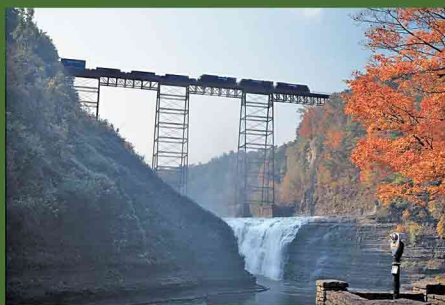


# NEW YORK STATE RAIL PLAN



## 2 0 0 9

### Strategies for a New Age



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STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
ALBANY, N.Y. 12232  
[www.nysdot.gov](http://www.nysdot.gov)

ASTRID C. GLYNN  
COMMISSIONER

DAVID A. PATERSON  
GOVERNOR

February 2009

Dear Governor Paterson:

I am pleased to submit to you the *2009 New York State Rail Plan*, the State's first in 22 years. This Plan articulates a vision for New York's future rail transportation system that will make it a preferred choice for travelers and shippers, connecting New York's cities and businesses to the national and international transportation network. The Plan identifies a set of strategies and initiatives aimed at achieving this vision, and is a blueprint to guide planning and investment for the State's passenger and freight rail system for the next 20 years.

The Plan stresses our continuing commitment to the State's extensive rail transportation infrastructure. It discusses the importance of providing mobility for people and goods in an energy efficient manner to improve the state's economy and support future economic development. The Plan recognizes that the State's rail system serves businesses and industries, that it creates jobs for New Yorkers, and also transports many of the goods that we use each day. New York State's strong support for rail reflects the fact that rail consumes less energy and produces fewer emissions than other modes. The Plan advocates a continued partnership and increased collaboration between government and both private and public rail operators. Together, we seek to cooperatively make the strategic investments that will enable the freight and passenger rail system to enhance New York's transportation network and help the State better compete in the global economy.

This Plan is the product of extensive participation from the public and the rail industry. The draft Plan was released in June 2008, and four public informational workshops were then held across the State. Many comments were received and used in preparing this final document.

The final Plan presents a compilation of rail freight and passenger needs and a recommended investment policy that will guide our funding decisions for the next 20 years. A proposed investment program for rail passenger service, as required by recently enacted federal legislation, is included in the Plan, as well as a broader companion capital investment program to guide future freight rail improvements. The Plan looks to a time when the resources may be available – constrained as they are now and may be for some time – and seeks to get us ready to deliver rail improvements as part of the economic recovery for which we are all striving.

I hope that you, other elected officials, the rail industry, and other stakeholders find this plan informative and useful.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Astrid C. Glynn'.

Astrid C. Glynn  
Commissioner

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## EXECUTIVE SUMMARY

### Introduction

What could a vibrant rail system mean to New Yorkers? It could be a system that provides high-quality, faster, frequent and reliable passenger service between major cities across the state that is competitive with automobile and air travel times. It could provide reliable and cost-efficient freight service, using modern rail equipment, to businesses and shippers throughout the state, reducing the cost of many goods we purchase. These rail services would increase market share for passenger and freight rail transportation in the state, promote the state's competitive position in the global economy and decrease highway and aviation congestion to significantly cut energy use, greenhouse gases and motor vehicle emissions. Importantly, this system would include safety improvements that reduce rail's already low accident rate.

These are the goals of the future rail system envisioned in this plan. What follows are the policies and strategies to get there.

The 2009 New York State Rail Plan, the state's first in 22 years, presents a 20-year plan for the state's rail system (through 2030) and describes strategies and initiatives aimed at reversing past disinvestment in rail infrastructure and building a thriving rail transportation system so that it can effectively fulfill its critical role in the state's multimodal transportation network. This rail plan outlines what New York State's rail system can achieve from full, cooperative partnerships among federal, state, and local governments, railroad operators, shippers, businesses and rail passengers. The plan also presents New York State's rail infrastructure needs over the next 20 years and outlines recommended rail passenger and freight infrastructure investments for the future.

The passenger and freight rail system in New York State provides mobility for people and goods in an energy efficient manner that is essential to the state's economy and future economic development. The state's rail system serves businesses and industries that create jobs for New Yorkers and transports many of the goods that we use each day. Our existing rail infrastructure must be maintained in a state of good repair to provide safe, faster, efficient rail service now and for future generations. All levels of government must work together, with private and public rail operators, to make the strategic investments that will enable the freight and passenger rail system to enhance New York's transportation network.

New York's rail service consumes less energy and reduces congestion and vehicle emissions compared to other modes of long-distance travel, while supporting smart land use policies and environmental protection goals. In fact, a single intermodal freight train removes as many as 280 trucks from the highway system while using significantly less energy than highway travel in the process. Railroads can move a ton of freight an average of 436 miles with each gallon of fuel. Intercity passenger rail uses 20 percent less energy per passenger mile traveled than automobiles and 17 percent less than airline travel.

This report describes goals, objectives and strategies, developed through considerable public outreach, to implement the state's proposed vision for improved and expanded rail freight and passenger service. It also outlines the opportunities

and challenges we face by presenting an inventory of the freight and passenger rail system in New York, trends in usage, available funding programs, rail safety issues and a description of rail's benefits to the economy and environment. This report is the result of considerable public comment from stakeholders and concerned residents at four public workshops held across the state and from other comments submitted to the New York State Department of Transportation (NYSDOT).

The 2009 State Rail Plan and its recommended investment programs is a living document that will be updated and revised as future conditions require. The plan is intended to meet all state and federal rail planning requirements.

### **2020 Vision for Rail**

The state's vision for intercity passenger and freight rail is a system that will serve New Yorkers well – a preferred choice for travelers and shippers, connecting cities across New York State and connecting businesses to the national and international freight network. As the most energy efficient way to transport people and goods, a significantly improved rail system can make the intermodal connections to allow seamless, reliable movement from origin to destination. The rail system of the future would be "green" and support sustainable economic growth throughout New York and strengthen its premier position in the rapidly changing global economy.

The vision for the freight rail system is an energy efficient transporter of long-distance cargo with intermodal connections that function seamlessly for local deliveries and reduce the cost of freight movement. Short line railroads provide efficient service to the state's industries and shippers by providing connections to national and international markets and by supporting an expanding state economy.

The vision for intercity passenger rail is a safe, faster, reliable, frequent service that is highly competitive with the other intercity modes for intermediate travel distances and is connected to local and regional transit services and intercity buses. Between Albany and New York City, and in the Hudson Valley, intercity passenger rail is the preferred choice for travelers providing energy efficient service directly to Manhattan. West of Albany, intercity passenger rail is recast to improve service and economic connections. The intercity passenger rail system will also provide reliable connections from a new Moynihan Station in New York City to other large metropolitan areas in the Northeast including Montreal, Toronto, and Chicago.

Although this state rail plan focuses on a 20-year planning horizon, it also describes a more near-term vision for New York State's rail system that can be achieved by 2020. This vision includes the following freight and intercity passenger elements:

#### **A freight rail system that:**

- Increases freight rail market share by 25 percent, reducing the growth in truck traffic and energy consumption;
- Allows modern freight cars to access the New York metropolitan region and Long Island along the east of Hudson route, thereby eliminating more than 300,000 truck trips from the region's highways each year;
- Moves more freight across New York Harbor through the identified recommendations of the Cross Harbor Freight Movement Project

Environmental Impact Statement to be completed by the Port Authority of New York and New Jersey;

- Includes at least three new intermodal facilities/inland ports, at least two of which are located upstate, serving the rapidly growing container segment of rail traffic, helping to remove long-haul trucks from the highways and delivering products to consumers quicker;
- Incorporates rail sidings, rail-truck transfer facilities, and “last mile” connections serving all rail terminals and shippers who need access to the rail network to facilitate economically competitive industries throughout New York;
- Transports hazardous commodities by rail by taking advantage of the well-documented safety benefits of rail;
- Serves as a national model with the first “green” short line railroad industry locomotive fleet in the nation, through assisting the short line railroads in replacing current fleets with clean, energy-saving locomotives;
- Moves toward positive train control as a means to reduce the risk of accidents; and,
- Serves business upstate as well as downstate via an integrated rail network that is restored to good condition and maintained in a state of good repair.

### **An intercity passenger rail system that:**

- Transports double the total intercity passenger rail ridership as it does today on New York’s three major rail corridors – New York City to Albany, Albany to Buffalo and Albany to Montreal -- as new passenger equipment becomes available, reducing highway congestion, energy use and air emissions;
- Provides reliable and frequent rail travel connecting Albany and New York City, with an on-time performance of at least 95 percent, providing a time-competitive alternative mode of transportation to driving;
- Provides reliable, faster, and frequent rail travel between Albany and Buffalo, also connecting Syracuse, Utica, Rochester and the upstate cities in between, making rail travel more time-competitive with driving;
- Provides 6 1/2-hour rail travel between Albany and Montreal, making rail a more viable option compared to driving;
- Moves toward positive train control technology as an improvement over existing automatic train stop systems;
- Provides rail passengers with a fully functioning and convenient Moynihan Station in New York City;
- Has Northeast Corridor rail infrastructure (including the Empire Corridor feeder line) in a state of good repair through increased federal investment;
- Provides high-speed intercity passenger service throughout the Northeast Corridor;
- Integrates commuter, intercity passenger, and freight rail operations by improving efficiency and lowering overall service costs;
- Provides greater intercity passenger service frequencies where there is market demand; and
- Evaluates and develops new or additional passenger services where viable, potentially including commuter services connecting Saratoga Springs with Albany and Niagara Falls with Buffalo and intercity services connecting Binghamton with New York City.

