patterns, improved travel options, and lifestyle and competitiveness enhancements.
- Judge the project on its timeliness of implementation – The project is in a high state of readiness and deliverable in a timely manner.

7.2.1 Financial Tools

This section will describe potential tools for private sector and public sector investments in rail infrastructure.

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 \$200K 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.⁵⁰ However, Congress has never appropriated

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.

⁵⁰ More information on the RRIF program, including application and eligibility procedures, can be found at <http://www.fra.dot.gov/us/content/177>.



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 one 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.

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 non-state-funded capital investments in railroad infrastructure in Minnesota. Oregon has a program that provides financial assistance for RRIF loan applicants,⁵¹ and a small appropriation of state funds from the Minnesota State Legislature could effectively offer access to RRIF funding for MN 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 improvements, might make such improvements very attractive to short line railroads. Not only would that tax

⁵¹ Division 25, Chapter 741, Oregon Administrative Rules, found at http://arcweb.sos.state.or.us/rules/OARS_700/OAR_741/741_025.html.



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.⁵² 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 (TRLF). State Infrastructure Banks (SIBs) 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 an example of rail projects listed as an eligible expense, but the overall connection of eligibility to Federal programs broadens the application of TRLF for other rail-related projects. However, the Minnesota State Legislature could strengthen this program by capitalizing the TRLF state funds loan account with state general fund dollars.

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 7.1 lists the Regional Railroad Authorities created by Minnesota counties, and includes information on those authorities which have exercised their property tax authority.

⁵² H.R. 1806, Freight Rail Capacity Expansion Act of 2009.



Table 7.1 Minnesota Regional Railroad Authorities

County/Name	Created	Tax rate		Tax Collections (\$M)	
		Bonds	General	Bonds	General
Anoka	1987	0.586	0.562		2.405
Buffalo Ridge ^a	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 ^b	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.

^a Created by Nobles and Rock counties.

^b 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 funding to augment the property tax, since only eight of the 24 authorities have levied property taxes.

Established State Financial Commitments. To support freight rail shipping and line rehabilitations, the MRSI program has been funded from both state bonding and from general funds over the last thirty years, with current revolving loan funds in use of about \$15 million. The Grade Crossing Safety program annually utilizes about \$5.7 million of Federal grants and \$600,000 of State highway safety funds, all formula or program driven.

Mn/DOT has maintained its membership and joint funding for the Midwest Regional Rail Initiative (the “Chicago Hub”) through its general appropriation for its operating budget. Other operating funds have been dedicated from consultant budgets and other departmental sources as needed. Hiawatha Light Rail, Northstar Commuter Rail, and NLX projects have moved ahead or to completion with Legislatively approved bonding and project funding. This commitment has extended to the necessary operating funding for Hiawatha and Northstar. The Legislature in the 2009 Session authorized \$26 million in bonding to advance passenger rail projects, particularly to match Federal funds being applied for under PRIIA and ARRA/Stimulus programs. In 2009 the Legislature also appropriated funds to start up and finance the new Mn/DOT Office of Passenger Rail. The three named projects also were supported by significant local funds contributed by a combination of Regional Railroad Authorities, Counties, Cities, and Indian Nations. These sources are committed for both current expenditures and project advancement. In the case of Hiawatha and Northstar, the local jurisdictions in which the services run are also sharing operating costs.

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:

- **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.

