

# 6 Institutional Relationships

This chapter consists of four sections:

- Section 6.1 examines the roles and responsibilities of the state departments, regional agencies, and to a lesser extent, Federal agencies from the perspective of the railroad industry. Mandates and application of Minnesota statutes with relatively minor impacts on the industry are summarized, and the perspectives of rail industry stakeholders presented.
- Section 6.2 evaluates the two existing programs that involve public investment in Minnesota's railroads – the Minnesota Rail Service Improvement (MRSI) Program, and the Railroad-Highway Grade Crossing Safety Improvement Program, both of which are administered by Mn/DOT.
- Section 6.3 examines structure, practices, and funding strategies of rail-related functions in other representative states, for identification and comparison of alternatives to Minnesota's institutional structures and programs.
- Section 6.4 provides a possible management plan for Minnesota.

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

- Identify and quantify how the key public policies and programs affect Minnesota's rail industry, and compare with the experience of other states;
- Examine the institutional elements of how Minnesota manages rail-related policies and programs;
- Examine different approaches and their impacts of public investment on private railroads;
- Review the experience in other states in the assignment of roles and responsibilities for freight and passenger rail planning and implementation; and
- Identify current roles and responsibilities in Minnesota for freight and passenger rail planning and implementation.

The chapter draws extensively on information obtained through a series of public and private stakeholder discussions that took place throughout the project. Respondents included agency employees, railroad managers, shippers, state legislators, as well as the public at large that attended the open meetings that were held throughout the State. More detailed information is provided in Technical Memorandum 7/8.



## 6.1 Minnesota Agency Organization and Rail Program

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

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

### 6.1.1 Minnesota State Agencies

Seven departments in the Minnesota State government, along with a handful of regional agencies have ongoing roles and responsibilities as they relate to the rail industry.

#### *Minnesota Department of Transportation*

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

- **Office of Freight and Commercial Vehicle Operations (OFCVO).** Located within the Modal Planning and Project Management Division, OFCVO has primary responsibility in handling freight-related matters for the State, including policy development, multi-modal planning, and investment processes. Prior to the recent creation of the Office of Passenger Rail, Mn/DOT's rail-oriented programs were all located within OFCVO, which presently include the Rail Grade Crossing Improvement program, Operation Lifesaver, the Minnesota Rail Service Improvement (MRSI) program, the track inspection program, and management of state-owned rail bank assets. This office has a staff of 70, of which 50 are assigned to commercial vehicle operations and 20 to other freight and rail functions.
- **Office of Passenger Rail (OPR).** This office was established in 2009, under the Modal Planning and Project Management Division. Its purpose will be to coordinate and manage Mn/DOT activities related to intercity passenger rail, including planning. With this Office only being recently launched, staffing levels and responsibilities are still being determined.



- **Office of Transit.** Also located within the Modal Planning and Project Management Division, this Office administers grant programs for capital and operating assistance to transit services outside of the Twin Cities metropolitan area, and provides coordination and planning support for nonmotorized travel and telecommuting. The office also subsidizes some intercity bus services which may continue to provide key links in markets where passenger rail is not cost-effective. Although intercity passenger rail services would not generally fall under the Office of Transit, certain elements could be included such as station improvements, including good pedestrian access, and connections with local transit services in outstate locations.
- **Office of Environmental Services (OES).** This office, located within the Engineering Services Division, conducts environmental review for FHWA projects, including air/water quality and analysis, endangered species, noise, regulated materials and waste, and erosion control. Although OES generally focuses on highway projects, more recently it has become involved in some rail-related activities.
- **Office of Land Management (OLM).** Part of the Engineering Services Division, OLM provides a variety of services for managing and acquiring real estate for transportation purposes. OLM acquires abandoned rail rights-of-way under the direction of OFCVO, and maintains extensive records on rail property in the State.

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

**Mn/DOT organizational structure.** Mn/DOT, like most state DOTs, developed initially as a highway department and experienced its greatest growth during the period of interstate highway construction in the 1950s through 1970s. It has therefore traditionally had a strong highway focus. In recent decades, Mn/DOT has strived to develop more of a multimodal focus in response to changing state and national priorities. The focus has been reflected in Mn/DOT's support for both urban and rural public transportation projects, including the development of the Hiawatha light rail line and the Northstar Commuter Rail Service, and in creation of the Office of Freight and Commercial Vehicle Operations which focuses on rail, waterway, and highway freight movement.

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

Mn/DOT management, with specific funding from the State Legislature, responded to stakeholders' desire for central leadership and improved State passenger rail involvement by establishing the Office of Passenger Rail in 2009. This department is charged with coordinating the Minnesota Passenger Rail Forum, the stakeholders' advisory committee; facilitating Federal funding applications for Minnesota passenger rail corridors and projects; representing the State in multistate compacts and national passenger rail organizations; and advancing the recommendations of the State Rail Plan.



Mn/DOT, absent any specific redirection by the Legislature or the Governor, should continue to be responsive to stakeholder and partner needs in advancing passenger and freight rail improvements in the State. This will involve an intentional and active assumption of a leadership role in both serving to coordinate local projects and represent Minnesota in multistate and Federal dealings.

**Planning.** Planning efforts that incorporate rail as a mode have traditionally occurred outside of the standard Mn/DOT planning processes. This has placed rail at a distinct disadvantage, particularly for project funding, long-term transportation investment strategies and needs assessments. However, Mn/DOT has recently made a concerted effort to include multimodal freight in its Minnesota Statewide Transportation Plan 2009-2028. For example, there is a freight dimension to the Infrastructure Preservation Policy, which includes freight objectives and performance measures. New initiatives were started in mid-2009 to enhance multimodal planning and the centralized coordination of investments and performance evaluation of all modes in a consistent, agency-wide process.

