

# Commission Briefing Paper 3I-01

## Current Financing and Future Needs of Freight and Passenger Rail System

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Date: March 14, 2007

### Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the state-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

This paper presents information on the current financing and future needs of the freight and passenger systems, including rail-highway and rail-port intermodal connections.

### Background and Key Findings

The current and future financing needs of the nation's freight and passenger railroad systems represent divergent paths with respect to their respective abilities to accommodate current demand and to maintain their infrastructure and operations in a state of good repair and consistently reliable service. America's freight railroads, which have been privately owned and operated virtually from their inception in the early 19<sup>th</sup> century through today, are capable of handling most of the demands currently placed on them in today's economy, while the intercity passenger rail system – owned and operated by a public corporation since the early 1970s – faces considerable year-to-year uncertainty with respect to operating and capital financing. Amtrak, the public corporation operating the nation's passenger rail network, faces a multi-billion dollar backlog of deferred maintenance and a heavy debt load, which contribute to continuing pressures on performance and finances.

Given the fundamentally different character of current operations and fiscal stability, both the freight and passenger rail sectors face challenges in meeting future demand for services. While the freight railroads seem capable of responding to future demand given access to sufficient capital – including a potentially significant contribution through government grants, loans, tax incentives, or guarantees – the prospects for passenger rail services are not reassuring, due to a lack of vision, long-range planning, and access to reliable funding

### Who Owns and Operates the Freight and Passenger Rail System?

On February 28, 1827, the Baltimore & Ohio Railroad became the first U.S. railway chartered for commercial transport of passengers and freight. It opened for service in 1830, ushering in the age of the railways. A debate ensued at the time, but the administration of President Andrew Jackson rejected the notion of federal ownership of the railroads. With the exception of a two year period during World War I, the freight railroads largely remained private industries.

**This paper represents draft briefing material; any views expressed are those of the authors and do not represent the position of either the Section 1909 Commission or the U.S. Department of Transportation.**

By 1916, railroads reached their apex in the United States. The track system extended to 254,000 miles; 98 per cent of all intercity passenger and 77 per cent of all intercity freight traffic was shipped by rail. Employment would top 2,000,000 in 1920. While the railroads' dominance had begun to erode by the 1940s, World War II brought another surge in passenger and freight carriage, partly as a result of wartime rationing of gasoline and partly due to war-related goods movement. After the war years, however, the construction of the Interstates and the "automobilization" of America spelled the end of dominance by the railroads.

There were 127 class 1 railroads in the 1950s, as defined by the I.C.C; these railroads had revenue over \$1,000,000 per year, and do not include terminal railroads.<sup>1</sup> By 2007, however, due to consolidation and changes in definition, the number of Class I railroads in the United States dropped to just seven<sup>2</sup>.

The Penn Central Railroad bankruptcy of 1970, and the bankruptcy of other northeastern railroads, was the beginning of public sector rail planning. Concerned with the preservation of service, first the federal government and later the states, began addressing the issue. The Regional Rail Reorganization (3R) Act of 1973 established the United States Railway Association (USRA) to manage many of the former Penn Central lines. The 3R Act included temporary support of other lines in the Northeast not managed by the USRA. The 3R Act was superseded by the Railroad Revitalization and Regulatory Reform (4R) Act of 1976. In addition to funding Conrail, the 4R Act authorized considerable additional financial aid to the rest of the rail industry, especially the short lines that resulted from the bankruptcies and Amtrak and commuter service, which was no longer operated by the freight railroads. The states also entered the rail planning business as deregulation and divestment left many shippers and customers with limited or diminishing options for rail service.

