Commission Background Paper 8C-01
The U.S. Freight Rail System: Structure, Finance, and Emerging Issues

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Date: January 11, 2007

Introduction

This paper is part of a series of special gap analyses to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. These analyses are intended to address issues that are relevant to the Commission's charge outlined in Section 1909 that were not fully explored in an initial set of briefing papers that were prepared for the Commission. These papers will serve as background material in developing the analyses to be presented in the final report of the Commission. This particular paper correlates to Paper 2D-01, "Conditions and Performance of the Freight Rail System", and Paper 3I-01, "Current Financing and Future Needs of the Freight and Passenger Rail System".

This paper presents information on the role the rail industry plays in surface freight transportation in terms of the structure of the industry, rail traffic volumes including commodities handled, railroad investment and productivity improvements. The paper then reviews growth in demand for rail freight, recent capacity issues on the rail system and the funding of capacity enhancements. Finally, the paper addresses future issues facing the industry.

Background and Key Findings

- *Railroad growth is robust.*
- *Continued infrastructure investment is needed to relieve congestion and meet customer demands.*
- *The industry faces challenges, including adequate investment, recruiting and retaining its workforce, and responding to changes in regulation.*
- *The industry faces opportunities including new technologies, public/private partnerships and third party financing,*

U.S. Rail Industry Overview

Motor carriers, railroads, barges, and pipelines are the principal transportation modes for the movement of intercity freight, with motor carriers and rail accounting for the largest shares of revenues and tonnage. While railroads handle more bulk traffic than trucks, *e.g.*, coal and chemicals, they nonetheless compete with trucks for certain commodities moved in boxcars and for intermodal traffic.[1]

No discussion of the railroad industry's role in freight transportation can begin without an understanding of the rail transportation system prior to its partial economic deregulation. Prior

[1] Two types of rail/truck competition exist: some truck-competitive commodities move in rail carloads from origin to destination, while intermodal traffic involves joint rail and truck movement.

to 1980, economic regulation prevented railroads from employing flexible pricing to meet both intramodal and intermodal competition. Regulation also deterred carrier efforts to restructure their systems, including abandonment of unprofitable redundant and light density lines. Added to these problems was the industry's inability to cover inflation due to regulatory lag in rate adjustments. As a consequence, the industry earned a low return on investment, was unable to raise capital, and experienced a steady decline in market share; nine carriers were in bankruptcy by 1976. Regulatory reforms culminating in the passage of the Staggers Rail Act in 1980 reversed these trends and ushered in a new era where the industry would largely rely on market forces to return to profitability.

One of the key elements of Staggers was recognition of the railroads' need to use differential pricing in order to obtain adequate total revenues.[2] Staggers allowed railroads to price services based on the competition they face. Regulatory intervention was reserved for situations where intermodal or intramodal competition was inadequate to protect the shipper. Even where the regulatory agency (at the time, the Interstate Commerce Commission, later succeeded by the Surface Transportation Board) stepped in to adjudicate a rate case, it was required to follow the principles of differential pricing to determine what the rate would have been, were competition effective.

Twenty-six years after Staggers, the U.S. freight rail industry has become a more efficient, profitable, and vital component of the nation's transportation system. Average rates are down almost 34 percent (an average of 1.3 percent per year), average return on investment has improved from 2 percent to 7 percent, demand is robust (ton-miles are up roughly 85 percent), and modal share has increased from 37.5 percent to 41.7 percent of inter-city freight. Flexibilities from Staggers also led to enhanced railroad maintenance and capital expenditures on track and rolling stock. Railroad productivity has increased substantially as more freight is moving over a smaller network with a smaller workforce.

Structure of the U.S. Rail Industry

Consolidation of Class I railroads through mergers continued in the 1990s, reducing their number by half by the end of the decade. In 2005**,** there were 7 Class I freight railroad systems (systems with annual operating revenue of $319.3 million or more), together with 30 regional railroads (line-haul railroads operating at least 350 miles of road and/or earning revenue between $40 million and the Class I threshold), and over 500 local railroads (line-haul railroads smaller than regional railroads).