Mn/DOT should improve recognition of rail-related needs as well in day-to-day highway engineering activities. The agency has been slow to adopt current standards, such as overpass clearances (Federal standard is 23 feet, 3.75 inches), and taking into consideration future needs during the design of highways. For example, when projects are proposed that entail constructing highway structures over rail lines, future capacity needs should be taken into consideration. Thus, in instances where a line currently is single track, if traffic projections indicate potential need for a second track, sufficient clearance should be provided to do so. A stronger centralized rail and multimodal planning function as discussed above should help to resolve these issues.

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

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



### *Minnesota Pollution Control Agency*

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

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

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

### *Minnesota Department of Agriculture*

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

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

### *Minnesota Department of Employment and Economic Development*

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

Although DEED participates in Mn/DOT's Rail Advisory Committee, there is little active coordination between DEED, Mn/DOT, and the railroads in retaining existing or attracting new businesses. At times DEED has had in-house rail expertise, but it has not been a consistent



focus, and coordination with Mn/DOT has generally been infrequent. Stronger focus on this function should be provided, either at DEED or Mn/DOT.

### ***Minnesota Department of Revenue***

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

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

**Recognition of Federal tax credits for short line infrastructure investment.** Minnesota has not adjusted its tax structure to conform to the U.S. Federal Tax Maintenance Track Credit that was reauthorized and expanded in the Railroad Safety Enhancement Act of 2008, thus treating the Federal tax credit as ordinary income. The total impact on Minnesota's Class II and III railroads is approximately \$200,000. It is seen as discriminatory by some railroads.<sup>37</sup>

**Diesel fuel sales and use tax (MN Statutes 297A.62).** In 2000, Minnesota imposed a diesel sales and use tax on railroads that was viewed as discriminatory by the railroads. Since motor carriers and air carriers pay a separate petroleum excise tax, they are not subject to this tax via an exemption provided in MN Statute 297.68 subdivision 19(1). Following a series of court challenges led by the CP, the Eighth Circuit Court of Appeals ruled in favor of the railroads on November 6, 2007, following an appeal of a summary judgment by the Federal district court.

### ***Minnesota Department of Public Safety***

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

In the DPS realm, two issues are of concern to railroads: trespassing on rights-of-way, and the authority of railroad police. Trespassing is not permitted in yards, but along main lines it is only a major misdemeanor. This raises serious safety concerns, and exposes railroads to potential liability. Carriers feel that these risks could be reduced if their own officers had the

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<sup>37</sup> Edward A. Robinson, CPA, *Minnesota Railroad Track Maintenance Credit for Small Railroads*, undated.



authority to make arrests. Minnesota and Wyoming are the only two states where railroad police are not deputized, and thus must rely on local law enforcement authorities whose priorities may differ.

## **6.1.2 Regional Authorities and Metropolitan Planning Agencies**

### *Regional Rail Authorities*

Through legislative action in 1980, a mechanism was created for counties to preserve and improve local rail service for both industrial shippers and/or passenger traffic. The means through which such preservation could take place was through the creation of Regional Rail Authorities (RRA), of which 24 currently exist. Minnesota Statute 398A grants significant powers to these authorities, including the ability to acquire and dispose of property, apply for state and Federal funds, exercise eminent domain, and levy taxes.

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

### *Metropolitan Council*

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

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



### 6.1.3 Federal Agencies

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

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

## 6.2 Minnesota Public Rail Programs

The State of Minnesota has had involvement with various aspects of the rail industry throughout its history. As early as 1885, the state created the Railroad and Warehouse Commission to regulate and oversee local rail activities, an organization that continued until merged into Mn/DOT in the 1950s. The State partnered with Amtrak from 1975 until 1985 to support an



intrastate passenger rail service from Minneapolis and St. Paul to Superior and Duluth. From 1976 on, Mn/DOT has administered the Minnesota Rail Service Improvement (MRSI) program for support of rail shippers and short lines with both Federal and state grants and revolving loans. During the significant rail line abandonments of the 1980s and 1990s, the State has worked to preserve some strategic rail rights-of-way with the State Rail Bank program. Mn/DOT has actively been involved in grade crossing and rail safety during this entire period. A Minnesota Rail Inspection program was reinstated in 2009 after being discontinued in the mid 1980s. Also in 2009, Mn/DOT formed a new Office of Passenger Rail to coordinate passenger rail development planning and funding with local corridor projects and stakeholders.

Like many of its neighbor states, including Wisconsin, Iowa, and the Dakotas, Minnesota has promoted rail shipping as an economic development tool, particularly for rural areas whose employment base revolves around rail-dependent industries such as agriculture, mineral extraction, logging, and manufacturing. Much of this has centered on providing financial assistance to rail shippers through programs like MRSI. Specific project assistance, in the form of loans and legislative earmarks, has been provided for rail line rehabilitation and for capital improvements for rail shippers and railroads, as well as purchased assistance to regional rail authorities for acquisition of rail lines. Mn/DOT's rail section also coordinates the construction of grade crossing safety projects at all public road crossings in the state, and overpasses and underpasses associated with construction projects on the state trunk highway system. These latter construction projects have provided Mn/DOT with ownership of approximately 57 railroad bridges throughout the State, and practical experience with engineering, land acquisition, legal, contract oversight, and inspection.