Though not a funding mechanism, the other major piece of legislation during this time frame that impacted the railroads was the Staggers Act. The Staggers Act led to an almost complete deregulation of the rail industry allowing the railroads more freedom to establish rates and enter/exit markets. Deregulation allowed the railroads to compete against trucks and other modes in a free market environment. Deregulation also accelerated the trend toward mergers and consolidation. As the Class I railroads merged and rationalized excess track capacity, thousands of miles of track were shed, either by spinning off shortline railroads or through outright abandonment. Often the rationalized track had been largely ignored by the Class I railroads as they cut costs through deferred maintenance. As a consequence, the shortlines inherited poor track in need of investment, but these operators have relatively little capital for investing in track repair and reconstruction. The Class I lines continued to offload underutilized or unprofitable track, resulting in a capacity crunch on the rail network.

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<sup>1</sup>Some of these existed only on paper, and were owned by another Class I railroad. There were a variety of reasons for this, most having to do with state regulations. For example, until 1967 Texas had a law that any railroad operating there had to be headquartered in the State.

<sup>2</sup> Including lines principally owned by Canadian railroads.

## Freight Rail

At the end of 2005, there were 562 common carrier freight railroads operating in the United States. These railroads can be considered in four distinct groups: Class I railroads; regional, or Class II, railroads; short lines, or Class III railroads, engaged in line-haul operations; and switching and terminal railroads, also Class III, engaged in switching and terminal operations.<sup>3</sup> Class I railroads are defined as having 2005 revenues at or greater than \$319.3 million. The Class II regional railroads operate at least 350 miles and have annual revenues greater than \$40 million, but less than the Class I threshold. Class III railroads are all railroads not qualifying as a Class I or II.

There are seven Class I railroads operating in the United States. These railroads provide the long-haul, interstate services throughout the United States, along with connections to Canadian and Mexican railroads for international traffic. The Class I railroads form the backbone of the United States rail system, accounting for 68 percent of the system mileage, 89 percent of the employees, and 93 percent of the freight revenue. The Class I railroads are:

- **Eastern Carriers** – Norfolk Southern (NS) and CSX Transportation (CSXT).
- **Western Carriers** – Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF).
- **Spine and Canadian Carriers** – Canadian National (CN), Canadian Pacific (CPRS), and Kansas City Southern (KCS).

The Class I rail network was significantly downsized over most of the last century, through abandonment and spin-offs to short line railroads. Recently, however, demand is putting the core networks of these carriers under some strain. In response, carriers are making investments in additional track (double and triple tracking, addition and lengthening of sidings), improved signaling, and upgrading of clearances and maximum axle weights to support traffic growth. Much of the shed track mileage has been, and continues to be, the collection/distribution system. This collection/distribution function is increasingly being provided by regional and short line railroads, and by trucks.

The Class II regional railroads offer rail service in a state or multi-state region. Examples include the Florida East Coast, providing service from Jacksonville to Miami, and Pan Am (formerly Guilford), providing service in New England. Regional railroads offer both a mixture of local service within a region, and connections to the Class I carriers for transport throughout North America.

Class III railroads include both line-haul operators that do not qualify as a Class I or II, and terminal and switching railroads. Collectively, they can be called short line railroads. The Class III line-haul railroads have largely evolved from former Class I branch lines and provide critical collection and distribution services. Switching and terminal railroads are not engaged in line-haul operations, but provide services at a facility, port, industrial site, or city. Most short line traffic is interchanged with Class I or II railroads for long-haul movement. This relationship makes the short lines dependent upon the Class I and II railroads for equipment and for establishing rates to their customers.

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<sup>3</sup> Source: Association of American Railroads, *Overview of U.S. Freight Railroads*, December 2006. The 562 freight railroads are common carriers, and exclude industrial or military railroads not offering for-hire services.

Short line railroads are not always independently owned companies. In fact, ownership can take many different forms:

- **Class I Ownership** – A short line may be owned by one or more Class I railroads, typically as a switching or terminal railroad.
- **Industry Ownership** – Usually operated for one industry, but can provide service to other industries. The most frequent owners are steel and paper companies.
- **Holding Company Ownership** – A corporation owning and controlling several short lines. The two largest are Rail America, currently with 47 short lines, and the Genesee & Wyoming, with 43 short lines. While under the same parent company, these railroads are typically operated independently.