### **Rail Infrastructure Needs and Investment Program**

The future success of passenger and freight rail transportation in New York State can only be achieved through a concerted effort by public and private sectors to increase rail investment. While New York previously has invested considerably in the passenger and freight rail system, federal leadership is clearly needed to develop national policy and funding for rail transportation. Federal investment in rail has declined by 50 percent over the past three decades; it now represents only about 2 percent of all federal transportation funding while federal investment in other modes has increased significantly. A stable, predictable funding partnership is needed, consisting of the railroads, the Federal government (including Amtrak) and state government to invest in rail transportation, just as there are similar partnerships for shared infrastructure investments in other transportation modes, such as highways, transit and aviation. The National Surface Transportation Policy and Revenue Study Commission earlier this year recommended creating national intercity passenger rail and freight policies with a strong federal role in funding rail infrastructure. New York fully supports these recommendations.

The enactment of the Federal Passenger Rail Investment and Improvement Act of 2008 shows the commitment by Congress to be a partner in improving intercity passenger rail service. That act has considerable potential to fund much-needed rail infrastructure improvements. Congress needs to fully appropriate the funding programs authorized in the act to allow the states and railroads to plan and to implement necessary rail improvements. Consideration should be given to expanding future federal investment in freight rail improvements that benefit interstate commerce and the public, such as the removal of network bottlenecks that impede interstate commerce, last-mile access to nationally significant ports of entry and constructing rail-truck intermodal transfer facilities.

A dedicated, predictable funding source for future rail investments is needed at both the federal and state level. Federal funding for rail passenger and freight programs should be from sources above and beyond those already used to finance highway and transit programs. Continuing and supplementing rail funding through a state dedicated fund will provide an advantage to New York in leveraging future federal aid and leveraging longer-term commitments from the private railroads.

A major purpose of this plan is to present New York State's rail passenger and freight needs and future investment requirements. NYSDOT's comprehensive survey of the rail industry's capital needs for all railroads operating in New York State reveals more than \$10.7 billion of investment will be needed over the next 20 years, including the third track initiative, with \$4.8 billion of this investment contained in the first five years. This includes the cost to achieve a state of good repair on the freight and passenger systems and to enhance and to expand service capacity. These needs include the state's regional and short line railroads; the New York State portions of Class 1 railroads; intercity passenger services in New York operated by Amtrak; and portions of commuter rail needs that affect intercity passenger services. These needs do not include the projects along Amtrak's Northeast Corridor, other than improvements yet to be determined at Moynihan Station in New York City. The Cross Harbor Freight Improvement project in New York City is included in the summary of rail needs but with a cost and content to be determined pending completion of the Environmental Impact Statement by the Port Authority of New York and New Jersey and selection of a preferred alternative.

This plan also describes the proposed rail investment policy that will be used to guide the state's future rail passenger and freight infrastructure investments. Responsibility for funding the necessary investments in the rail system that serves both the state and interstate commerce should be shared among the private railroads that own much of the rail infrastructure and the various levels of government, where appropriate. New York State's investment policy supports sharing project funding among the partners in relation to benefits received. The share of funding for specific investments attributable to each of these partners will differ based on the specific type of investment and the weighting of project benefits between the public and the railroad. The Long Range Service and Investment Program (LRSIP) contained in Appendix B to this plan presents the recommended cost-sharing responsibilities for future passenger rail investments in New York State. The projects in the initial LRSIP are subject to future discussions on costs and funding with the involved railroads and funding partners. Adjustments to the plan may be needed in the future based on the results of ongoing planning studies, including the Empire Corridor West Railroad Passenger Transportation Planning Study and the Binghamton Rail Passenger Service Study.

The long range investment program for rail passenger service has greater funding specificity for the nearer-term projects than for those projects that are later in the funding period. The investment program includes projects that solely benefit passenger rail service and projects that benefit passenger rail service and improve infrastructure of the owning railroads, either commuter railroads or freight railroads. These projects will improve rail infrastructure including track, control signals and passenger stations across the state and will produce significant improvements to intercity passenger rail service. The proposed investments address critical capacity and bottleneck constraints and the operational improvements that will improve the multipurpose rail network's fluidity. The combination of these projects will reduce delays, increase speed, improve reliability and safety, and create increased market demand for passenger rail service.

NYSDOT has also developed a companion investment program for freight rail that describes, at a broad level, the state's investment priorities to maintain and to improve the state's freight rail system. It creates a blueprint for the state's funding decisions for future freight rail investments. Projects that improve the railroads' ability to divert truck traffic from overburdened highways, including removing vertical clearance restrictions; increasing the weight-carrying ability of track to increase efficiency; constructing rail/truck intermodal facilities; and increasing safety at rail-highway crossings all have clear public benefits. Further, many rail investments, such as sidings to serve a business or a port facility, significantly benefit economic development. This rail plan recommends that the state continue to support rail freight infrastructure improvements that have significant and measurable public benefits.

These combined recommended infrastructure investment programs address many of the goals, objectives and strategies for improving rail passenger and freight service in New York State that are presented in this rail plan. These passenger and freight investment programs will be regularly updated as the state's investment priorities are refined, as project costs and schedules are better known and as funding commitments become more certain. In addition, the results of future rail studies will

## Executive Summary

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be incorporated into the plan via appendices, prior to the next full update of the plan.

In addition, the near-term projects in the investment program will be discussed with Metropolitan Planning Organizations (MPOs), as well as local officials outside metropolitan areas, and merged into the MPOs' federally required Transportation Improvement Program and Statewide Transportation Improvement Program as appropriate.

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## CHAPTER 1 – STATE RAIL VISION, GOALS, OBJECTIVES AND STRATEGIES

### 1.1 Role of Railroads in New York State

New York State's multimodal transportation system encompasses a diverse mix of facilities that are owned and operated by public and private entities. This transportation network includes: rail lines; highways and local roads; public transit systems; bicycle and pedestrian facilities; ports and waterways; airports; and intermodal terminals. It provides energy efficient mobility for passengers and freight and also supports the state and national economy by contributing to the economic vitality and security of the United States.

New York is fortunate to have one of the largest and most diversified rail passenger and freight transportation systems in the nation, providing essential mobility as shown by the following statistics:

- More than 73 million tons of freight moves on 4,200 miles of rail annually.
- 400,000 containers were shipped in 2007 by rail from the Port Authority of New York and New Jersey's on-dock Express Rail terminals, illustrating how intermodal freight has become the freight railroad's most rapidly growing traffic segment.
- Each year, approximately 1.5 million riders use Amtrak's Empire and Adirondack services, and 8 million rail passengers travel through Penn Station in New York City on Amtrak's Northeast Corridor system, the nation's busiest station.
- Each day, Metro-North Railroad and Long Island Rail Road carry 278,000 and 289,000 passengers, respectively, on the extensive commuter rail network in the New York metropolitan region.

On the freight side, while providing the most energy efficient mode of transport, our rail system reduces highway congestion, improves safety and protects environmental quality by transporting thousands of tons of freight that would otherwise move on New York's highways. Freight rail in New York State allows our industries and our farmers to extend the markets for their goods. It provides competition, thus lowering shipper costs and promoting industry expansion and job creation.

Our passenger rail service is equally important. The intercity passenger rail and commuter rail networks provide New York State's residents and the nation's travelers with safe, convenient, reliable, and energy efficient transportation. Passenger rail service offers travel alternatives and essential mobility to the public.

In addition to contributing to the state's economic vitality, rail transportation reduces the need for investments in highways, relieves congestion, provides redundancy in the transportation system, and is a more energy efficient and cleaner transportation alternative than many other transport modes. Overall, the rail transportation system in New York State is highly efficient, but there are challenges that require new and

innovative ways to improve passenger and freight rail transportation services to our users.

To meet these challenges, this document presents a 20-year plan for the state's rail system encompassing a 2030 planning horizon and it articulates a near-term vision of what the rail system can achieve through 2020.

### **Changes in Transportation**

Transportation has undergone major changes over the last decade. Some contributing factors to this phenomenon are outlined below:

- Growing concerns with the environment and recognition that climate change must be addressed have affected public views and political sentiment regarding transportation and its impacts. This realization and higher energy costs have contributed to changes in our travel patterns. Most notable is the increase in public transportation ridership levels, including commuter rail lines and intercity passenger rail. On the freight side, railroads are recognized as the most energy efficient choice for moving goods. For each 1 percent of long-haul freight that switches from truck to rail, fuel savings would be approximately 111 million gallons per year and annual greenhouse gas emissions would fall by 1.2 million tons.
- The movement of goods and information is being transformed by the converging forces of globalization, a dramatic growth in trade volume and rapid technological innovation. Greater volumes of goods are moving within new global and regional trading blocs, and the timing and routing of goods movement is changing.
- Population growth, particularly in the New York metropolitan area, has brought corresponding growth in freight movement and commuter rail service levels. New York State's population, as of the 2000 Census, is slightly less than 19 million, an increase of almost 1 million people since 1990. As the population expands and ages, we must look at alternative transportation modes and safety measures, particularly regarding the transportation needs of older New Yorkers.
- Finally, travel in New York State and throughout the nation clearly was changed with the terrorist attacks on 9/11/2001. Our transportation system's security is paramount and the need for redundancy in our transportation network is more important than ever. Technology advances and other security measures will be important in the management and operation of all transportation facilities and services in New York State.

All of these changes in transportation are straining our state and national rail transportation network. Thus, the railroads in New York State are faced with major capacity issues and an aging infrastructure that could compromise the reliability and safety of our transportation system.