Table 1 U.S Railroads and Employment

			Number of Railroads	Employment
Railroads	Class I	1990	14	209,708
		2005	7	162,438
	Regional	1990	30	11,578
		2005	30	7,322
	Local	1990	486	14,257
		2005	523	12,047

In 2005, the industry generated $48 billion in revenue, with the seven Class I systems accounting

[2] Railroads have very high fixed costs, which must be incurred regardless of the level of traffic on the system. Differential pricing recognizes that shippers with few or no alternatives to a single railroad must pay more of these fixed costs if the system is to be sustained; if all shippers were charged similar shares, those with alternatives would choose trucks or barges, leaving "captive" shippers with even higher shares of the fixed system costs.

for 93 percent of that total. The industry also set a new record for freight traffic, moving more than 1.7 trillion revenue ton-miles (a unit of measurement that incorporates both weight and distance), up nearly 2 percent from 2004. More traffic, measured by revenue ton-miles, has resulted from more frequent and heavier traffic moving longer distances. For example, increased coal shipments from Wyoming are moving further east to electric utility plants.

With large increases in productivity, the rail workforce began to shrink in the 1980s. Class I employment fell nearly 23 percent between 1990 and 2005, while during that same time Regional railroad employment declined 37 percent and Local railroad employment 16 percent. However, recent increased demand for transportation services has caused Class I employment increased to 162,438, up by 3 percent from 2004.

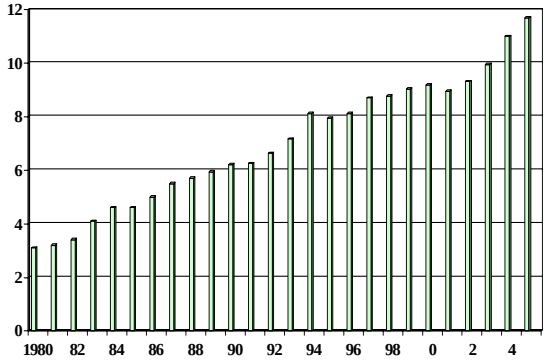
Safety: In 2005, the number of overall train accidents and derailments declined. Full year data comparing 2005 with 2004 show that overall train accidents decreased 7.9 percent, including an 8.4 percent reduction in the number of derailments. In addition, the total number of highway-rail grade crossing fatalities declined 3.5 percent and the grade crossing collision rate reached an all-time record low of 3.81 per million train-miles.

The long term trend has yielded similar results. Accidents per million train-miles declined from 11.43 in 1980 to 4.08 in 2005 (a 64 percent reduction) and derailments fell from 5,442 to 2,280 (a 58 percent reduction) over the same period. In addition, the number of fatalities, injuries, and illnesses per hundred full-time equivalent railroad employees on duty declined about 79 percent (from 11.17 in 1980 to 2.36 in 2005).

Commodities: In 2004 (the last year for which data are available) the major rail-carried commodities (in terms of ton-miles) included coal (40 percent), intermodal traffic -- trailers and containers on flat cars -- (16 percent), farm products -- predominantly grain and soybeans -- (9 percent), and chemical products (9 percent). The fastest growing segment of rail traffic has been intermodal (see chart, *Intermodal Growth),* with the number of trailers and containers increasing substantially from around 3.0 million loadings in the early 1980s, to 11.7 million in 2005 (much of this increase can be attributed to the advent of double-stacked containers starting in the 1980s). The densest traffic corridor for intermodal traffic is between California and Illinois, reflecting the land portion of container shipments between Asia's Pacific Rim and the U.S.

INTERMODAL GROWTH:

TOFC/COFC LOADINGS IN MILLIONS OF UNITS



Source: Association of American Railroads, "Railroad Facts"

With the opening of the Powder River Basin (PRB) in Wyoming in the late 1970s, U.S. coal shipments have grown dramatically -- from 4.8 million to 7.2 million carloads in 2005 -- as the

railroads delivered low sulfur coal to help electric utilities achieve Clean Air Act standards. The largest rail coal movements are from the PRB to electric generating plants in Illinois, Texas, and Missouri; however, significant volumes of PRB coal have also been moving into the eastern U.S., contributing to an increase in rail ton-miles.