### 6.2.1 Minnesota Rail Service Improvement (MRSI) Program

Operating as a program of Mn/DOT's Office of Freight and Commercial Vehicles, MRSI has been primarily a low-interest revolving loan assistance program aimed at helping to finance rail shipping facilities for private shippers including rail sidings and loading sites. The MRSI Program provides funding for projects in the following five categories:

- **Rail Purchase Assistance** – Financially assist regional rail authorities in acquiring rail lines. State funds only require repayment when a line is sold and/or ceases to serve a transportation function.
- **Rail Rehabilitation** – Provide low or no interest loans to rehabilitate and preserve rail lines (replace rail, ties, ballast, etc.) to either an operating railroad or regional railroad authority. Approval is subject to a set of requirements that include a cost/benefit analysis, shipper survey, and rehabilitation needs assessment.
- **Loans for Capital Improvements** – Provides loans to shippers and railroads for rail sidings, storage buildings, loading equipment, etc., with a limit of \$200,000 per application for shippers. In recent years, loans have been used solely for rail-related improvements, and not for storage buildings and other customer facilities.



- **Rail User and Rail Carrier Loan Guarantee** – Assists shippers and carriers to obtain financing by guaranteeing up to 90 percent of a loan for rail line rehabilitation and rolling stock acquisition.
- **State Rail Bank** – Acquire and preserve abandoned rail lines for future transportation use or for current use as utility corridors.

Since 2008, the revolving loans also have been available to qualifying short lines. Operating with as much as \$36 million in loan funds in its peak years, MRSI has been well-subscribed with little or no defaults throughout its history, administering loans of up to \$200,000 per qualified project. Because of staff expertise and statewide contacts, the MRSI program also has served as a natural conduit for state and Federal rail grants and earmarks, notably for projects such as the purchase and upgrade of the Minnesota Prairie Line, a 94-mile short line in central Minnesota; and the Minnesota Southern short line in southwest Minnesota. Finally, MRSI has been used as the funding source for Rail Bank purchases.

The MRSI program has been scaled back in recent years, due to the transfer of excess funds to passenger rail projects, rail studies, other rail programs, and back to the State's general fund for budget balancing measures. The loan funds in use currently are less than one-half that in use during peak years. Another challenge to the program is the inflation of construction costs.

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

- **Project Funding Options** – These should offer a broader range of project funding options, from higher loan limits for shippers and railroads to outright grants for some projects where the applicant cannot fully capture the potential benefits. Coupled with greater funding flexibility should be an increase in the maximum loan amount to at least \$1 million. The \$200,000 loan cap is often too small to be effective, with the basic investment needed to convert a rail shipping facility (such as a conventional grain elevator, ethanol plant, power plant, or other bulk facility) to a unit train or shuttle facility costing over a million dollars for a single mile of track for loading or storage. However, increasing loan limits will introduce contracting complications that may make the loans less attractive to private entities, and at the same time substantially increase the commercial risk to the State, particularly with shipper facilities. In addition, administrative processes, oversight, audit, and other documentation requirements would require a significantly expanded staff to handle larger loans safely, while operating budget limits have curtailed staff resources. These issues must be addressed if the loan program is increased.

These same constraints have limited the program's usefulness for the State's short line railroads. Despite specific grants legislatively mandated and administered in the past, MRSI does not maintain nor is mandated to have an ongoing grant program for short line assistance similar to many other state programs around the nation.

- **Applicant Qualification** – Stakeholders found qualification requirements unnecessarily limiting, which sometimes forces political approaches that subvert the process and divert



funding from other meritorious projects. In the past, requirements for asset collateral made MRSI unsuitable for railroads that lease most of their property from a private entity, which is often a Class I railroad. (The Federal RRIF loan program suffers from the same limitations.) However, more recently this situation has been successfully overcome with several loan applicants.

Although the MRSI loan guarantee program does permit acquisition of rolling stock, including locomotives, none has occurred thus far, as the program is viewed as uncompetitive. With rolling stock being a readily marketable secured asset, shippers and carriers requiring cars and locomotives can obtain equipment cost-effectively in private markets. However, with the impending tightening of emissions regulations starting in 2010, the traditional sources of locomotives for small railroads – Class I railroads disposing of older units – will no longer be available. Since small railroads can rarely afford new or rebuilt locomotives, programs that assist in the acquisition of new low emissions and fuel-efficient locomotives should be implemented. Programs providing public matching funds for the acquisition of new low-emissions locomotives are in place in several states, including Texas, California, Illinois, and Pennsylvania. This may require a change to Minnesota’s Constitution, Federal bonding requirements and Minnesota Statutes 222.57, which forbid outright funding of rolling stock.

- **Program Administration** – Stakeholders spoke highly of Mn/DOT staff that administers the MRSI program, but they felt that staffing was insufficient for the program as currently structured. In part, this is because the same staff also manages other rail-related activities. If a larger program is established, staffing levels will need to be increased.
- **Program Funding** – Over the years, appropriated funding levels have fluctuated considerably and have often been minimal, with total state participation since 1976 amounting to \$56 million dollars, or less than \$2 million per year. Program expansion will require larger and more stable funding sources. Also, preventing the return of loan repayments into the General Fund would enhance program stability.