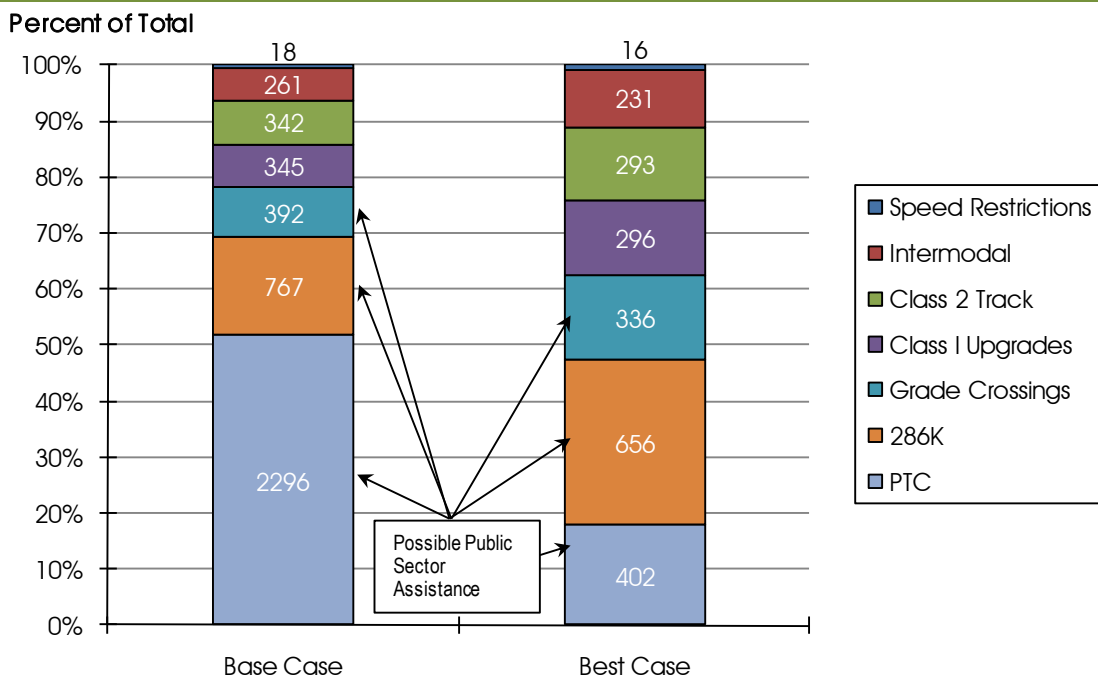


- Annual funding. The other portion of dedicated revenues would support annual contributions for the following kinds of purposes:
 - Funds to offset general taxes reduced through tax credit programs for freight system improvements;
 - Funds for increased grade crossing improvements;
 - Operating costs 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.

7.2.2 Freight System Financial Plan

The State Rail Plan identifies \$2.2 to \$4.4 billion in improvements for the freight rail system not otherwise related to passenger rail projects. Figure 7.1 describes the elements in the freight system improvements, including engineering and contingencies, with a base case scenario including a high end estimate of positive train control costs (PTC) and a 30 percent contingency, and a best case including lower PTC costs and a 10 percent contingency (see Chapter 4.0). Four sets of improvements lend themselves to possible public sector financial participation, indicated in the figure: Class I upgrades, Positive train control, 286,000 lb. Track upgrades, and Grade Crossing improvements.

Figure 7.1 Freight Rail System Improvement Costs Including Contingencies, (\$millions)



Note: Contingencies are 30% and 10% base/best case; and 10% engineering.



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 following public financing options should be considered, as shown in Table 7.2:

- **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. This estimate is based on the currently assumed progression of investment first in CTC and then in PTC, or a best case assumption of proceeding directly to PTC.
- **Maintenance Tax Credit for 286K upgrades.** A state tax credit for short line rail improvements to track and structures to accommodate standard 286,000 lb 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 7.2 Freight System Costs, Public and Private Shares
Including Contingencies (\$millions)

	Total Cost	Public Share	Private Cost
Base Case			
Class I upgrades	\$345.52	\$86.38	\$259.14
Other Class I improvements	\$261.00	–	\$261.00
PTC	\$2,296.00	\$574.00	\$1,722.00
286K restrictions	\$767.20	\$76.72	\$690.48
Non Class I speed restrictions	\$18.20	–	\$18.20
Grade Crossings	\$392.00	\$392.00	–
Class 2 track upgrades	\$341.60	–	\$341.60
Total	\$4,421.52	\$1,129.10	\$3,292.39
Percent of Total		26%	74%



Table 7.2 Freight System Costs, Public and Private Shares (continued)
Including Contingencies (\$millions)

	Total Cost	Public Share	Private Cost
Best Case			
Class I upgrades	\$296.16	\$74.04	\$222.12
Other Class I improvements	\$231.00	–	\$231.00
PTC	\$402.00	\$100.50	\$301.50
286K restrictions	\$657.60	\$65.76	\$591.84
Non Class I speed restrictions	\$15.60	–	\$15.60
Grade Crossings	\$336.00	\$336.00	–
Class 2 track upgrades	\$292.80	–	\$292.80
Total	\$2,231.16	\$576.30	\$1,654.86
Percent of Total		26%	74%

Note: Contingencies are 30% and 10% respectively for the base and best cases.

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,⁵³ the following Table 7.3 translates the public funding shares into annual costs. The best case assumption about PTC would lower the bottom lines significantly.

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, the 2007 American Association of Railroads (AAR) National Capacity Study states that the railroads will be 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 \$1.6 to \$3.2 billion (74 percent of total) private sector investment shown in Table 7.2, 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), then it is possible that the freight railroads can meet the financial elements allocated to them in this Plan.

⁵³ 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.



**Table 7.3 Freight System Costs, Annual Public Costs
Including Contingencies (\$millions)**

	Base Case	Best Case
PTC, 25% Tax Credit	\$28.70	4.19
Class I upgrades, 25% Tax Credit	\$4.32	3.09
286K, Tax Credit	\$3.84	2.74
Grade Crossings	\$14.00 ^a	14.00 ^a
Total	\$50.86	24.02

^a Does not include \$5.6 million currently being spent.

Note: Contingencies include 30% contingency and 10% engineering costs in base case; 10% contingency and 10% engineering cost in best case.