Productivity: During the post-Staggers years, through mergers and plant rationalization, numerous low density or redundant lines have been abandoned or sold to smaller railroads. Since 1980, the Class I railroads have increased their traffic (ton-miles) by 85 percent while their network (miles of road owned) declined by nearly 42 percent. This has increased traffic density by concentrating traffic over a smaller network. Until recently, traffic growth rates were such that the growth was easily (fluidly) absorbed into the network. However, sustained increases in traffic seen since the turn of the decade have reversed the trends of the 80s and 90s; because of increased density, the railroads are now expanding capacity on their highest density routes by double- or triple-tracking. (In some cases, this has meant restoring track that was removed during the restructuring of the 1990s).

Between 1981 -- a few months after the Staggers Rail Act partially deregulated rail rates and services -- and 2005, the railroads spent $410 billion on capital improvements and maintenance of their track and equipment. Capital expenditures grew 78 percent from $3.6 billion in 1990 to $6.4 billion in 2005, while the price level of railroad purchases of inputs rose only 54 percent. Capital expenditures on roadway and structures more than doubled from $2.6 billion in 1990 to $5.4 billion in 2005**,** as railroads increased the percentage of heavy-duty rail (weighing 130 pounds per yard or more) from 50 percent of mileage in 1990 to 67 percent in 2005 to accommodate heavier loadings, such as increased coal shipments. At the same time railroads updated rolling stock to accommodate heavier loadings.

The total horsepower of the railroad-owned locomotive fleet increased by 57 percent during this period enabling the railroads to haul heavier trains, particularly trains moving coal out of the Powder River Basin, and high speed long distance intermodal trains. Between 1990 and 2005, total freight car capacity increased by 23 percent, through an increase in the number of cars and the capacity of car designs. Much of this growth came from non-railroad sources such as large shippers and leasing companies; between 1990 and 2005 the total share of the fleet owned by non-railroads increased from 39% to 57%.

Smaller crew size and elimination of many interchanges (a result of mergers and route restructuring) have allowed carriers to make major strides in improving labor productivity -- between 1990 and 2005, revenue ton-miles per employee rose from 4.8 million to 10.5 million. More traffic, i.e., increased revenue ton-miles, has resulted from more frequent and heavier traffic moving longer distances. For example, increased coal shipments from Wyoming are moving further east to electric utility plants.

Freight railroads are also making more efficient use of fuel. Between 1990 and 2005, ton-miles per gallon of fuel consumed rose from 332 to 414. To make their operations more fuel efficient, the railroads have been moving longer distances between interchanges, rebuilding equipment and buying more fuel-efficient locomotives, using innovative equipment (for example, lighter-weight aluminum freight cars and double-stack cars), and reducing locomotive idling time.

To maintain or increase the railroad share of intercity traffic, the railroads must continue to aggressively market their services to existing and potential customers. To satisfy shipper needs for reliable service, the railroads need to continually adopt cost effective technological improvements, operate their plant, equipment, and labor force safely and efficiently, and expand their trackage where necessary.

Rates: Freight rates adjusted for inflation have declined by an average of 0.9 percent a year since the passage of the Staggers Act, compared to an average increase of 2.9 percent per year in the 5 years prior to 1980. This period of declining rates ended in 2000. Recently, due to increased demand and little excess capacity, freight rates are began to move higher. Between 2003 and 2005, rates after inflation increased by over 8 percent.