### **Passenger Rail**

Passenger Rail service in the U.S. is operated by the National Railroad Passenger Corporation (Amtrak) and the Alaska Railroad; the latter is owned by the state of Alaska, providing intercity passenger rail services in that state. Amtrak was created by Congress in 1971, under the Rail Passenger Service Act of 1970. Demand for passenger rail services declined significantly over time as auto travel (and to some extent air travel) became the dominant mode for intercity transportation. The Act of 1970 provided an opportunity to passenger rail service providers to join Amtrak; they would receive Amtrak common stock in exchange. Railroads not joining Amtrak would have to operate until 1975, and would have to pursue Interstate Commerce Commission approval for any discontinuation or changes in service thereafter.

Amtrak is the main provider of intercity passenger rail service in the U.S. today, operating 44 routes over 22,000 miles of track (97 per cent of which is owned by freight rail companies) that provides service to 46 states and Washington, DC. Freight railroads charge Amtrak the incremental cost associated with using their tracks. Amtrak also holds contracts with 13 states to operate commuter rail services. Annual revenues from intercity passenger rail services are estimated at \$1.1 billion, and about 25 million passengers use these services every year.

### **How is the Freight and Passenger Rail System Financed?**

#### **Freight Rail.**

The railroad industry is a capital intensive industry, with almost 20 percent of its revenues invested in capital spending, compared to an average of 3.5 percent for all other U.S. industries. Capital investments are made selectively; most of the capital investments are related to infrastructure maintenance, rather than capital expansion. Investors are reluctant to invest in railroad stock, because of the large cost of needs compared to available net revenues to support capital investments. The lack of capital funding has led railroads to use borrowing to support maintenance and capital expansion, and to defer maintenance and capital improvements.

From 1995 through 2004 the rail industry reinvested 17.8% of revenue into capital spending, compared to an average of 3.5% for all other U.S. industries. The rail industry announced that total Class I spending for laying new track, buying new equipment, and improving existing infrastructure would reach \$8.3 billion in 2006, an increase of 21% over 2005 levels.<sup>4</sup>

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<sup>4</sup> AAR News, "Major Freight Railroads to Invest \$8.3 Billion in Infrastructure in 2006," Washington, March 16, 2006.

Furthermore, the rail industry spends nearly \$500 million annually in property taxes for their privately owned right-of-way.

Despite these record investments, the proportion of total capital that represents real increases in system capacity remains at fairly modest levels. Carriers earning record profits have authorized equity share buy-backs, revealing a lack of enthusiasm by their owners in wholesale “service capacity” enhancements. Most capacity-related investments are very carefully targeted to specific lanes and commodities.

### **Passenger Rail**

Amtrak is funded through the Congressional appropriations process which has for the past many years been a highly rancorous process. Amtrak’s operating revenues include passenger revenues and other miscellaneous revenues. It currently runs a deficit each year, and requires federal assistance to cover operating losses and to fund capital investment. Additional capital funding is provided by state and local governments, generally for specific investments required to support corridor routes operating within the jurisdictions of those governments. (State and local governments, often through quasi-public agencies such as regional transportation authorities, also contract with Amtrak to provide rail operations in 15 of the nation’s 18 commuter rail services. These contracts contribute significantly to Amtrak’s revenue stream.)

Amtrak’s deficit, running to over a billion dollars each year, consists of operating shortfalls of around \$650 million annually (largely from its long-distance train routes), and capital depreciation of around \$600 million annually (mostly on the 730 route miles including the Northeast Corridor owned by Amtrak). Also factored into the deficit is debt service, estimated at \$363 million for 2006. Not included in this annual deficit are major liabilities due to a backlog of over \$6 billion in deferred maintenance, and accumulated debt.