## 6.2.2 Minnesota Rail Bank

Mn/DOT holds 214 miles of abandoned railroad right-of-way in a state rail bank program. There is a similar Federal rail bank program, but this program has not been utilized in Minnesota. The banked property includes three significant segments that have been purchased to preserve these routes in the public domain for future uses, rather than let them return to contiguous land owners or nontransportation uses. The Rail Bank grants operating rights for trails over much of this property, particularly to the Department of Natural Resources (DNR) for recreational trails (165 of the total 214 miles). All of these properties have reversionary rights enabled in Mn/DOT's ownership and usage agreements, allowing future return to rail operations as needed. The roadbed and structures on these Minnesota Rail Bank properties are maintained to railroad specifications to insure good condition for possible reuse. Although these routes include some strategic connections, much of the 4500 miles of railroad abandoned during the last three decades were sold to private land owners, the DNR, and assorted county Regional Railroad Authorities, the latter two parties using the purchases primarily for recreational trails.

Funding for Rail Bank purchases and maintenance has come from MRSI, and administration of the program is supported by a Policy Board made up of Mn/DOT Rail Office personnel, along with Mn/DOT District and DNR representatives. One of the major ongoing challenges of the program is criteria for acquiring new properties in a systematic way or pattern (past purchases have largely been opportunistic), and criteria for selling or trading properties that over time have appeared to have lost their need for preservation. Periodic reviews of the program could result in a better and more useful catalog of properties. Notably, several of the current and potential properties in the Rail Bank may have potential to become dedicated segments of future high-speed, intercity, or commuter rail lines, and could be reevaluated in light of this new use.

## 6.2.3 Future Program Evolution

Minnesota rail programs have focused primarily on freight assistance for shippers and short lines, safety, highway interaction at grade crossings and grade separations, and preservation of transportation rights-of-way. Through the open houses and stakeholder meetings conducted for the State Rail Plan, a new focus for these programs has been suggested.

Of the 4500 miles of active track in the State, 778 miles are operated by 16 short lines. Almost 20 percent of the system originates only eight percent of rail carloads, and four percent of terminating carloads. In spite of this light usage, these lines have a high local visibility and importance for their on-line communities and businesses. In addition, the Class 1 railroads value these connections as traffic generators and local agents. All four of the major railroads in Minnesota have short line coordination programs or departments to facilitate these connections. As indicated by the BNSF, almost 20 percent of their non unit-train freight traffic comes from or goes to a short line across their system, and they are considered "the local face of the industry." Because of rural community subsistence and economic development issues,



states such as Kansas and Iowa have short line support programs, including grant components, and states like Wisconsin and Connecticut actually own significant mileages of short line routes, maintaining them as active transportation infrastructure and leasing them back to operating railroads. These programs are justified and considered necessary for the competitiveness and economic health of the State as a whole wherever they have been adopted. Their existence and prevalence especially in Midwest and Great Plains states suggest an economic benefit that could accrue to Minnesota though similar emphasis on an expanded MRSI program and short line support as warranted on a selective basis. Local matching funds and industry participation could be incorporated to insure both financial viability and shipper buy-in for the program expansion, while Mn/DOT planning and evaluation in partnership with stakeholders could be designed to insure valid and efficient use of investments.

This program also would allow the upgrade of substandard short line trackage, as identified in the investment inventories, to the joint standard of 286K weight capacity and 25 mph operating condition. An expanded program also could insure against catastrophic line failures and closures, providing needed capital resources to insure continuous operations and facilitating new plant location and economic development along these short lines by removing this risk to their survival.

The revamping of the management and evaluation of the Rail Bank program, and the integration of these assets into freight and passenger rail corridor planning, is also suggested as a logical improvement. The properties currently held by the Minnesota Rail Bank, the DNR, and the respective Regional Railroad Authorities have been integrated as a result of this evaluation and are available in a consolidated Mn/DOT database and map.

Rail grade crossing safety (see section below) will need a significant program expansion and dedicated funding to respond adequately to the needs forecast for both increasing freight traffic and high-speed/intercity passenger rail implementation. In addition to at-grade crossing improvements, grade crossing closures, grade separations, and an active education component all need to be integrated into an expanded program to be effective in the future.

#### **6.2.4 Rail-Highway Grade Crossing Safety Improvement Program**

Mn/DOT's rail-highway grade crossing protection program was established in 1974 to leverage off of the Federal Highway Administration's 23 USA Section 130 program. Since then, the program has participated in the installation of active warning devices (lights, gates, or a combination of the two) at more than 1,400 grade crossings out of the approximately 4,500 crossings located in Minnesota. Through improvements in infrastructure and public education, grade crossing incidents have declined substantially. Whereas the State experienced 400 vehicle/train collisions and 50 fatalities in 1972, by 2008 vehicle/train collisions had dropped to 52 – an 80 percent decline – and only six fatalities.



Mn/DOT administers the Federal Highway Administration Section 130 grade crossing safety program funds for Minnesota, which provides about \$5.5 million annually. Mn/DOT staff regularly evaluates and prioritizes grade crossing improvement projects based on accident frequency and safety needs, as well as replacement needs. Given the current cost of grade crossing equipment and design, this allows the funding of about 25 major projects each year. While the cost of new installations has been steadily inflating, the Federal funding has remained relatively static over the last several years, resulting in fewer projects being possible each year.