Freight Demand Growth, Capacity, and Investing to Meet Growth

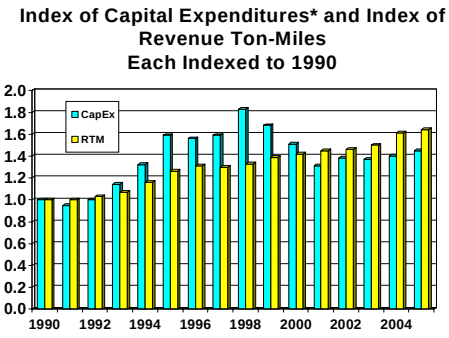
The rail industry responded to the challenges following deregulation. However, railroads and the entire transportation sector are now facing a new set of challenges. The spectacular growth in imports, the emergence of highly sophisticated logistics systems, customer demands for more reliable service, and rapid economic growth have caused the demand for freight transportation to soar. In turn, that rapid growth has revealed capacity constraints on the rail network, affecting freight as well as Amtrak operations. After 26 years of system downsizing, the industry must now expand capacity if it is to meet projected increases in customer demand.

Until recently, the cushion of excess capacity, combined with significant productivity gains, allowed the rail system to handle growing demand, even the recent surges. All projections indicate that the economy, and hence the demand for freight transportation, will continue to grow. The Federal Highway Administration's Office of Freight Operations forecasts that rail freight traffic will grow 35 percent through 2020. With the increased demand for all freight services, the railroads have been able to increase rates and have seen higher profits. As a result, they are adding capacity in some of their heavily traveled corridors.

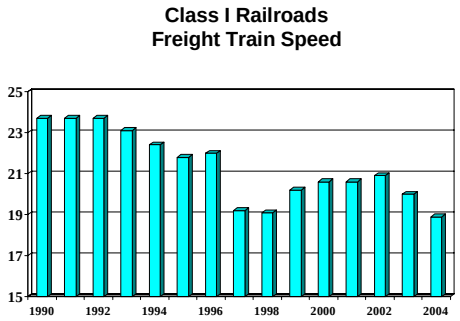
Freight railroading is among the most capital-intensive of industries. The railroads' capital expenditures from 1990 through 2005 totaled nearly $90 billion. The industry reports that as a general rule, 15 to 20 percent of that investment for any given year goes to capacity expansion. This includes investments to double- and triple-track strategic sections, improvements to yards, new locomotives, rolling stock, and investment in new technologies, all designed to improve operations and respond to customer demands. The remaining 85 percent goes to maintaining the system in its current condition. Additionally, during this same period, another $175 billion was expensed for maintenance-of-way and maintenance-of-equipment.

The following chart (*Index of Capital Expenditure and Index of Revenue Ton-Miles*) gives an indication of railroad capital spending and how this spending has kept up with growth. For the most part, capital expenditures outpaced growth in revenue ton-miles until 2001, when it began to fall behind the surge in traffic growth. This, combined with a decline in average train speed, an indication of congestion (see chart *Class I Railroads Freight Train Speed),* has led to concern that the pace of investment has not been adequate to respond to customers' demands. Indeed,

during this same period, shippers lodged complaints before the Surface Transportation Board and at other forums concerning poor rail service, as a result of overall decreases in system velocity and specific instances of alleged inadequate infrastructure.



Source: Assn. Of American Railroads, "Railroad Facts."
* Capital Expenditures are in constant 1990 dollars



Source: Assn. Of American Railroads, "Analysis of Class I Railroads."
Measure of Freight Train-Miles per Freight Train-Hour

Railroads are cautious in committing significant expenditures for capacity expansion for many reasons. Primary among these is the need to maintain the system. While highway and waterway infrastructure investment dollars come mostly from public sources, rail investment comes almost entirely from the private sector. After expending most of their capital for maintenance, railroads must then invest in expansion projects that offer the highest return, while minimizing risk. Such projects are funded first, followed in order by others until available investment capital is exhausted. Carriers must be confident that the investment will be justified by traffic levels or cost-saving operational improvements. Because, railroad infrastructure investments are long-lived and future freight flows are difficult to project, the need to mitigate risk drives investment decisions. Even projects with high rates of return may not be funded if there are other, better, uses for the money.