Amtrak’s FY2005-2009 Strategic Plan calls for over \$8 billion in federal assistance over the life of the plan. However, Congress has never provided this level of funding – despite providing over \$29 billion over the past 35 years. At current levels of about \$1.2 billion, Amtrak receives enough subsidy to keep the system operating, but not enough to avoid some deferral of needed maintenance projects – much less to make a dent on the estimated \$6 billion maintenance backlog.

## **What are the Needs of the Freight and Passenger Railroads?**

### **Freight Rail**

In 2003, AASHTO’s Freight-Rail Bottom Line Report found that the rail industry today was stable, productive, and competitive, with enough business and profit to operate but not to replenish its infrastructure quickly or grow rapidly. The report found that market forces would continue to pressure the rail industry to streamline and downsize, to maximize revenues, and to minimize capital costs.

The report estimated that the total cost to achieve the base case scenario, maintain current market share and handle its “fair share” of growth, was estimated at \$175 to \$195 billion over 20 years. It anticipated that the railroads should be able to provide the majority of the funding needed (up to \$142 billion dollars) from revenue and borrowing, but the remainder (up to \$53 billion, or \$2.65 billion annually) would have to come from other sources — including but not limited to

loans, tax credits, sale of assets, and other forms of public-sector participation. Compared to the constrained investment scenario, the base case scenario would remove 450 million tons of freight and 15 billion truck vehicle miles of travel from the highways, save shippers \$162 billion, save highway users \$238 billion, and save \$10 billion in highway costs over the 20-year period. Inclusion of costs for bridges, interchanges, etc., could double this estimate.

The Freight-Rail Bottom Line Report concluded that relatively small additional investments in the nation's freight rail system could be leveraged to provide relatively large public benefits. Most of this investment is aimed at the larger Class I railroads, but additional investment is needed for the regional and shortline railroads. Many of these railroads began as rationalized Class I branch lines, which incurred years of deferred maintenance. One of the primary issues is the need to upgrade much of the track and bridges on the shortlines to handle the heavier 286,000 lbs standard railcars (the prior design standard was 263,000 lbs).

### **Passenger Rail**

Amtrak is facing an even more challenging future. The Amtrak Reform Council, created by the Amtrak Reform and Accountability Act of 1997 to recommend improvements to Amtrak and to draw up a new policy for intercity passenger rail service, has estimated that Amtrak requires around \$1.5 - \$2 billion annually in federal operating and capital support. While Amtrak received \$1.7 billion in federal assistance in FY1998 and FY1999, this included both appropriations and an exceptional one-time funding provision of \$2.3 billion, divided over two years, in the Taxpayers Relief Act of 1997. Congress and the administration have shown no desire to maintain anything like this level of funding on a continual basis.

The current administration has proposed restructuring of Amtrak, separating responsibility for Amtrak's infrastructure (essentially, the Northeast Corridor) from operations. This concept of "vertical separation" has also been accompanied by proposals for competition in the provision of service on certain routes, particularly those outside the Northeast Corridor. Congress in 2004 directed the US DOT to establish a process for competitive bidding on routes operated by Amtrak with financial support from the states. The Federal Railroad Administration (FRA) published a "request for comment" in 2004, but there has been no further action on the process.

### **Safety**

In the U.S., there are approximately 150,000 grade crossings of railroads and public roads. Due to the speeds and long stopping distances of trains, these intersections represent safety hazards for the trains and for motorists not exercising proper precautions. The busiest crossings, measured by both cars and trains, are generally protected by gates and flashing lights, in addition to the train horn. Approximately 35,500 crossings are gated. Another 25,000 crossings have lights, but no gates, and 1,200 have highway traffic signals, wigwags, and bells.<sup>5</sup> That leaves over 88,000 unsignalized grade crossings across the nation.<sup>6</sup>

The federal government supports grade crossing safety through the Highway Rail Grade Crossing Program. Commonly known as the Section 130 Program (due to a citation in a 1970s federal highway bill) this was originally the Rail-Highway Crossing Program from the 1973

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<sup>5</sup> A wigwag is a grade crossing warning devise that signals motorists by swinging a pendulum arm.