7.2.3 Shared Freight and Passenger Rail Corridors Financial Plan

The State Rail Plan needs assessment identified approximately \$2.2 to \$2.6 billion in freight-related infrastructure improvements for the Phase I priority projects. Phase I passenger rail corridors for these financing estimates refer to the following routes connecting to the Twin Cities: St. Cloud; Fargo; Duluth; Mankato; Eau Claire (Minnesota only); Chicago via River Route; Rochester via new route; and a connection between Minneapolis and St. Paul via the CP route. This financial plan assumes 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, three Federal scenarios are included in these subsequent tables: zero Federal funds; one in which Federal funds are 50 percent of costs; and one in which Federal funds are 80 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, but PRIIA offers the potential to receive up to 80 percent Federal funding as in the Federal highway program.

If the 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:

	Base Case	Best Case
No Federal funds	\$252 million	\$218 million
50% Federal funds	\$126 million	\$109 million
80% Federal funds	\$50 million	\$44 million



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 7.4.

Table 7.4 Base Case and Best Case Assumptions

Cost Element	Treatment in Base Case	Treatment in Best Case
Rolling Stock	Trainsets assumed for corridor service only.	20% cost discount for probable system operation benefits of sharing trainsets among all corridors.
Operations and Maintenance Costs	\$70/train mile, similar to Amtrak fully allocated overhead costs.	\$55/train mile, similar to Amtrak’s direct costs.
Capacity Access Costs	Costs of access to freight rail network similar to that negotiated for Northstar service.	50% lower capacity access fees assuming less intensive use of the line.
Ridership and Revenue	Baseline ridership and revenue estimates used for project evaluation.	Assuming 50% higher ridership and 25% 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 7.5. 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 about 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 7.5 Passenger Rail Corridor Operating Costs
(\$millions)

	No Federal Funds	50% Federal Share	80% Federal Share
Base Case			
Rolling Stock Cost	\$729.00	\$729.00	\$729.00
Rolling Stock, Less Federal Share	–	\$364.50	\$145.80
Capacity Rights	\$636.60	\$636.60	\$636.60
Annualized Capital Costs	\$94.96	\$69.61	\$54.41
Operations and Maintenance Amount	\$182.20	\$182.20	\$182.20
25% State Share	\$34.88	\$34.88	\$34.88
Annual Operating Cost	\$129.83	\$104.49	\$89.28
Best Case			
Rolling Stock Cost	\$603.00	\$603.00	\$603.00
Rolling Stock, Less Federal Share	–	\$301.50	\$120.60
Capacity Rights	\$294.40	\$294.40	\$294.40
Annualized Capital Costs	\$62.40	\$41.44	\$28.86
O&M Amount	\$141.00	\$141.00	\$141.00
25% State Share	\$22.45	\$22.45	\$22.45
Annual Operating Cost	\$84.85	\$63.89	\$51.31

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

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

Routes with surplus zeroed out of state share.

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 7.6. The best case farebox recovery ratio would be a very respectable 71 percent. However, a 95 percent systemwide farebox recovery could be achieved if the surplus generated on the Minnesota portion of the MWRRRI interstate route to Chicago could be used to offset the deficit on the Minnesota intrastate routes.



Table 7.6 Farebox Recovery Scenarios
((\$millions))

	Base Case	Best Case
O&M Cost	\$182	\$141
Revenue	\$89	\$99
Farebox Recovery	49%	71%

Totals for all Phase I corridors.

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

7.2.4 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 7.7 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 7.7, 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 \$44 to \$252 million. The costs of supporting freight and passenger operations would range from \$81 to \$181 million, and the total annual public cost could range from \$125 to \$433 million. This information should help to inform legislative consideration of state revenue sources needed to implement freight and passenger rail improvements in Minnesota.

Table 7.7 Total Possible Annual Costs, State Rail Plan
((\$millions))

	No Federal Funds	50% Federal Matching Funds	80% Federal Matching Funds
Base Case			
Phase I Infrastructure Costs	\$252.34	\$126.17	\$50.47
Freight Only Improvements, Public Share	\$50.86	\$50.86	\$50.86
Phase I Operating Costs	\$129.83	\$104.49	\$89.28
Subtotal Annual Cash Costs	\$180.69	\$155.35	\$140.14
Total Annual Costs, Capital and Cash Costs	\$433.03	\$281.52	\$190.61
Best Case			
Phase I Infrastructure Costs	\$217.92	\$108.96	\$43.58
Freight Only Improvements, Public Share	\$29.86	\$29.86	\$29.86
Phase I Operating Costs	\$84.85	\$63.89	\$51.31
Subtotal Annual Cash Costs	\$114.71	\$93.75	\$81.17
Total Annual Costs, Capital and Cash Costs	\$332.63	\$202.71	\$124.75

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

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

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