For 2006, the Class I railroad industry planned to spend $8.3 billion in capital investments, a significant increase over 2005 investment of $6.4 billion. At this time, only Norfolk Southern has announced capital investment plans for 2007. The railroad projects that it will spend $1.34 billion of which 5 percent ($73 million) will go towards increasing capacity.

Public/Private Partnerships: The American Association of State Highway and Transportation Officials' (AASHTO) 2003 *Freight-Rail Bottom Line Report* estimated that the rail system would need to invest between $9 and $10 billion per year to maintain current traffic and accommodate a "fair share" of forecasted growth. The study noted that the industry could be expected to cover $6 to $7 billion; the remainder had to come from other sources, such as the public sector. Public-private partnerships -- in which railroads pay for the benefits they receive while the public pays for public benefits -- have been a good investment for both. The Alameda Corridor project, Delaware's rehabilitation of Norfolk Southern's Shellpot Bridge, and the Brownsville rail relocation are projects that increased rail capacity but also provided benefits to the communities through reduced highway congestion.

With this approach, each party to the partnership accepts the risks it can manage in light of the benefits it will receive. However, experience has shown that defining these benefits and each party's contributions can be difficult. In addition, the rail industry's willingness, and ability, to participate in such projects is constrained by available funds, the level of private benefits that would accrue, and competing projects with better internal rates of return.

There are significant constraints on the public side as well. There are few programs available at the federal level to fund rail projects. The two loan programs that could fund rail capacity expansion -- the Railroad Rehabilitation and Infrastructure Financing (RRIF) and Transportation Infrastructure Finance and Innovation Act (TIFIA) programs -- require a guaranteed revenue stream to secure the loan. However, rail project eligibility for grant funding is very limited. Some rail-oriented projects received funding under the new Projects of National Significance program initiated in SAFETEA-LU. Other alternatives include private activity bonds for intermodal terminals, and a relatively small amount of federal highway funds (the Section 130 program) available to improve the safety of highway-rail grade crossings. Grade separations can be funded through general Surface Transportation Program monies, but face significant competition for these resources from other highway-related projects. Some states and localities have been able to provide additional funding through taxes, transportation and/or economic development funds and other financing mechanisms.

This mix of programs, and constrained private resources, may be why many of the more ambitious public/private projects developed in recent years to expand capacity and eliminate congestion have been slow to start. One notable example is the Chicago Regional Environmental and Transportation Efficiency Project (CREATE). This is a $1.5 billion project that would improve the flow of rail freight and passenger traffic through one of the most important, and congested, rail hubs in the country, and mitigate the adverse effects of increased traffic on the local community. The freight railroads agreed to commit $212 million, covering what they believe to be the operational benefits they would receive from the project. SAFETEA-LU provided another $100 million. The state of Illinois completed its request for the $100 million grant and submitted it to DOT, but at the time of the writing of this paper, only about one quarter of the $100 million is scheduled for release. It is unclear when and from where the balance of funds will come.

Alternative Financing Options: Finding accessible public funding is difficult. As a consequence, alternative means of financing projects are being explored. Private ownership and operation of toll roads is already gaining momentum. The recent acquisition of the Chicago Skyway and the Indiana Tollway by private firms is a case in point. For rail, an alternative approach may be the development of "third party" projects, where non-railroad private sector interests build and operate specific pieces of infrastructure, funding it through tolls or other user fees.

This approach is being explored in the Trans Texas Corridor, a proposed 600-mile rail/highway transportation corridor from the Mexican border to Dallas, paralleling I-35. Recently a partnership of two construction firms, Cintra of Spain and Zachry from San Antonio, won a bid to develop plans for the corridor segment paralleling I-35. The company is offering to build a toll road from San Antonio to Dallas and pay $1.2 billion to collect fees from it for up to 50

years. In addition to this project, Cintra-Zachry is offering to develop a high-speed freight rail line. The firm states that the project cost could be up to $6 billion. It would be financed through charges to shippers, but might also look to funding from the Texas Rail Relocation Fund or other federal and state programs.