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

In addition to the Section 130 program, Mn/DOT also administers about \$600,000 per year in Highway Safety Account (HSA) state funds for other safety improvements. This funding allows another 30 to 40 projects per year to be completed, consisting of more basic or low-cost enhancements such as line-of-sight corrections, vegetation removal, geometric fixes, sign upgrades, closures, and other betterments. Programming for all of these projects is routed through the eight Area Transportation Partnerships (ATP's), including the metro area Transportation Advisory Board, and is integrated into highway project programming. Because of other local transportation priorities, many grade crossing projects are delayed or rejected at this stage, creating deficiencies and inequities in the statewide safety program. The protocol requires a six-year process for planning, programming, approvals, and reviews before any project is funded and awarded for construction. Each project is an independent contract, although this ignores the fact that most work is done by specialty rail contractors and not highway or general contractors. As a result of local prioritization, only 70 to 80 percent of the rail projects recommended by the Office of Freight and Commercial Vehicle Operations are funded. The contracting requirements are inefficient and administratively complex due to the decentralized and fragmented nature of the process, unlike the more streamlined structure used in other states. Because of the need to work centrally with the safety evaluation and the railroad's engineering representatives, the Mn/DOT Rail Office is involved in all rail grade crossing safety even though much of the programming remains decentralized. A workable alternative to this situation is used in many states, such as the Texas program where centralized administration, programming, and a master construction contract are utilized to maximize the program's effectiveness.

Mn/DOT recently conducted an analysis of grade crossing active warning devices to determine the prevalence of and the need to upgrade aging infrastructure, and estimated that approximately 270 signals are 20 years old or older (as of 2006), while the normal lifespan for an active warning device is 25 years. Aging active warning devices are increasingly difficult to maintain due to technological obsolescence thus often entirely new warning devices must be installed at a cost of \$200,000 to \$500,000, depending on the complexity of the installation. As many signals were installed in the 1980s and 1990s, Mn/DOT estimates that within 20 years, almost all of the 1,400 warning devices will need upgrading. At current values, it is estimated that \$280 million over 20 years will be needed, and the capacity to install 70 major



grade crossing devices each year, not counting new installations for high-speed passenger corridors, quiet zones, and the proposed expanded deployment of an additional 170 devices on paved county roads.

Based on a recommended 25-year replacement cycle, the current grade crossing replacement or upgrade program for major improvements would increase the number of projects three-fold, and require two to three times the funding level in 2009 dollars. HSA funds for basic safety enhancements should be increased under these same assumptions to a level of approximately \$1 million per year. Federal Railroad Administration requirements for a complete and current grade crossing inventory are an additional draw on grade crossing safety program funds that is being met only in part with present resources. However, there have been proposals to remove the grade crossing safety dedication on some Federal safety funds in favor of more flexible funds, and this could negatively impact even those limited funds now in use. This may severely handicap any move toward expanding the current program.

In addition to work on active warning devices, Minnesota has not addressed the issue of road closures and grade crossing separations in its current safety program. Both of these strategies will be appropriate in corridors with high-speed trains, or increasing railroad or highway traffic levels, but are significantly more expensive in the case of grade separations, ranging from \$3 to \$10 million dollars per overpass or underpass for normal (two-lane) installations. In addition, multiple lane highways and multitrack spans increase the cost significantly above these estimates.

Concerns regarding grade crossings go beyond simply maintaining and improving what's already present. Industrial development patterns and the urbanization of areas surrounding rail lines necessitate a range of mitigations that are needed to minimize the interaction between trains, highway vehicles, bicycles, and pedestrians. Pedestrian fatalities in Minnesota due to trespassing are now higher than vehicle grade crossing fatalities, suggesting the need for extended fencing of rights-of-way, and multisensory pedestrian and bicycle warnings and gates at major crossings. Short of grade separations, more advanced barrier systems, such as four-quadrant gates with median barriers and pedestrian and bicycle amenities are an intermediate alternative, at a somewhat higher cost than a basic active warning installation. These and other technologies for warnings and enforcement are effective at reducing grade crossing incidents. These applications already are in use in quiet zones and high-speed corridors in other parts of North America.

Undertaking these types of improvements can be substantially more costly than maintaining existing warning systems. As roads are widened and traffic increases, more substantial protection needs to be installed, and double tracking a railroad mainline to accommodate more or faster trains also significantly magnifies the complexity and cost of any warning installation. Also, the funding of these new installations may be subject to sharing with local jurisdictions, high-speed rail projects, or new rail-oriented industrial sites, such as business parks or ethanol plants that will generate both major truck and rail traffic. Centralized and focused planning oversight and approvals that involve Mn/DOT and an expanded grade crossing safety program would benefit both statewide safety and implementation of a new intercity high-speed passenger rail system.



Grade crossing safety and trespassing also are impacted by public and institutional education. Informing people who interact with railroad traffic about the increase in train volumes and speeds, the hazards of pedestrians around active railroads, and the surprises that can occur at multiple track crossings with several trains crossing at once, are all subjects for public information. The railroads support the Operation Lifesaver program throughout the U.S., as a tailor-made program offering this information. Mn/DOT and other in-state rail associations would be well served to assist in funding and promoting the volunteers working on this national program.