## Funding for Rail

New York State and the nation must address the growing rail infrastructure needs for passenger service and freight. At the federal level, there has not been a consistent and dedicated source for funding rail transportation improvements; as a result, funding for rail infrastructure has greatly lagged behind other federal transportation funding. From 1980 to 2003, overall federal transportation expenditures have increased almost threefold, primarily for highway, while aviation has almost quadrupled. In contrast, federal rail expenditures have declined in real dollar numbers by almost half and have decreased from 10 percent to only 2 percent of federal transportation expenditures.<sup>1</sup>

<b>Federal Transportation Expenditures by Mode</b>				
(Millions of current dollars)				
<b>MODE</b>	<b>1980</b>	<b>% of total</b>	<b>2003</b>	<b>% of total</b>
<b>Highway</b>	\$11,706	47%	\$32,663	49%
<b>Transit</b>	3,307	13%	4,922	7%
<b>Rail</b>	2,395	10%	1,206	2%
<b>Air</b>	3,762	15%	14,153	21%
<b>Water</b>	3,308	13%	5,495	8%
<b>Pipeline</b>			57	0%
<b>General Support (a)</b>	183	1%	8,585	13%
<b>TOTAL</b>	\$24,661	100%	\$67,081	100%
(a) includes Federal-only; administrative and operating expenses of selected offices within USDOT				

**Figure 1 Federal Transportation Expenditures by Mode**

The *National Surface Transportation Policy and Revenue Study* Commission recognized the need for increased rail investment; as part of advocating for a National Rail Transportation Policy, the Commission called for the federal government to become a strong rail investment partner.<sup>2</sup> The Passenger Rail Investment and Improvement Act of 2008 authorizes a total of slightly more than \$13 billion over the next five years to Amtrak and states to encourage the development of new and improved intercity rail passenger services. This act substantially increases the federal government's commitment to enhancing the nation's intercity rail passenger network. At the state level, rail funding has been accomplished through small, ongoing programs and public bond referendums, although the need for rail system improvements far outweighs available state resources.

In addition, unique to passenger and freight rail services is the mix of public-private operation that characterizes the mode: largely private ownership of infrastructure and facilities in conjunction with public use and benefits. The Passenger Rail

<sup>1</sup> USDOT BTS, Table 5-12, Government Transportation Expenditures by Mode and Level of Government from Own Funds,

[http://www.bts.gov/publications/pocket\\_guide\\_to\\_transportation/2007/html/table\\_05\\_12.html](http://www.bts.gov/publications/pocket_guide_to_transportation/2007/html/table_05_12.html)

<sup>2</sup> National Transportation Policy and Revenue Study Commission, *Transportation For Tomorrow*, December 2007. [http://www.transportationfortomorrow.org/final\\_report/](http://www.transportationfortomorrow.org/final_report/)

Investment and Improvement Act of 2008 provides the state, the rail industry and other stakeholders the opportunity to begin a new era in developing a modern intercity rail passenger service that is safe, reliable and attractive.

## **1.2 Vision of Rail Transportation in New York State**

Developing a long-term plan for future rail transportation over the next 20 years (through 2030) is a process that involves many stakeholders, including public, federal, state and local entities and private entities, such as the rail industry, various interest groups and citizens. The process is informed by existing plans, such as New York State's *Transportation Master Plan*<sup>3</sup> that establishes a long range vision for transportation, including rail, and by the state's October 2007 *20-Year Multimodal Investment Needs Assessment*<sup>4</sup> that recommended future transportation capital investments strategies. Additional rail planning information includes various freight studies and passenger rail studies under way statewide, as well as this report. An important consideration is the Passenger Rail Investment and Improvement Act of 2008 that also establishes a national rail passenger policy and provides requirements for developing state rail plans. Finally, the state's Transportation Authorities and local Metropolitan Planning Organizations (MPOs) have a vital role in identifying rail system needs and problems through their Long Range Plans and through selected planning studies.

The input and direction from the rail industry, including railroad owners, operators and rail association partners, are critical to the state's rail planning efforts. Other stakeholders, including shippers, business, interest groups and residents and government planning partners, add valuable input. All of these stakeholders contribute to developing the state's Vision, Goals, Objectives, and Strategies for rail transportation.

NYSDOT's vision for passenger and freight rail service in New York State focuses on improving our environmental sustainability (including energy conservation), quality of life, and economic competitiveness, all of which are important to the state, its residents, businesses and rail stakeholders. The vision is:

***"A rail system that improves mobility for people and goods, contributes to environmental sustainability and quality of life, while supporting and expanding economic development."***

Enhanced rail services contribute to environmental sustainability through decreased fuel use and improved air quality with reduced highway vehicle and aircraft miles traveled and corresponding vehicle emissions.

Quality of life is enhanced by providing improved and expanded intercity passenger, commuter rail and freight rail services. Resulting benefits include efficient and lower-cost access to goods and products and travel opportunities for business and

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<sup>3</sup>NYSDOT, *Strategies for a New Age: New York State's Transportation Master Plan for 2030*, 2006, <https://www.nysdot.gov/portal/page/portal/main/transportation-plan/transportation-plan>

<sup>4</sup> 20 Year Needs Assessment, 2007, <https://www.nysdot.gov/portal/page/portal/programs/20yearneedsassessment>

shopping trips, for visits to friends and family, for recreational travel and for work commutes.

Improved rail service supports city revitalization and also encourages Smart Growth, including transit oriented development that provides housing options, jobs, retail, and services within easy walking distance of a station.

Economic development in New York State will be achieved by improved services that expand the use of rail by existing industries and travelers and promote the location of new industries on rail lines. As a result, more jobs, services and expanded economic activity will occur and development will be directed toward predictable and cost-effective locations.

Economic development and mobility will also be promoted by improved passenger rail services that connect cities across the state, facilitating business travel and tourism. Commuter rail services help employers attract more qualified workers by providing access to a larger pool of workers.

### **2020 Vision for Rail**

The state's vision for intercity passenger and freight rail is a system that will serve New Yorkers well - a preferred choice for travelers and shippers, connecting the cities across New York State and connecting businesses to the national and international freight network. As the most energy efficient way to transport people and goods, a significantly improved rail system makes the intermodal connections to allow seamless, reliable movement from origin to destination. The rail system of the future would be "green" and support sustainable economic growth throughout New York and strengthen the state's premier position in the rapidly changing global economy.

The vision for the freight rail system is an energy efficient transporter of long-distance cargo, with intermodal connections that function seamlessly for local deliveries and reduce the cost of freight movement. Short line railroads provide efficient service to the state's industries and shippers by providing connections to national and international markets and supporting an expanding state economy.

The vision for intercity passenger rail is a safe, faster, reliable, frequent service that is competitive with the other intercity modes for intermediate travel distances and is connected to local and regional transit services and intercity buses. It is an integral part of the existing travel and trade corridors. Between Albany and New York City, and in the Hudson Valley, intercity passenger rail is the preferred choice for travelers, providing energy efficient service directly to Manhattan. West of Albany, intercity passenger rail is recast to improve service and economic connections. The intercity passenger system will also provide reliable connections from a new Moynihan Station in New York City to other large metropolitan areas in the Northeast including Montreal, Toronto, and Chicago.

The state rail plan focuses on a 20-year planning horizon, but it also describes a more near-term vision for New York State's rail system that can be achieved by 2020. This vision includes the following freight and intercity passenger elements:

**A freight rail system that:**

- Increases freight rail market share by 25 percent, reducing the growth in truck traffic and energy consumption;
- Allows modern freight cars to access the New York metropolitan region and Long Island along the east of Hudson route, thereby eliminating more than 300,000 truck trips from the region's highways each year;
- Moves more freight across New York Harbor through the identified recommendations of the Cross Harbor Freight Movement Project Environmental Impact Statement to be completed by the Port Authority of New York and New Jersey;
- Includes at least three new intermodal facilities/inland ports, at least two of which are located upstate, serving the rapidly growing container segment of rail traffic, helping to remove long-haul trucks from the highways and delivering products to consumers quicker;
- Incorporates rail sidings, rail-truck transfer facilities, and "last mile" connections serving all rail terminals and shippers who need access to the rail network to facilitate economically competitive industries throughout New York State;
- Transports hazardous commodities by rail by taking advantage of the well-documented safety benefits of rail;
- Serves as a national model with the first "green" short line railroad industry locomotive fleet in the nation, by assisting the short line railroads in replacing current fleets with clean, energy-saving locomotives;
- Moves toward positive train control to reduce the risk of accidents; and
- Serves business upstate and downstate via an integrated rail network that is restored to good condition and maintained in a state of good repair.

**An intercity passenger rail system that:**

- Transports double the total intercity passenger rail ridership as it does today on New York's three major rail corridors – New York City to Albany, Albany to Buffalo, and Albany to Montreal -- as new passenger equipment becomes available, reducing highway congestion, energy use and air emissions;
- Provides reliable and frequent rail travel connecting Albany and New York City, with an on-time performance of at least 95 percent, providing a time-competitive alternative mode of transportation to driving;
- Provides reliable, faster, and frequent rail travel between Albany and Buffalo, also connecting Syracuse, Utica, Rochester and the upstate cities in between, making rail travel more time-competitive with driving;
- Provides 6 and 1/2-hour rail travel between Albany and Montreal, making rail a more viable option compared with driving;
- Moves toward positive train control technology as an improvement over existing automatic train stop systems;
- Provides rail passengers with a fully functioning and convenient Moynihan Station in New York City;
- Has Northeast Corridor rail infrastructure (including feeder lines such as the Empire Corridor) in a state of good repair through increased federal investment;
- Provides high-speed intercity passenger service throughout the Northeast Corridor;

- Integrates commuter, intercity passenger and freight rail operations by improving efficiency and lowering overall railroad costs;
- Provides greater intercity passenger service frequencies where there is market demand; and
- Evaluates and develops new or additional passenger services where viable, potentially including commuter services connecting Saratoga Springs with Albany and Niagara Falls with Buffalo and intercity services connecting Binghamton with New York City.

### **1.3 Goals, Objectives and Strategies for Rail Service in New York State**

NYS DOT's goals and objectives for freight and passenger rail service in New York State are presented below. Each goal is followed by the objectives necessary for implementation.