This project, as well as the two recent highway acquisitions, demonstrates that foreign investors are clearly interested in supplementing transportation investment in the U.S. Similar third party ownership and funding is worth exploring for rail projects, particularly in congested urban areas. Rail terminals, in particular, offer a good prospect for capitalizing user fees. Moreover, such investments like terminals seem to have a greater chance for success as they are stand alone projects rather than as parts of existing railroads and simplify issues of ownership.

Issues Facing the Industry

New Technologies: Investments in new technologies hold the promise of additional improvements in productivity and safety. Two of the most important opportunities available today are Positive Train Control (PTC) and Electronically Controlled Pneumatic (ECP) brakes. The industry and Federal Railroad Administration (FRA) have researched each extensively.

With PTC, enhanced communications and real-time information reduce headways and improve train speeds and safety. The information provided by PTC will permit more effective management of train movements over the affected infrastructure. These improvements will eventually allow the carriers to move more freight over the system without adding track or equipment. PTC is not yet a reality across the general rail system. However, very substantial technical progress has been achieved, and now momentum appears to be increasing toward wide-scale implementation. On January 8, 2007, FRA announced approval of the first PTC system capable of automatically controlling train speed and movements to prevent certain accidents, including train collisions.

In August 2006, FRA released the Booz Allen Hamilton study *Final Report: Benefit-Cost Analysis and Implementation Plan for Electronically Controlled Pneumatic Braking Technology in the Railroad Industry*. The report found that ECP brakes offer major benefits to the rail industry. In addition to improved train handling, car maintenance, and fuel savings, ECP brakes also offer increases in network capacity due to better asset utilization and improved system velocity. The FRA intends to issue a notice of proposed rulemaking (NPRM) this year to provide regulatory relief for use of ECP brakes. Such relief would offer carriers using train sets equipped with ECP brakes, the opportunity for extended haul between FRA-mandated brake inspections. If FRA receives requests for temporary relief prior to issuing the NPRM, it will respond promptly, in accordance with established law and procedures, to any such requests. Using the regulatory relief approach will provide incentive for private sector investment in transportation.

For both PTC and ECP, consider that a 1 mph increase in average train speed can save large railroads an estimated $200 million a year. By moving freight a littler quicker over long distances with the same number of trains and crews, the effective number of workers and locomotives per mile falls, generating large efficiencies.

Economic Regulation: In today's environment, the economic regulatory framework must ensure that needed capacity investments are not discouraged. Currently, high levels of demand for rail services are exacerbating tensions between carriers and shippers, with some shippers calling for more oversight on rail rates and revenues. Since 1980, the Interstate Commerce Commission and its successor, the Surface Transportation Board, have administered the Staggers Act to ensure a favorable climate for rail infrastructure investment. Current issues facing the Board are procedures for adjudication of rate reasonableness and implications of railroad revenue adequacy; the Board's decision on this latter issue could lead to re-regulation of parts of the industry. It is important that the regulatory framework contributes to solving capacity problems rather than compounding them.

Interest groups unsatisfied with the Board's procedures and rulings in rate reasonableness cases, continue to press Congress to revisit Staggers. Most vocal of these are coal, grain, and chemical shippers that are served by one carrier. These "captive" shippers are seeking legislative changes that would mandate some form of two-carrier service -- contrary to the principles of differential pricing, and even if economically unsustainable in the long-run. While the industry faces capacity challenges today, the passage of such legislation would reduce the incentive to invest in capacity to meet current and future service demands.

Truck Size and Weight: In 1999, the Department released the *Comprehensive Truck Size and Weight Study*. As part of that study, DOT examined the financial effects on rail if larger and heavier trucks were allowed to operate nationwide. To the extent that the trucking industry would be able to offer shippers lower total logistics costs, shippers would shift freight that currently moves by rail to the larger, heavier trucks. While four scenarios were examined, the one where longer combination vehicles (LCVs) were introduced had the most significant effect on rail. The subsequent loss of rail traffic reduced return on investment from 9.8 to 5.3 percent.