### *Stakeholder Perspectives*

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

- **Funding.** With Minnesota's rail network being the ninth largest in the nation, the current Federal and state funding levels are insufficient to meet continuing needs for new grade crossing projects and replacement of obsolete systems.
- **Replacement of signage and obsolete active crossing warning devices.** Out of the more than 1,400 active systems currently installed, 270 systems or 21 percent are over 30 years of age, thus beyond their typical design life of 20 to 25 years. Once they reach that age, the electronics are completely obsolete and parts are often difficult to obtain. Mn/DOT is in the process of designing a statewide lifecycle planning process, which must address replacing approximately 60 crossing systems each year. Additional funding will be necessary to undertake this effort, the source of which has yet to be identified.
- **Program Flexibility.** Many stakeholders indicated a desire to see the program broadened beyond its primary focus on active crossing systems, to include the full range of options, including quiet zones, sealed corridors, grade separations, etc. Implementation of expanded passenger operations in particular will result in the demand for a greater variety of solutions to address highway/rail interactions and right-of-way protection, for which expertise is generally not available at local jurisdictions. This does not mean that a state program should necessarily fund these more expensive solutions, but rather act as a clearinghouse and developer of common standards that can be applied statewide.
- **Project Prioritization.** Although the OFCVO staff administers the grade crossing program and oversees the evaluation of potential projects, the eight Mn/DOT districts have considerable autonomy in establishing investment priorities. This leads to inconsistent application of funding to projects, and needless delays in implementing improvements at high-priority grade crossings. Planning and distribution of funds should be centralized instead of done by each of the eight Mn/DOT Districts.

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



## 6.3 Rail Agency Organization and Programs in Other States

### 6.3.1 Institutional Roles and Responsibilities for Rail

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

#### *Administration*

Approaches to administering rail programs are as varied as the programs themselves. In most cases, some form of rail responsibility is assumed within a state DOT, but the delivery of other rail programs may be shared by other divisions within a DOT or by completely separate state agencies. The Virginia Department of Rail and Public Transportation conducted a survey in 2005 of rail program administration in states, which identified a number of states to consider emulating. Table 6.1 summarizes information on these states from the 2005 report and information from the state agency web sites.

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

California, Texas, Ohio, and Florida had created independent HSR authorities to focus on HSR 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.



**Table 6.1 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.



### 6.3.2 Public Rail Programs

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

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

**Freight Rail Improvements.** Many states have programs to offer financial assistance to freight railroad operations. In some cases, these programs are focused on short line or regional railroads, and can involve public ownership of rail lines with private operators. Other programs offer tax incentives for expansion of facilities, spurs, or lines for new or expanded business



development. Some states offer assistance through revolving loan programs while others make direct grants. Examples include:

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

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

- **North Carolina Railroad Improvements (North Carolina).** The 317-mile railroad between Charlotte, Raleigh, and Morehead City is a publicly owned private railroad. North Carolina has invested \$30 million in track improvements on the corridor between Raleigh and Charlotte (the path of state-supported Piedmont Route passenger service), with \$35.5 million in projects underway, and another \$87 million in improvements in planning and engineering stages. North Carolina DOT prepares design plans and provides construction funds, and Norfolk Southern (which holds an operating lease on the NCRR) produces final plans and performs the construction work. Improvements since 2001 have shortened trip times from Raleigh to Charlotte by 35 minutes. More information on these improvements can be found at <http://www.bytrain.org/track/>.
- **Rail Enhancement Fund (Virginia).** Virginia created a special fund administered by the Department of Rail and Public Transportation (collected from a portion of car rental taxes) to apply to projects to expand rail facilities for passenger and freight projects. VDRPT created a public benefit methodology that measures prospective fund applications against a series of performance measures. VDRPT, in conjunction with a Rail Advisory Board, has recommended a six-year investment plan which allocates \$150 million in enhancement funds to corridor projects for commuter and intercity passenger rail and freight corridors. More information can be found at <http://www.drpt.virginia.gov/projects/files/REF%20Application.pdf>.



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

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

### 6.3.3 Public Private Partnerships

As this section discusses the institutional and implementation issues for passenger and freight rail projects, such projects can be examined to determine the extent to which the private sector can or should be involved. Mn/DOT has limited legal authority to implement some of these public-private partnership (PPP) approaches, but the state of the practice has changed since Mn/DOT's PPP authorization legislation was created.<sup>38</sup> This section describes some of these approaches, how Mn/DOT programs could be expanded, issues raised by PPP implementation, and possible applications for projects identified in this Plan.

#### *Types of Public Private Partnerships*

The 2004 U.S. DOT Report to Congress on Public-Private Partnerships<sup>39</sup> defines a PPP as:

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

PPPs vary by the extent to which the public sector transfers project responsibility, risk, and ownership to the private sector. Table 6.2 describes PPP methods.

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<sup>38</sup> [http://www.fhwa.dot.gov/ipd/p3/state\\_legislation/minnesota.htm](http://www.fhwa.dot.gov/ipd/p3/state_legislation/minnesota.htm).

<sup>39</sup> Report found at <http://www.fhwa.dot.gov/reports/pppdec2004/index.htm>.