Proposed improvement strategies for rail passenger and rail freight service in New York State that implement the vision, goals, and objectives are also presented. These goals, objectives and strategies were developed in collaboration with many of this plan's stakeholders (as described in Chapter 10 of this report) especially rail industry representatives, state, local, Metropolitan Planning Organization partners, and various interest groups and residents. Responsibility for implementing these proposed strategies may lie with the public sector, the private railroads, or jointly.

Additionally, the goals, objectives, and strategies are aligned, as appropriate, with the goals and strategies in existing plans and programs, such as: the New York State Transportation Master Plan; the New York State Multimodal Transportation Program Submission 2009-2014; the investment and assistance principles from the 2007-2008 Regional Blueprint Initiative that is part of the Governor's Statewide Economic Development Fund; and the state Metropolitan Planning Organizations' Long Range Plans.

#### **Safety and Security**

**Goal:** *Personal safety and infrastructure and property security.*

#### **Objectives:**

- Increased safety of passenger and freight train travel using positive train control technology as an improvement over existing automatic train stop systems to reduce the risk of accidents.
- Maintained and, where possible, improved security of passengers, consistent with federal and state policy.
- Improved safety of vehicles and pedestrians at rail-highway at-grade crossings.
- Enhanced security of rail rights-of-way and reduce illegal trespassing.

#### **Strategies:**

- Work with the Federal Railroad Administration (FRA) and the rail industry in developing and deploying positive train control technology.

- Upgrade fencing, secure assets and install other tamper-resistant devices for critical rail facilities and infrastructure assets such as rail yards, railroad undergrade structures, rail equipment and train control signal systems.
- Install security video surveillance monitoring of key assets.
- Prevent unauthorized vehicular and pedestrian access to railroad rights-of-way.
- Increase coordination with law enforcement.
- Increase the penalty for violation of rail safety statutes.
- Expand communications among railroad and all security-cleared state officials, emergency responders and police agency personnel to track the location of trains with any high-risk contents hauled through the state in real time.
- Promote utilization of rail for freight movement when it provides enhanced safety and security over trucks.
- Partner with the Federal Railroad Administration and the rail industry in developing crash avoidance technology.

### **System Preservation**

**Goal:** *Preserve the existing rail system as a long-term transportation asset.*

#### **Objectives:**

- Maintenance of New York's rail network through strategic programs to keep rail operators viable.
- Maintenance of rail system infrastructure assets in a state of good repair.
- Preservation of essential local rail corridors to retain the availability of rail service for the future.
- Preservation of rail rights-of-way that may be candidates for use in future transportation networks.

#### **Strategies:**

- Maintain the rail system in a manner that will provide safe and reliable operation and preserve a rail line's track structure commensurate with its anticipated level of train service.
- Replace rail infrastructure components within their useable service lives. The core rail infrastructure elements include:
  - Track, switches, and roadbed.
  - Drainage and culverts.
  - Undergrade bridges (railroad carried).
  - Railroad tunnels.
  - Train signal control systems and communications.
  - Maintenance, repair and crew support facilities.
  - Freight transfer facilities and terminals.
  - Passenger stations.
- Partner with the FRA and railroad owners to ensure safe railroad infrastructure.
- Identify all current rail rights-of-way with potential for abandonment and ensure they are preserved for potential future use for rail service or alternative transportation uses.

- Identify poor condition rail lines for which a temporary abatement from real property taxation would be a significant incentive for the owning railroad to upgrade its assets to a state of good repair.
- Perform a comprehensive analysis of the implications and benefits to New York State of exempting rail infrastructure and rights-of-way from real property taxation.
- Identify and create cost-effective incentives to encourage owners of rail freight lines to upgrade their infrastructures to a state of good repair and eliminate disincentives that discourage infrastructure investment.

### **System Capacity, Reliability and Travel Time**

**Goal:** *Develop a rail network capable of supporting the future needs of New York State residents and businesses and manage it for optimum efficiency.*

#### **Objectives:**

- Expanded rail capacity to promote and to meet projected growth in freight and passenger demand.
- Removal of bottlenecks to increase system capacity.
- Increased market share of passenger and freight rail services.
- Improved on-time performance and reliability for both freight and passenger services.
- Optimization of rail network operations.
- System redundancy, reliability and viability to support other modes of transportation.

#### **Strategies:**

- Manage shared-use trackage on shared corridors to maximize efficient freight and passenger rail operations.
- Remove or reduce bottlenecks.
- Install additional or extended controlled sidings where needed.
- Develop rail yard bypasses and/or modify yard approaches.
- Provide additional crossover interlockings along multiple track rail lines.
- Construct additional main line track to meet capacity needs on rail corridors.
- Separate passenger and freight rail operations whenever feasible and warranted.
- Develop a program of projects to reduce travel time and improve reliability in the Empire Corridor.
- Study potential passenger rail service expansion in developing markets, such as the Southern Tier and Western New York.
- Build rail network additions or modifications to provide system redundancy of regionally significant infrastructure.
- Develop additional freight yard capacity in the New York City metropolitan area.
- Support completion of the Cross Harbor Freight Movement EIS by the Port Authority of New York and New Jersey to identify long term solutions.
- Revitalize existing railroad real property tax abatement programs targeted at network enhancements (non-maintenance), including active NYSDOT management and outreach of abatement program.

**Intermodalism, Accessibility and Mobility**

**Goal:** *An integrated rail system that facilitates the efficient movement of people and goods, expands choices, and improves access to and interconnectivity of all transportation system modes.*

**Objectives:**

- Improved coordination among freight, intercity passenger and commuter rail systems with other modes of transportation.
- Improved access to commuter and intercity passenger service via other modes or through the proximity of new stations.
- Seamless transfers of passengers between transport modes.
- Americans with Disabilities Act (ADA)-compliant access on trains and at passenger station facilities and train loading platforms.
- Increased intermodal freight traffic through improved highway-rail and water-rail intermodal connections.
- A rail network in New York State that is fully integrated with the North American rail system, including compatibility with current standards for rail car size and weight.

**Freight Strategies:**

- Provide 286,000-pound rail car load capacity for all freight railroad infrastructures.
- Provide 315,000-pound rail car load capacity on railroad infrastructure where market demand is identified.
- Eliminate vertical and horizontal rail car load clearance restrictions to accommodate today's larger freight cars.
- Develop strategic rail connections to facilitate efficient and effective interchange of rail cars between railroads.
- Develop freight intermodal facilities where market demand is identified.
- Improve rail access to and within ports, freight terminals and intermodal freight facilities.

**Passenger Strategies:**

- Improve passenger intermodal connections, including seamless integration with local transportation and other modes of intercity passenger transportation by through-ticketing, through-scheduling and cross-marketing.
- Support the construction of Moynihan Station in New York City to improve efficiency and system capacity.
- Expand park-and-ride capacity and rail station parking where required to support increased ridership.
- Introduce new passenger rail, along with rail feeder bus service to communities where feasible, practical and financially viable.
- Upgrade passenger stations to provide ADA-compliant access.
- Revitalize and improve passenger station facilities, amenities and operations.
- Evaluate fare structure and pricing to maximize ridership while sustaining the financial viability of passenger rail service in New York State.

- Upgrade, modernize and/or replace passenger rail car equipment to enhance and to improve the rail travel experience (i.e. food service cars, baggage cars, dome vista coaches).
- Improve inspection and passenger processing procedures to reduce travel time and to improve reliability for passenger services to Canada.

### **Energy Efficiency, Environmental Sustainability and Economic Competitiveness**

**Goal:** *Provide a rail system that is energy efficient and environmentally sustainable and that promotes the integration of transportation, land use and economic development to support New York's economic competitiveness and quality of life.*

#### **Objectives:**

- Mitigation of highway congestion and reduced energy use and air pollution through the greater use of intercity passenger, commuter and freight rail systems.
- Improved air quality through decreased railroad locomotive emissions.
- Greater economic competitiveness of the rail system by maximizing efficiency and customer access.
- Implementation of policies that provide competitive pricing for passenger and freight rail travel.
- Freight rail facilities to serve shippers currently without rail connections.
- Improved rail network competitiveness in the global economy through targeted infrastructure and technology investments.
- Exploitation of the energy efficiencies available through a better utilization of railroad and contiguous property consistent with sound environmental and smart growth policy.

#### **Freight Strategies:**

- Expand the existing rail and port programs to include project eligibility requirements and selection criteria based on transportation benefits to be accrued.
- Enhance and expand the existing rail and port multimodal program to address local freight transportation infrastructure needs.
- Increase state investment in rail freight transfer yards, team tracks, freight sidings, intermodal freight facilities and cross-dock transfer terminals to serve multiple customers and shippers within a community or region.
- Increase state investment in freight rail and facility revitalization targeted "at the last mile" to attract new (or retain existing) freight customers.
- Encourage the use of rail, where feasible, for NYSDOT procurements.
- NYSDOT will work with state agencies, including the Empire State Development Corporation and the Department of Environmental Conservation, to implement rail alternatives where they support economic development.

#### **Passenger Strategies:**

- Provide capital and/or operating support of additional daily passenger trains and/or additional coaches per train along existing service corridors when feasible, practical and financially viable.

- Implement rail feeder bus service along existing passenger rail routes.
- Study the pricing structures of passenger rail services in New York State to determine their competitive impact on other transport modes.
- Connect to the Northeast Corridor to provide effective alternatives to long-distance air and highway travel.

**Energy and Environmental Strategies:**

- Support transit oriented development at intercity passenger and commuter rail stations.
- Retrofit equipment to reduce diesel engine idling, fuel use and emissions for locomotives operating and based in New York State.
- Work with railroads based in New York State to acquire locomotives that meet new environmental standards.
- Purchase ultra-low-emission locomotives intended for yard switching and local train service in New York State.
- Develop a “buyers program” for railroads operating in New York State to obtain regular and sufficient supplies of ultra-low sulphur fuel or other environmentally friendly fuels for use in locomotives.
- Assist railroads in developing “green” rail yards and track facilities.