Since the *Comprehensive Study* was released, several factors have converged to bring about partnerships between motor carriers and railroads. First, the trucking industry is facing a driver shortage in the long haul market and projections indicate this to continue. Second, rising fuel cost and other increases in operational cost are forcing trucking firms to look more and more to rail for intercity moves of 700 miles and over to maintain these costs.

While the trucking industry has long sought larger and heavier trucks, such attempts have been stalled by safety interest groups and (some) state highway agencies, who argue that new higher allowable weights and larger configurations would compromise highway safety and maintenance. The railroads have maintained that motor carrier fuel taxes do not cover trucking's full cost of operating on the Nation's highways, and that any increase in size and weight without addressing those cost would exacerbate rail's ability to compete by further skewing the playing field between the two modes.

In the current climate, where motor carriers face driver issues and increasing cost, and in the climate where each mode faces capacity constraints, arguments by the trucking industry to meet customer service and price needs may turn again to larger and heavier trucks. The uncertainties of such efforts may have a chilling effect on rail capacity-enhancing investment plans as any legislation proposed and eventually passed could undermine and limit rail market share from

current levels and diminish the value of past investments.

Adequate Labor Supply: Faced with growing traffic levels and an aging workforce, the railroad industry has ended its decade's long goal of reducing the number of workers and has begun to add employees. This trend should continue for the foreseeable future. The industry has added over 10,000 employees since 2004.

Not only is the workforce aging, but recent changes in the Railroad Retirement Act have reduced the age and time-in-service requirements for retirement. The data show that by 2013, over one third of the work force will be eligible to retire. The challenge facing the railroad industry is recruiting and retaining the needed employees to replace these large numbers, while at the same time meeting the forecasted demand for freight service.

Highway-Rail Grade Crossings: The growth in rail traffic is increasing the frequency and duration of grade crossing closings. The projected growth of rail traffic at 35 percent through 2020, coupled with the growth in highway traffic, mean that highway-rail grade crossing congestion will only worsen. In many parts of the country (e.g., national gateways where numerous freight trains go through town), citizens suffer a detriment in the quality of life as the road congestion caused by freight trains severely limits mobility. Other consequences of blocked crossings include impediment of commercial activities and, in some cases, delay of emergency response activities.

While it is important for railroads and affected communities to work cooperatively to remedy recurring blocked crossings, the only solution for the most serious situation may be a corridor approach where some crossings are closed and some are completed separated. Such projects are expensive. There are currently no federal programs with dedicated funds for grade separation. As a consequence, grade crossing congestion will only continue to increase.

Future Freight Flows: Predicting future freight flows is difficult. For the rail industry, changes in flows require assessing where investment dollars will be needed to accommodate new traffic levels. Because of the expense of adding track and locating new terminals and long construction times, there may be considerable lag between the time the new flow begins and the time the railroad has adequate infrastructure to handle that traffic. This combination of construction lag time, high costs, and changing flows presents a major investment challenge to the railroads.

For example, consider the development of Mexican Pacific ports to handle trade from Asia into the U.S. The flow of goods through Mexico to Texas border crossings would require the railroads to increase investment at those crossings as well as the corridors. At some of these borders, congestion is already an issue due to inadequate infrastructure. The industry must be flexible and responsive as it monitors and responds to this and many other potential changes in freight flows.

Passenger/Freight Trade Off: Generally, passenger and freight services share the same infrastructure, except in the Northeast Corridor and in some older commuter operations. More and more, recent capacity constraints have caused railroads to be increasingly reluctant to negotiate new or expanded commuter services, despite growing demand from urban areas. The

allocation of capacity between passenger and freight services is a non-trivial concern to both the public and economy. Recent capacity constraints have caused passenger delays (particularly on Amtrak intercity service), which do not meet the transportation needs of the public, and freight delays, which harm the ability of the U.S. economy to function smoothly. There are instances when infrastructure improvements could separate passenger and freight flows and improve the services of both (this is the case in many commuter rail applications). However, improvements to the freight network generally produce greater and more cost effective increases to the capacity of the rail network.