<sup>6</sup> Grade crossing statistics from the Federal Railroad Administration, Office of Safety Analysis, [http://safety.fhwa.dot.gov/xings/xing\\_facts.htm](http://safety.fhwa.dot.gov/xings/xing_facts.htm).

Highway Safety Act. The dollar amounts were between \$140 and \$165 million per year under the Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), and were increased to \$220 per year in the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU). The Section 130 Program provides 90 percent project funding, with the other 10 percent coming from state, local, or private sources. The federal share may reach 100 percent in some cases.

## **What Public Support is Provided for Rail Infrastructure, Equipment, and Operations?**

### **Freight Rail**

At the federal level, funding from Federal-aid highway programs, financing mechanisms, and other non-U.S. DOT grant and loan programs could be used on freight rail investments, and include:

- Federal-aid Highway Programs:
  - a) **Surface Transportation Program (STP):** this program provides flexible funding for transportation projects. Freight rail-eligible investments include: preservation of abandoned rail corridors; bridge clearances to accommodate double-stack freight trains; and freight transfer yards.
  - b) **Congestion Mitigation and Air Quality (CMAQ) Program:** the CMAQ program has been widely used for freight rail projects that improve air quality in non-attainment and maintenance areas. Air quality improvements from freight rail projects are achieved primarily through the reduction of truck traffic and reduced vehicular congestion at rail-highway crossings. In the past, CMAQ grants have been awarded to several freight projects, including freight rail.
  - c) **Rail-Highway Grade Crossing:** funds from this program are dedicated specifically for safety improvements at rail-highway grade crossing. SAFETEA-LU authorized \$880 million in FY2006 - FY2009.
  - d) **Rail Line Relocation Grant Program:** this new SAFETEA-LU program provides grants to states for eligible local rail relocation and improvement projects. SAFETEA-LU authorizes \$1.4 billion, but funds have not been appropriated to date.
  - e) **Discretionary and Other Programs:** several discretionary programs have been used in the past to fund freight infrastructure elements.
- Federal Financing Tools:
  - a) **TIFIA Credit Program:** Section 1601 of SAFETEA-LU provides federal credit assistance in the form of secured loans, loan guarantees, or lines of credit to surface transportation projects of national or regional significance, including highway, transit, and rail. The threshold for eligible projects was reduced by SAFETEA-LU from \$100 million to \$50 million, making the program more accessible to more projects. Further, eligibility was specifically extended to include intercity passenger bus and rail facilities and vehicles (excluding Amtrak and magnetic levitation systems), and incorporated much broader eligibility for freight and intermodal projects.
  - b) **State Infrastructure Banks (SIBs):** Section 1602 of SAFETEA-LU allows all states, the District of Columbia, Puerto Rico, and other U.S. territories to establish infrastructure revolving funds eligible to be capitalized with Federal transportation dollars authorized through fiscal year 2009. The new legislation allows the implementation of multi-state SIBs,

which may encourage states to implement and fund projects that cross jurisdictional boundaries.

- c) **Private Activity Bonds:** Section 11143 of SAFETEA-LU authorizes up to \$15 billion in tax-exempt private activity bonds to be issued by state or local governments for qualified highway and surface freight transfer facilities. “Qualified freight transfer facilities” include any facility for the transfer of freight from truck to rail or rail to truck (including any temporary storage facilities directly related to such transfers) that receives Federal assistance under Title 23 or Title 49, USC.
- d) **Rail Rehabilitation and Improvement Financing (RRIF) Program:** The RRIF Program authorizes the FRA to approve up to \$35 billion in loans and loan guarantees, with up to \$7 billion reserved for projects benefiting freight railroads other than Class I carriers. Eligible borrowers include railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection.
- Other Federal Programs:
  - a) **FTA’s Fixed Guideway Modernization Program:** this program provides funding for capital improvements on fixed guideway systems. Although freight projects are not eligible to use this funding source, capital improvements on passenger rail lines shared with freight rail could benefit railroads.
  - b) **U.S. Department of Commerce, Economic Development Administration (EDA) Grants:** EDA provides grants for projects in economically distressed industrial sites that promote job creation and retention. Freight rail improvements that can be funded through this grant program include railroad spurs and siding.