**Program Funding and Delivery**

**Goal:** *Adequate, stable and predictable funding through public and private sources for rail investments.*

**Objectives:**

- Balanced federal investment in rail passenger and freight transportation consistent with federal investment in other transport modes.
- A federal and state funding program that facilitates planning and implementation of public investment in rail transportation.
- Public policies that support increased investment by private railroads.
- Dialogue and cooperation among NYSDOT and the railroads to maximize system efficiency and investments.
- Public-private partnerships to increase investment in New York State’s rail network.
- Rail investments in New York State that provide public benefits, including enhanced commercial productivity, reduced traffic congestion, energy savings and air quality improvement in excess of their costs.
- A state real property tax structure for railroads that removes disincentives for and encourages investment in rail service and infrastructure.
- An up-to-date state railroad law that reflects current federal law and railroad operating environment.

**Strategies:**

- Continue to advocate for a stronger policy and a federal role for passenger and freight rail transportation.
- Advocate for creation of dedicated federal and state programs for investment in rail infrastructure similar to those available for other transport modes.

- Obtain funding under the Passenger Rail Investment and Improvement Act of 2008 to enhance the state's intercity rail passenger system.
- Invest public funds in private rail infrastructure where there is a public benefit.
- Implement public-private partnerships to secure increased investment in New York State's rail system.
- Update New York State's railroad law, as the last comprehensive update occurred in 1964. Since that time, the Interstate Commerce Commission Termination Act of 1995 has pre-empted much of the statute, while changes in railroad technology and operations have rendered other sections of the law obsolete or ineffective.
- Streamline the state grant process to reduce the time to implement rail projects.
- Establish regular meetings, not less than twice a year, among NYSDOT and the passenger and freight rail industries to coordinate rail policy, planning and funding.
- Review options for governance, roles and staffing to best implement the goals, objectives, and strategies recommended in the New York State Rail Plan.
- Develop a multiyear investment plan to guide program and project development consistent with the New York State Rail Plan.

## **Conclusion**

The State Rail Plan lays the foundation for an improved and sustainable rail system in New York State by identifying a vision for passenger rail service and freight rail service and establishing goals, objectives and strategies to achieve that vision. All of this has been accomplished by working with various stakeholders, including the rail industry, rail advocates, elected officials, and many other concerned groups and individuals. This collaboration is essential to creating a vision that reflects the needs of the community and ultimately to having a responsive, efficient and sustainable rail transportation network.

A freight rail system that increases the freight rail market share by 25 percent and an intercity passenger rail system that doubles its ridership on its major rail corridors are ambitious goals requiring dedicated investment by government and the private railroads. The Passenger Rail Investment and Improvement Act of 2008 is a first step toward reaching these goals by authorizing funding to Amtrak and the development of new and improved intercity rail passenger service. Additional funding from all sources, federal, state, and private will be needed to accomplish all of the rail improvements identified in this plan.

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## CHAPTER 2 – PLAN PURPOSE and AUTHORITY

### 2.1 Purposes of the State Rail Plan

The 2009 New York State Rail Plan (SRP) is developed to provide a framework for the management, promotion and improvement of New York State's rail system. The 2009 Plan serves as New York's official State Rail Plan fulfilling all federal requirements of Title 49, Chapter 227 and is in compliance with the requirements of Section 22102. The 2009 Plan will be amended as appropriate in conjunction with the state's ongoing rail and transportation planning activities and will be formally updated and revised within five years of this issuance. State rail transportation policy and strategy is articulated in the state's federally required Long Range Transportation Plan and, as such, is an extension of that Plan.

The SRP presents NYSDOT's proposed vision, goals, objectives and strategies for rail service in New York State. All the SRP elements guide NYSDOT's efforts to provide improved and expanded rail service for New York State and its rail-related industries.

Specifically, the SRP is prepared for the following purposes:

- Provide statements of vision, goals and objectives.
- Describe potential strategies to implement goals and objectives.
- Present an inventory and review of the rail system in the state, including freight, intercity passenger and commuter rail services.
- Present intercity passenger rail service objectives and performance evaluations and identify system and service needs and high-speed rail corridor development plans.
- Present freight rail service objectives and performance evaluations and identify system and service needs and facility development plans.
- Include stakeholder and public involvement to develop and update the SRP, including railroads, shippers and passengers.
- Present the Long Range Service and Investment Program for current and future freight and passenger rail infrastructure in the state, including a capital program list for passenger improvements.
- Present a funding plan for the projects in the Long Range Service and Investment Program.

These efforts strongly support New York's rail policies, as expressed in state statutes. Numerous states have embraced the concept of coordinating and integrating their modal plans with their overall statewide transportation plans (such as in *New York State's Transportation Master Plan for 2030* and in NYSDOT's *2009–2014 Multimodal Transportation Capital Program*). This is particularly important when the volume of freight transportation in the United States is predicted to double over the coming two decades. The state will need to look at opportunities to improve interconnectivity and to foster efficiencies in moving both goods and people.

With major changes in the railroad industry over the past decade and projected future changes, a new SRP is essential to reflect the impact of these changes on state rail policy and transportation planning. The SRP will establish the basis for the state's rail transportation policy and will be a springboard for future rail-planning

efforts. A new SRP is also required to comply with state and federal legislation and related planning requirements.

## **2.2 State and Federal Legislation and Planning Requirements**

NYSDOT's rail-planning efforts are implemented within the context of specific state and federal legislation and related planning requirements that are summarized below.

### **State Legislation**

The history of rail planning in New York State begins with the creation of NYSDOT under Chapter 717 of the Laws of 1967. Chapter 717 established NYSDOT as of 9/1/67 and required NYSDOT to produce the first long range statewide master plan addressing transportation facilities and services for the following modes: highways, rapid transit, railroad, omnibus, marine and aviation. Under the Laws of 1975 and 1979, the New York State Legislature directed the Commissioner of Transportation to prepare and to submit to the Governor a report evaluating the state's intercity rail passenger service, rail service preservation and rail energy conservation programs. The New York State *Rail Preservation Program Annual Report* was prepared regularly in compliance with this mandate.

Subsequently, an *Annual Update to the Report* was regularly prepared in accordance with federal regulations and was submitted to the Federal Railroad Administration. Updates were prepared through 1986 to document any significant changes in rail policy, regulations and/or legislation and to document the state's rail planning process.

Under Chapter 54 of the laws of 1985, as amended by the laws of 1986, the New York State Legislature directed the Commissioner of Transportation to prepare and to submit to the Director of the Budget, the Chairman of the Senate Finance Committee and the Chairman of the Assembly Ways and Means Committee a report on the impact of local rail service preservation programs and recommendations for future rail programs. This combined document addressed the rail planning requirements of all of the above-mentioned reports, as well as Chapter 54, and served as a reference document on the status of the rail industry in New York. The requirement to prepare this report ended in 1995 when the federal funding for the Local Rail Service Assistance Program was eliminated.

### **State Planning Requirements**

NYSDOT's rail planning efforts since the 1990s have focused on implementing major rail capital projects, primarily bond-funded, that improved both passenger and freight rail service.

Also, since 1985, there have been numerous and significant changes in the rail industry, including:

- Changes in ownership and operation of rail lines in New York State.
- Establishment of new state rail policies, especially regarding vertical clearances.
- Adoption of 286,000-pound rail cars as the new interline standard nationwide.

- Rapid growth in intermodal traffic nationwide.
- Growth in number of regional and short line railroads nationwide.
- Other important national rail issues, including increased freight traffic straining and exceeding rail line capacity.
- Changes in rail traffic origins and terminations in New York and the rest of the North America.
- Federal legislative and regulatory changes.
- Unprecedented climate changes and fuel price increases.
- The end of federal Local Rail Freight Assistance funding in 1995.

The SRP recognizes that rail passenger and freight services are a critical part of New York State's overall transportation system. Cost-effective investment of the state's transportation resources must consider other modes, including highways, aviation and water, as well as rail. Decisions on the preferred mode for investments to improve the movement of freight traffic in New York depend on the type of such traffic, as well as its origin and destination. Investments for passenger traffic depend on the nature of the movements, whether commuter or intercity, and specific origin and destination.

The SRP is coordinated with New York's long range transportation plan that is updated periodically. The 2006 update of the long range plan (titled *Strategies for a New Age: New York State's Transportation Master Plan for 2030*) included strategies for improving intercity and commuter passenger rail and rail freight service as key elements of initiatives designed to increase mobility and to provide additional services throughout the state. The SRP is also aligned with the *2009-2014 Multimodal Capital Program* that articulates priorities, principles and goals related to rail transportation in New York.

### **Federal Legislation**

A long series of federal legislation has established the framework for federal involvement in and assistance to rail passenger and freight services throughout the nation.

The Rail Passenger Service Act of 1970 provided for the establishment of the National Railroad Passenger Corporation (Amtrak); this took over the operation of most intercity rail passenger service from the private railroads on May 1, 1971. In New York, this included the Empire Service between New York City, Albany, Buffalo, and Niagara Falls that has operated ever since as part of Amtrak's national system.

The Railroad Revitalization and Regulatory Reform Act (4R) of 1976 and the Staggers Act of 1980 made it easier for railroads to abandon their least-productive lines. However, the 4R Act also established a nationwide local rail service assistance program to help continue service on such abandoned lines and required a formal rail planning process.

Nevertheless, the federal government retained regulatory authority over railroad mergers, line abandonments or realignments and, in some cases, rates. This authority is held by the Surface Transportation Board (STB), the successor agency to the Interstate Commerce Commission (ICC) that was abolished via the ICC Termination Act of 1995. Although federal law now pre-empts state authority in

these areas, New York State has and will continue to participate in significant STB proceedings that affect rail service in New York.