**Table 6.2 Public Private Partnerships Infrastructure Approaches<sup>a</sup>**

<b>Approach</b>	<b>Description</b>
<b>Traditional Approach</b>	
Design-Bid-Build (DBB)	The traditional method of project delivery in which the design and construction are awarded separately and sequentially to private firms.
<b>Public Private Partnerships Approaches</b>	
Design-Build (DB)	Combines the design and construction phases into a single fixed-fee contract, thus potentially saving time and cost, improving quality, and sharing risk more equitably than the DBB method.
Private Contract Fee Services/Maintenance Contract	Contracts to private companies for services typically performed in-house (planning and environmental studies, program and financial management, operations and maintenance, etc.)
Construction Manager @ Risk (CM@R)	A contracted construction manager (CM) provides constructability, pricing, and sequencing analysis during the design phase. The design team is contracted separately. The CM stays on through the build phase and can negotiate with construction firms to implement the design.
Design-Build with a Warranty	A DB project for which the design builder guarantees to meet material workmanship and/or performance measures for a specified period after the project has been delivered.
Design-Build-Operate-Maintain (DBOM), Build-Operate-Transfer (BOT), or Build-Transfer-Operate (BTO)	The selected contractor designs, constructs, operates, and maintains the facility for a specified period of time meeting specified performance requirements. These delivery approaches increase incentives for high-quality projects because the contractor is responsible for operation of the facility after construction. The public sector retains financial risk, and compensation to the private partner can be in the form of availability payments.
Design-Build-Finance (DBF), Design-Build-Finance-Operate (DBFO), or Design-Build-Finance-Operate-Maintain (DBFOM)	DBF, DBFO, and DBFOM are variations of the DB or DBOM methods for which the private partner provides some or all of the project financing. The project sponsor retains ownership of the facility. Private sector compensation can be in the form of tolls (both traffic and revenue risk transfer) or through shadow tolls (traffic risk transfer only).
Long-Term Lease Agreements/Concessions (Brownfield)	Publicly financed existing facilities are leased to private sector concessionaires for specified time periods. The concessionaire may pay an upfront fee to the public agency in return for revenue generated by the facility. The concessionaire must operate and maintain the facility and may be required to make capital improvements.
<b>Full Privatization</b>	
Build-Own-Operate (BOO)	Design, construction, operation, and maintenance of the facility are the responsibility of the contractor. The contractor owns the facility and retains all operating revenue risk and surplus revenues for the life of the facility. The Build-Own-Operate-Transfer (BOOT) method is similar, but the infrastructure is transferred to the public agency after a specified time period.
Asset Sale	Public entity fully transfers ownership of publicly financed facilities to the private sector indefinitely.

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

<sup>a</sup> Listed from least private involvement to greater.

Table 6.3 describes some of these PPP methods according to the involvement of the public and private sector in elements of surface transportation projects.



**Table 6.3 Types of Public Private Partnerships Approaches in Surface Transportation Projects**

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

Source: Connecticut Transportation Strategy Board, Connecticut Electronic Tolls and Congestion Pricing Study – Final Report – Volume 2: Background Report, April 2009, Table 4.1, page 4-4, found at [http://www.ct.gov/opm/lib/opm/tsb/reports\\_tsb/final\\_report\\_-\\_tolling\\_study.pdf](http://www.ct.gov/opm/lib/opm/tsb/reports_tsb/final_report_-_tolling_study.pdf).

Legend: Public Sector Public/Private Private Sector.

### Public Private Partnership Guidelines

Mn/DOT has authority to design and construct transportation projects through design-build (DB) contracts.<sup>40</sup> From 1996 through 2002, Mn/DOT awarded DB on a lowest bid basis, and changed to a best value award basis in 2002. Since 2002, Mn/DOT has awarded seven DB highway projects totaling more than \$860 million. Four more projects funded through the American Recovery and Reinvestment Act of 2009 are being procured through DB.

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

Mn/DOT has had authority<sup>41</sup> since 1993 to enter into PPPs for toll roads through a development agreement that “may provide for any mode of ownership or operation approved by the road authority,”<sup>42</sup> specifically authorizing BOT or BTO methods. This authority does not extend to other transportation projects such as railroad projects.

<sup>40</sup> Minnesota Statutes, Section 161.3410 to 161.3428.

<sup>41</sup> Minnesota Statutes, Section 160.84 to 160.98.

<sup>42</sup> Section 160.85 (4) (a).



### ***Institutional Considerations***

The 2007 FHWA User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States<sup>43</sup> offers extensive advice to states ready to implement PPP programs. Mn/DOT would do well to spend time deciding what kind of PPP program they want to have before executing a program to advance railroad projects. The 2007 FHWA PPP Guidebook offers a series of questions to prompt internal discussions of PPP program development.

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

Does the sponsoring agency have the statutory and regulatory authority for PPPs? Having the legal authority to proceed with PPP projects is a necessary condition for a state; otherwise, private firms would have no assurance that a PPP contract with the state will be binding and enforceable. Mn/DOT has some legal authority to enter into certain kinds of PPPs, but not necessarily for rail projects; therefore, the legislature and Mn/DOT should craft a statutory and regulatory regime that offers the flexibility to solicit PPP proposals to implement rail projects in this Plan or to solicit or accept PPP proposals for other surface transportation projects.

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

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

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<sup>43</sup> Found at [http://www.fhwa.dot.gov/ppp/pdf/ppp\\_user\\_guidebook\\_final\\_7-7-07.pdf](http://www.fhwa.dot.gov/ppp/pdf/ppp_user_guidebook_final_7-7-07.pdf).



What kind of procurement approach should be used to select qualified PPP teams? Public concerns about PPP methods can be mitigated through careful contracts and monitoring. A recent NCHRP report<sup>44</sup> offers a thorough discussion of how the PPP procurement process can be designed and executed in a way that protects the public's interests as it secures the resources of the private sector for projects, including various suggestions for how proposals are structured, solicited, evaluated, awarded, and administered. While many PPP resources focus on procurement processes to attract the private sector, this report concludes that if the procurement process is designed with sufficient and appropriate transparency, then the PPP process is much more likely to achieve and sustain the public acceptance and political support it needs to be successful.