At the state level, several states have grant and loan programs in place to support capital investments on rail and intermodal facilities, primarily for shortlines and regional railroads. These programs vary significantly across the nation. While important, freight rail investments compete for scarce resources with highway and transit investments, which are some times prioritized by state and local governments.

Public sector participation in freight rail investments is accomplished primarily through public-private partnerships. The main reason for public sector participation in freight rail investment is related to the need of providing an efficient surface transportation system for the movement of passengers and goods. The rapid growth of trade and freight volumes continues to put pressure on the nation’s transportation system. The efficient movement of goods is key to the economic health of the nation. Governments at all levels have a critical interest in the health of the freight transportation network due to its role as an important contributor to local, state, regional and national economic growth and productivity. In addition, there has been increasing discussion over the last several years about government’s role in financing freight-oriented improvements, including investments in private infrastructure where there is a public benefit and, conversely, private sector investments in public infrastructure where, once again, a public benefit is identified.

There is a growing recognition that the Federal government and multi-state coalitions need to play a role in the future of the nation’s rail system. Over the last decade, public-private partnerships have been key for the evaluation, planning and implementation of rail capacity improvements, such as the Alameda Corridor in Southern California, the Reno Transportation

Rail Access Corridor (ReTRAC) in Nevada, and the Chicago Region Environmental and Efficiency Program (CREATE). In addition, multi-state coalitions, such as those pioneered by the I-95 Corridor Coalition in the Mid-Atlantic Rail Operations Study (MAROps), serve as models for how states and private railroads may work together by funding and implementing freight rail capital needs. In many instances, freight rail capital needs (and the benefits of implementing such projects) cross jurisdictional boundaries, adding to the complexity of allocating existing transportation resources.

### **Passenger Rail**

As mentioned above, some passenger rail capital needs are funded through state and local governments, although these funds are mainly dedicated to improvements in specific corridors for commuter rail services. Currently, state subsidies for long-haul intercity routes, those with the biggest adverse impacts on Amtrak finances, are inconsistently applied. A recent GAO report<sup>7</sup> notes that Amtrak has proposed a phased-in approach to recovering from the states much of the capital and operating cost of long-distance routes passing through their territories. While most capital costs incurred for these routes are actually payments to the railroads that provide trackage rights and operational support for Amtrak service, Amtrak does incur costs for depreciation of equipment and assets such as Amtrak-owned rail stations. This strategy has also caused some consternation for commuter rail operators, particularly in the Northeast (e.g., New Jersey Transit and SEPTA), who may face sharply increased costs for services operated along Amtrak-owned tracks and stations. This prospect also poses potential problems in regions where Amtrak operates on lines owned by commuter rail operators (i.e. Metro-North Railroad in New York State and Connecticut, and the Massachusetts Bay Transportation Authority).

There is no specific dedicated source of revenue for passenger rail, and except for the FTA's highly competitive New Starts program, funds must be cobbled together from other sources in the form of:

- Regional coalitions of states cooperating to provide rail service between major metropolitan areas;
- State contributions to Amtrak for increased service; and
- Improvements to freight rail infrastructure over which most intercity passenger rail service operates.

States that have advanced passenger rail projects have done so through a variety of and multiple sources, but there is a widely varying ability and desire among states to fund passenger rail.

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<sup>7</sup> INTERCITY PASSENGER RAIL: National Policy and Strategies Needed to Maximize Public Benefits from Federal Expenditures; Government Accountability Office Report GAO-07-015, Washington, DC, November 2006