In 1978, the passage of the Local Rail Service Assistance Act (LRSA) broadened project eligibility and the funding allocation formula while instituting specific requirements for project justification. In 1989, the LRSA program was reauthorized by Congress and was renamed the Local Rail Freight Assistance (LRFA) program. Federal authorization continues for this program but no funding has been provided by Congress since 1995.

In 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA) that greatly expanded the nation's focus on intermodal transportation and movement of people and goods. It provided federal funding for multimodal transportation from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to state and Metropolitan Planning Organizations (MPOs). ISTEA required the states and the MPOs to "explicitly consider, analyze as appropriate and reflect in the planning process international border crossings and access to ports, airports, intermodal transportation facilities and major freight distribution routes." Also, ISTEA required plans to be developed using a coordinated process, including coordination with operators of airports, ports, rail terminals and other intermodal transportation facilities and with the state rail plans.

ISTEA included the Congestion Mitigation and Air Quality (CMAQ) program, a source of funds for passenger rail projects that are designed to assist in improving air quality. CMAQ funds are distributed to states for projects that will have a positive impact on air quality.

In 1998, Congress enacted the Transportation Equity Act for the 21st Century (TEA-21) that carried forward the intermodal focus of ISTEA. In 2005, the latest surface transportation legislation was passed, titled the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This law requires each state to carry out a transportation planning process that provides for consideration and implementation of projects, strategies and services that would:

- Support the economic vitality of the United States, the states, metropolitan areas and non-metropolitan areas, especially by enabling global competitiveness, productivity and efficiency.
- Increase the safety of the transportation system for motorized and non-motorized users.
- Increase the security of the transportation system for motorized and non-motorized users.
- Increase accessibility and mobility of people and freight.
- Protect and enhance the environment, promote energy conservation, improve quality of life and promote consistency among transportation improvements and state and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, throughout the state, for people and freight.
- Promote efficient system management and operations.
- Emphasize the preservation of the existing transportation system.

A number of changes also created more opportunities to obtain funds for rail freight projects and intercity rail passenger service.

The Americans with Disabilities Act (ADA) provides that new rail passenger equipment and facilities must be fully accessible and meet the requirements of this act. Implementing these requirements has had a significant cost impact on rail station improvement projects in New York State. This situation affects all owners of rail stations. In New York, station ownership is generally divided between Amtrak and local entities, such as cities or transportation districts. Thus, Amtrak and such entities must bear the cost of necessary improvements, such as compliance with ADA requirements, at the stations they own.

The Amtrak Reform and Accountability Act of 1997 (PL 105-134) expired on September 30, 2002. This legislation:

- established the Amtrak Reform Council that began an extensive study of the future of national intercity passenger rail service;
- restructured Amtrak governance by establishing the Amtrak Reform Board;
- modified labor protections, most notably “C2” protections that enabled Amtrak to eliminate onboard food service without incurring significant employee severance payments; and
- required a study of Amtrak’s financial requirements, including:
  - cost allocation process and procedures;
  - expenses;
  - strategic business plan;
  - assets and liabilities (including Northeast Corridor State of Good Repair); and
  - bidding practices.

Congress has also promulgated federal intercity passenger rail policy through annual transportation appropriations legislation, where Amtrak accountability remains a key issue. Previously, Congress enacted financial oversight provisions through appropriations legislation. There have been attempts through the annual appropriations legislation to find ways for state and local governments to increase payments to Amtrak. In particular, the Fiscal Year 2006 Transportation Appropriations Act included a provision requiring transit operators to pay the fully allocated cost of utilizing Amtrak Northeast Corridor facilities. This provision would have directly affected the Metropolitan Transportation Authority (MTA) commuter rail operations. However, after extensive analysis of the value of capital facilities provided by MTA and Amtrak, the provision was never implemented.

The Rail Safety Improvement Act of 2008 and the Passenger Rail Investment and Improvement Act of 2008 were signed by the President on October 15, 2008. The Passenger Investment and Rail Improvement Act of 2008 contains the most aggressive language in history regarding a federal requirement for states to undertake comprehensive rail planning. This act also establishes for the first time an intercity passenger rail capital grant program for states. States must identify rail intercity passenger rail corridor improvement projects in their current state rail plans to be eligible for the federal capital grant programs that are proposed.

The 2009 New York State Rail Plan will serve to fulfill all applicable federal planning requirements, including:

- The planning regulations of the federal Local Rail Freight Assistance Program remain in effect (see 49 CFR 266.15), although the program is not currently funded.
- Federal planning guidelines, as contained in Title 49, Part 266 of the Code of Federal Regulations, require the SRP to provide a description and assessment of the condition of the state's rail system.
- The designation of the Empire Corridor as a qualified high-speed rail corridor under Section 1010 of the Intermodal Surface Transportation Efficiency Act (ISTEA) provides specific regulations for funding of grade crossing improvement projects under this section.
- The federal planning regulations as delineated in the Passenger Rail Investment and Improvement Act of 2008 under sections 303, 307 and 501.
- Legislation for the federal reauthorization of Amtrak: the Passenger Rail Investment and Improvement Act of 2008 contains the most aggressive language in history regarding a federal requirement for states to undertake comprehensive rail planning.

### **Conclusion**

The State Rail Plan provides the framework for the management, promotion and improvement of New York State's rail system, including the vision, goals, objectives and strategies for rail service in New York State. The plan also summarizes the state and federal legislation and planning requirements relating to the operation and management of such rail services.

The most recent federal legislation is the Passenger Rail Investment and Improvement Act of 2008; it establishes the first-ever intercity passenger rail capital grant program for states. This legislation requires eligible rail capital projects to be identified in the State Rail Plan and specifies the planning requirements to be included in the State Rail Plan. This plan meets these federal requirements.

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## CHAPTER 3 – THE RAIL SYSTEM IN NEW YORK STATE

### 3.1 Overview of New York State's Rail Network

New York State's rail network has evolved over nearly two centuries to serve a wide range of markets and extends to all geographic regions of the state. Fifty-nine of the state's 62 counties are served by one of New York's freight railroads. Amtrak provides intercity rail passenger service across the state, linking the nation's busiest railroad station -- New York City's Pennsylvania Station -- with upstate cities, including Albany, Utica, Syracuse, Rochester, Buffalo and many other intermediate points. The three largest commuter railroads in the country (the Long Island Rail Road (LIRR), Metro-North Railroad and New Jersey Transit) radiate out from New York City to serve the surrounding suburbs. Small tourist railroads preserve the history of the industry in some of the most scenic areas of the state.

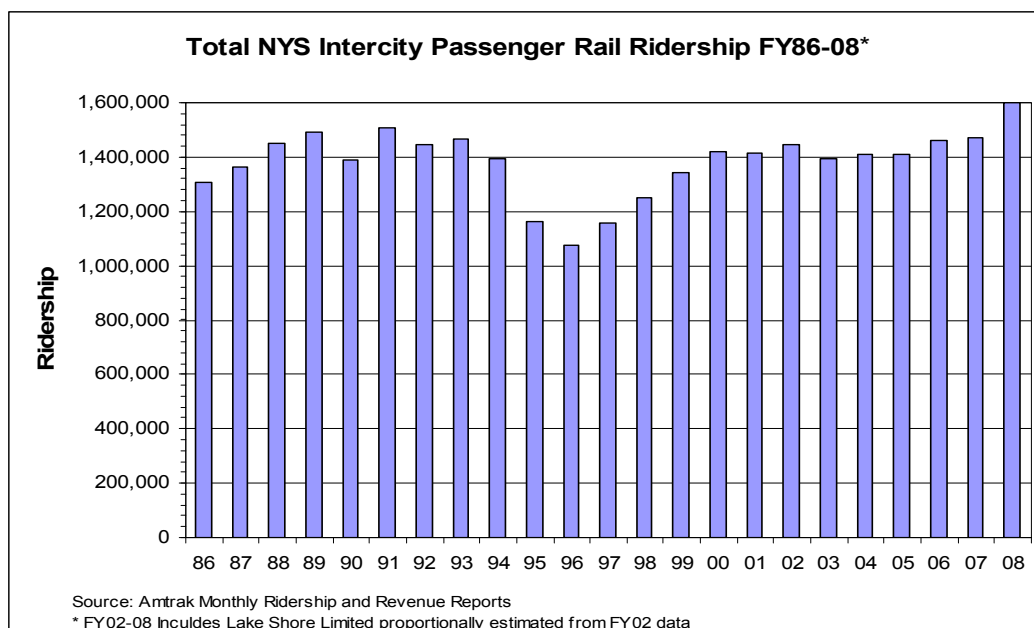
The rail network in New York State has three distinct types of railroads: intercity passenger, commuter and freight railroads. Amtrak is the sole provider of intercity rail passenger services in New York State and nationally and operates principally over rail lines owned by freight railroads. New York has two major commuter railroads, Metro-North Railroad and the LIRR; they operate in the downstate region, largely over their own rail lines providing rail commuter services radiating out from New York City. Metro-North and LIRR are part of the Metropolitan Transportation Authority (MTA). Lastly, there are numerous freight railroads that own and maintain the majority of rail lines. They move interstate freight through New York and provide rail freight services to shippers large and small, upstate and downstate.

In many areas, the rail services share the same tracks. For example, Amtrak operates over 782 route miles in New York, of which 732 route miles are operated under trackage rights over three freight railroads and one commuter railroad. Similarly, two commuter railroads and two freight railroads operate via trackage rights over the 50 route miles of railroad controlled directly by Amtrak. Throughout the state, freight, intercity passenger, commuter and tourist operations share common infrastructure to meet their customers' needs.

The map (Figure 9) found in Section 4.1 of this report depicts the comprehensive freight railroad network in New York State and its rail connections with railroads in adjoining states and Canadian provinces.