### *Applicability for Rail Projects*

**General Assessment.** A recent TRB report, *Funding Options for Freight Transportation Projects*<sup>45</sup> describes a number of freight projects funded and implemented through different methods, including some PPPs. The report also summarizes a number of general provisions for public investments in freight transportation projects.

Projects likely to be chosen for public contributions:

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

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

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<sup>44</sup> *Public-Sector Decision-Making for Public-Private Partnerships*, NCHRP Synthesis Report 319, 2009.

<sup>45</sup> *Funding Options for Freight Transportation Projects*, TRB Special Report 297, April 2009.



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

The California High-Speed Rail Authority<sup>46</sup> also has identified a number of factors that need to be decided for projects to attract private sector investments:

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

**Practical Examples.** Mn/DOT has a growing number of freight rail PPPs to examine for lessons in attracting and leveraging public investment in private infrastructure. PPPs can be used to resolve access or bottleneck issues, like the Alameda Corridor project in Los Angeles, California or the Sheffield and Argentine Flyovers in Kansas City,

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

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<sup>46</sup> California High-Speed Rail Authority Expression of Interest in Implementing a High-Speed Intercity Passenger Rail Corridor, September 2009, page 51, submission in Federal Railroad Administration Docket 2008-0140.

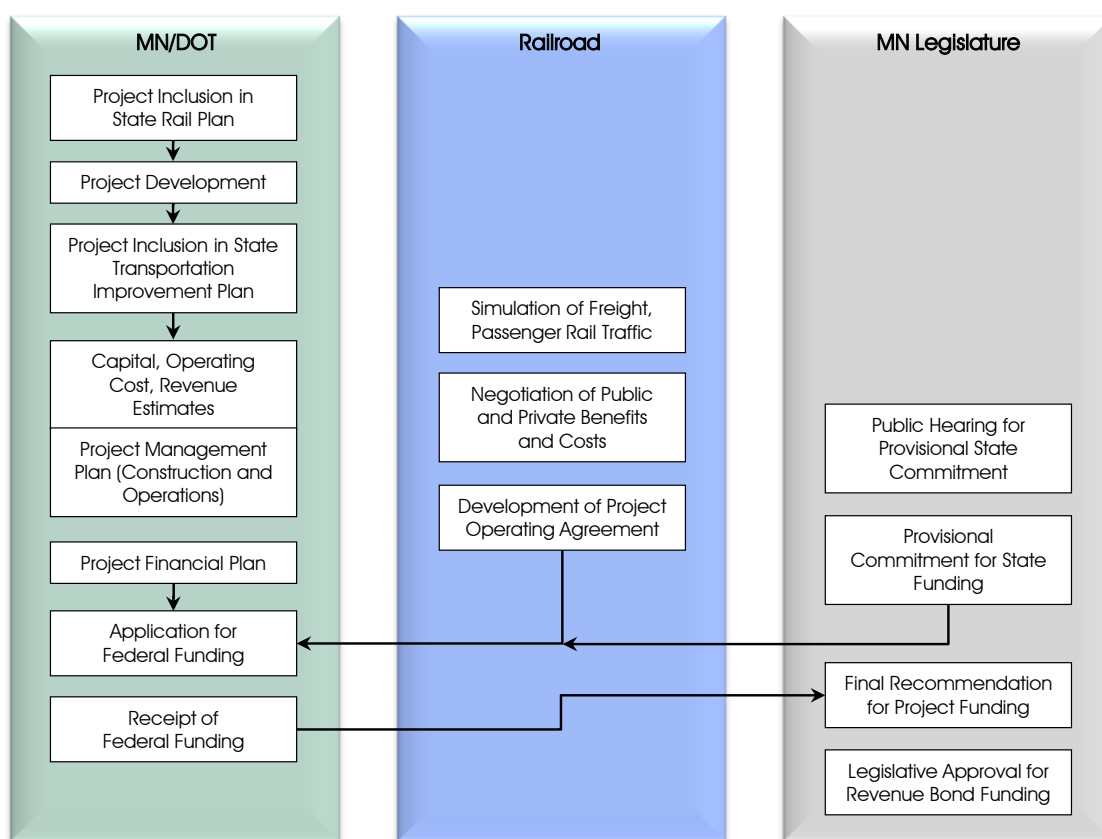


Missouri; resolve community impact issues like the ReTRAC project in Reno, Nevada; improve passenger rail throughput and reduce grade crossing impacts such as the CREATE project in Chicago, Illinois; or provide economic development for endpoints and reduce truck traffic such as the Heartland Corridor project in Ohio, Virginia and West Virginia.

## 6.4 Management Plan for Minnesota

A multistep process is recommended for making decisions on investing in passenger rail corridor projects, shown in Figure 6.1.

**Figure 6.1 Passenger Rail Project Decision Process**



The first part of this process has begun with the completion of this State Rail Plan. A logical next step would be the development of a project specific 20-year Rail Investment Plan to parallel the State's Highway Investment Plan. Once projects are included in the state plans, environmental analyses can begin that further refine the routes for passenger rail corridors. In particular, service-level environmental assessments and alternatives analysis should be prepared for all identified components of the Passenger Rail System to prepare for the next rounds of Federal solicitations and funding opportunities.



The next step belongs to Mn/DOT and its designated Offices (or an enhanced or streamlined internal organizational structure), 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. 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. Reaching formal agreements with the freight railroads is necessary to secure 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. 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.

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

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



likely to require transparency and accountability from Mn/DOT for new programs as they are funded, just as the Legislature directed the preparation of this State Rail Plan.

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