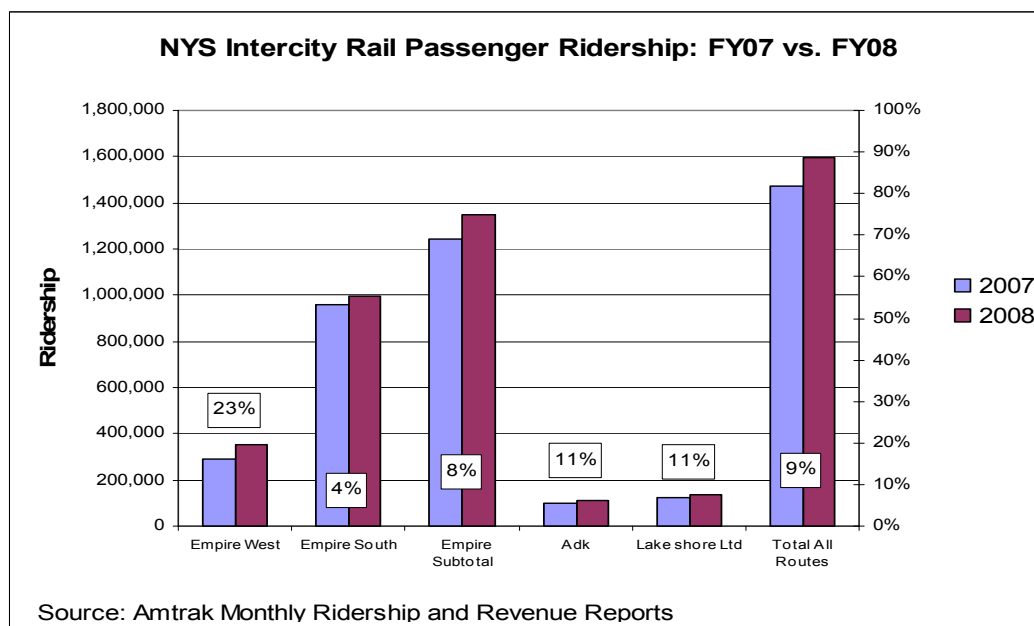
Subsequent chapters in this report, including the freight, passenger and commuter rail chapters, provide a detailed profile of the state's rail system. In overview, the multiyear trends documenting use of the state's passenger and freight rail system show a system of stabilized to moderate growth.

- For 20 years, intercity passenger rail ridership in most years has averaged between 1.3 million and 1.4 million riders annually, as shown in Figure 2. In the last three years, ridership has increased above the 20-year trend.



**Figure 2 Intercity Rail Passenger Ridership Growth 1986-2008**

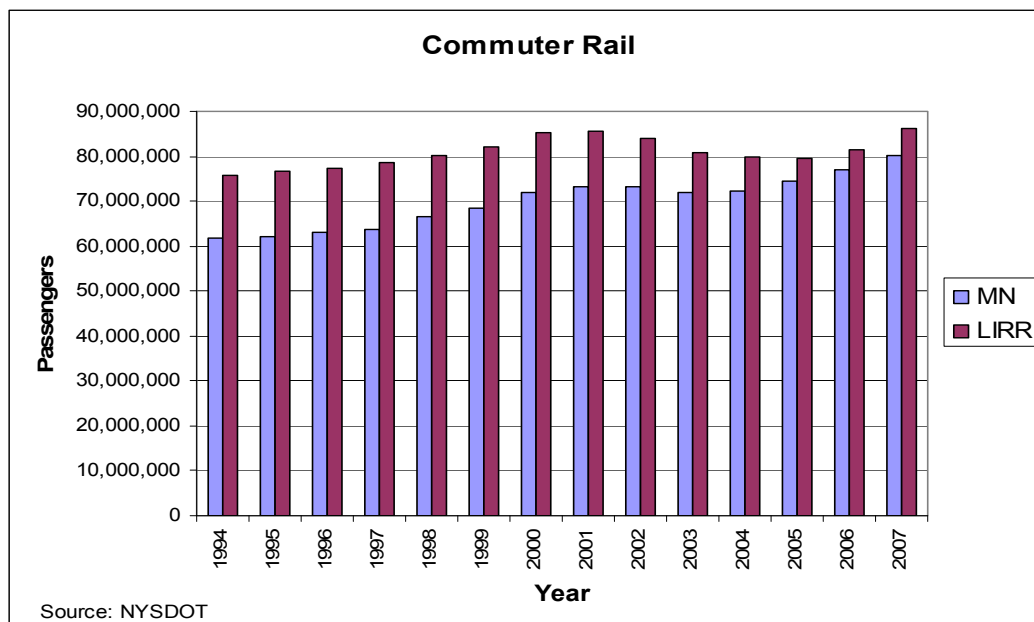
- More recently, as shown in Figure 3, intercity rail passenger ridership is growing significantly. From FY 07 to FY 08, overall intercity passenger rail ridership is up 9 percent; notably, ridership on the Empire West service between Albany and Niagara Falls is up 23 percent.



**Figure 3 Recent Intercity Rail Passenger Ridership Growth**

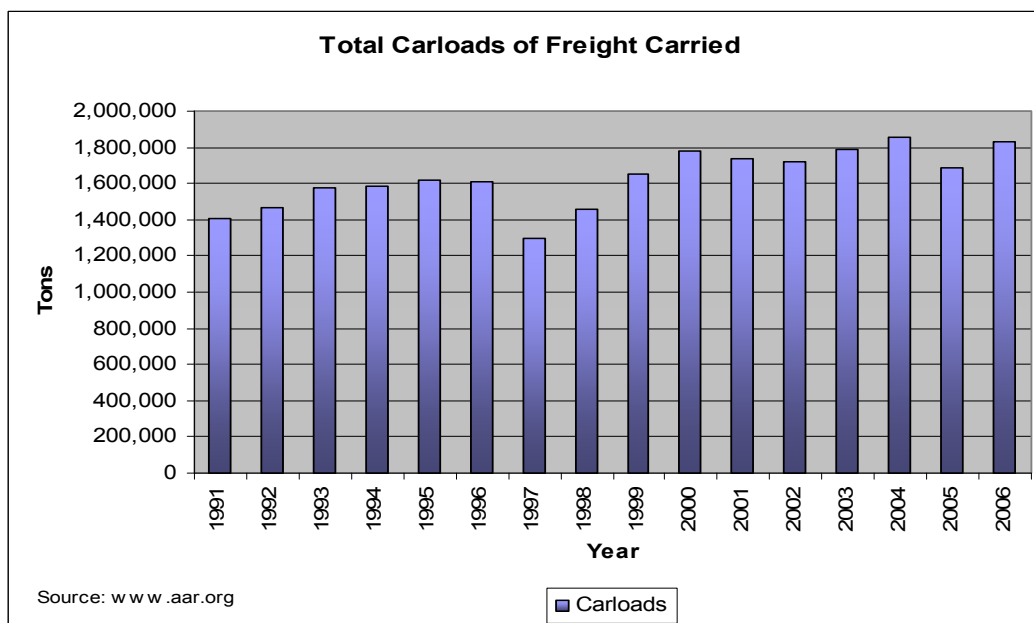
- Ridership on the state's two commuter railroads, Metro-North and Long Island Rail Road, has grown annually over the past 13 years, an average of 0.9 percent and 1 percent per year, respectively. This amounts to a total increase of

approximately 12 percent for both Metro-North and the Long Island Rail Road. The trend in ridership growth is shown in Figure 4.

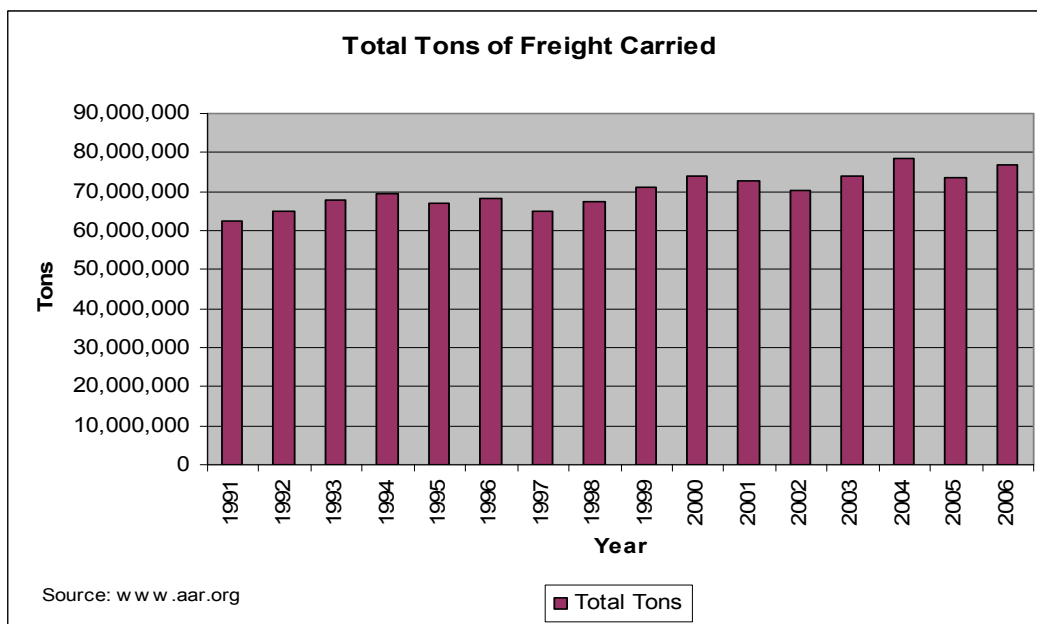


**Figure 4 Commuter Rail Systems Ridership Growth 1994-2007**

- Total freight carried on the state's rail system over the past 15 years, measured by carloads (Figure 5) and tonnage (Figure 6), has increased an average of 1.8 percent and 1.4 percent, respectively, per year.



**Figure 5 Total Carloads of Rail Freight Carried 1991-2006**



**Figure 6 Total Tons of Rail Freight Carried 1991-2006**

While the yearly data that support these trends fluctuates with the economy, the trend is toward increased use of the overall rail system; this holds great potential for the rail system playing an increased role in the state's transportation network.

### 3.2 Summary History of Railroads in New York State

Construction of New York's first railroad, the Mohawk & Hudson, was completed on a 16-mile route from Albany to Schenectady in 1831. Construction of rail lines continued through the 19<sup>th</sup> century and into the next century, until there were more than 8,000 route miles within New York State. This development paralleled and supported the robust industrial and commercial development of New York State during the same era.

Railroad industry growth in New York hit a plateau early in the 20<sup>th</sup> century and briefly experienced resurgence during World War II. In the second half of the 20<sup>th</sup> century, multiple factors caused a decline in New York's aging industrial base and the aging freight rail system that served this base. Highways were taking market share from the railroads for the remaining traffic; labor costs were not controlled consistent with the new economic realities; and the regulatory climate prohibited the railroads' ability to react to markets. In response, the railroad industry consolidated into fewer and larger companies but management efforts could not stem their large operating losses. As a result, most of the rail route system in New York and the Northeast had fallen into bankruptcy by the early 1970s.

#### Deregulation

Deregulation of the railroad industry by the federal government under the Staggers Act of 1980 and the Interstate Commerce Commission Termination Act allowed railroads to more easily adjust services and rates, enter into service contracts,

abandon tracks and sell off unprofitable routes. Railroads could improve their competitive position with other modes of transportation and retain their profitability.

### **Local Rail Freight Assistance Funding**

The federal Local Rail Assistance program began after the passage of the Regional Rail Reorganization Act of 1973. The program was designed to provide temporary financial support for rail service continuation on lines not included in the newly created Conrail system. After 1995, the program ceased being funded, although the program is still authorized by federal law.

### **Short Line and Regional Railroads**

As regulatory changes allowed for Class I railroads to rationalize their networks by selling off unprofitable routes, more new enterprising, innovative and customer-oriented rail companies emerged. Although some have failed, many more have lowered the cost structures of marginal, neglected rail lines and turned them into prosperous operations. Short line and regional railroads now comprise 40 percent of the active railroad route system in New York.

During the 1990s, many short line railroads were acquired by larger holding companies, each operating a group of such lines to realize economies of scale through acquisition and operation of several lines.

### **Heavy Axle Load Railcars**

In the 1970s, many coal-originating railroads increased rail car weight limits for coal cars from 263,000 pounds to 286,000 pounds as a result of heavier track structures being implemented. In 1994, the Association of American Railroads (AAR) approved the same increase in weights for covered hopper cars. The latter change had a much bigger impact because covered hoppers circulate throughout the North American rail system hauling a variety of commodities on Class I railroads, as well as on short lines and regional railroads.

A lengthy and costly effort was undertaken by the Class I railroads and some short line and regional railroads to upgrade their lines from 263,000 pounds to 286,000 pounds to carry the heavier cars. However, track and bridge structures of many national and New York short line and regional railroads are still in many cases insufficient to support the interline standard 286,000-pound gross weight rail car. Unfortunately, these railroads are least able to afford the high track upgrade cost necessary to handle these cars. The railroads maintain that such track upgrades are a high priority so these lines can serve shippers who must take advantage of the economies of using the 286,000-pound cars.

More recently, the Class I railroads across the nation are now carrying 315,000-pound cars on main routes that have been certified for them. Again, upgrading track to handle the increase in weight from 286,000 pounds to 315,000 pounds is a major, costly effort; it is unlikely that short line and regional railroads could afford to upgrade their tracks to handle such cars in the near future.

## **Intermodal Traffic**

Most intermodal traffic is now handled in containers that are transferred freely between railroads, trucks and ships. Some traffic is handled in conventional trailer-on-flat car (TOFC) service. For at least 20 years, there has been enormous growth in rail intermodal traffic. In fact, the Association of American Railroads reports that intermodal traffic tripled from 1980 to 2002, from 3.1 million trailers and containers to 9.3 million. This growth in intermodal, coupled with the projected doubling of the nation's freight volumes over the next 20 years, will mean increasing reliance of the nation's economy on the railroad system.

### **3.4 Recent Major Rail System Changes Impacting New York**

Over the last 20 years, there have been several major regional rail system developments and substantial changes that have profoundly affected New York's passenger and freight rail system. These major developments and changes reflect the changes affecting the rail industry nationally, including deregulation, mergers and rail line rationalization. Major changes that have occurred in New York are summarized below.

#### **Sale of Delaware and Hudson**

Conrail, which was created by the federal government in 1976, had acquired an extensive rail freight network throughout the Northeast. This subsequently led to the marginalization of a number of northeastern regional railroads and short lines through the control of rail freight traffic at interchange points and gateways. In particular, Conrail's absorption of the former Erie Lackawanna's Southern Tier Line, which was subsequently downgraded, led to events that culminated in the bankruptcy of the Delaware and Hudson Railway (D&H) in 1988. The D&H was finally sold to the Canadian Pacific Railway (CPR) in 1991. While CPR has invested heavily in upgrading D&H's infrastructure and has stabilized that route structure by consolidating operations with Norfolk Southern (NS), the former D&H system remains relatively weak economically compared to the former Conrail routes in New York.

#### **New York & Atlantic Railway**

In 1997, after a long decline in freight traffic, the Long Island Rail Road franchised its freight operations to the New York & Atlantic Railway (NYAR), a subsidiary of Anacostia & Pacific, Inc.

#### **Oak Point Link**

In the fall of 1998, Conrail initiated service over the Oak Point Link, a new connection between Highbridge Yard and Harlem River Yard in the Bronx built by NYSDOT. This connection eliminated interference between freight and commuter operations at the junction of the Hudson and Harlem lines at Mott Haven and the clearance restrictions of the St. Mary's tunnel. In addition, the new route provides adequate clearances for enclosed multilevel auto carrier cars (19'0") when other clearance restrictions are removed in the future.



**Figure 7 CSXT Operating on NYSDOT Oak Point Link Trestle**

The entire route between Selkirk and Harlem River Yard can clear conventional TOFC equipment (17'3"). The route via the Oak Point Link is rated for 286,000-pound GRL axle loading and is far superior for freight train handling due to elimination of tight curvature, undulating profile and movements through crossovers at several interlockings.

### **Sale of Conrail**

A major event was the sale and splitting of Conrail by Norfolk Southern (NS) and CSX Transportation, Inc. (CSXT) on June 1, 1999. While many states have been negatively affected by this event through a reduction in competitive access points to the Class I rail network, the opposite has been true in New York, where the number of Class I railroads increased from three to four. However, it should be noted that direct competitive rail freight service is generally only available when two or more railroads serve both the origin and destination points of the shipment, not just one or the other. This significantly limits the number of points among which real competitive rail service is available.

### **Southern Tier Line**

In 2005–2007, NS and CPR consolidated and coordinated much of their operations in New York State to improve the traffic base on retained lines. As part of the consolidation, NS leased the Southern Tier Line between Binghamton and Port Jervis to the Central New York Railway (a Delaware-Otsego subsidiary and affiliate of the New York Susquehanna and Western Railway). The Port Jervis to Suffern segment of the Southern Tier Line was leased by NS to Metro-North with NS retaining local trackage rights to serve the freight customers.

### **Conclusion**

The history of railroads in New York State begins with a 16-mile rail line completed in 1831; this expanded to more than 8,000 route miles at its peak. As highway competition and other factors took their toll on the railroads, the system was consolidated into fewer and larger companies, but ultimately most of the New York rail system fell into bankruptcy by the early 1970s.

New York State's rail network provides many services to New Yorkers, including freight rail service, intercity rail passenger service, commuter rail service and tourist rail operators. Total freight carried by rail is increasing, measured by either total carloads or total tonnage. In addition, passenger rail ridership is increasing for both intercity and commuter rail services with a significant recent gain in intercity passenger ridership.

Nationally, the creation of Amtrak, the deregulation of the railroads, the creation of new short-line railroads from lines being spun off by the larger railroads, progress made in accommodating heavier rail cars and the growth in intermodal traffic have affected New York's rail network.

There also have been several important events to rail consolidations and restructurings. The sale and splitting of Conrail to Norfolk Southern and CSX in 1999, which resulted in an increase in the number of Class I railroads service New York State from three to four, was the most important event.

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## CHAPTER 4 – FREIGHT RAIL

### 4.1 Freight Rail Network in New York State

Freight railroads are categorized as Class I, Class II (Regional) Class III (Short Line or Terminal). A railroad may be classified as Class I if it has annual revenues exceeding \$319.3 million. Class II Regional railroads have annual revenues between \$40 million and \$319.3 million or provide at least 350 miles of service. Class III railroads have annual revenues less than \$40 million. A Short Line railroad is one that does not meet either the Class I or Class II definitions and is engaged primarily in line-haul service. Terminal railroads do not provide line-haul service but instead perform switching and terminal related activities.

As to mileage, just as passenger rail service providers use freight facilities, freight railroad companies can run on track owned or controlled by Amtrak or commuter railroads. While a freight railroad operates over its own tracks, it may also operate by agreement over tracks owned by a competitor via trackage rights. This exemplifies the complexity of the rail system. It is primarily a private enterprise, from right-of-way to tracks to equipment to terminals. This is a different dynamic from the highway world, where the roads and bridges are primarily publicly owned and all forms of cars, buses, trucks and taxis operate over the network. The complexity of the North American railroad network is also very different from how airports, airport access and air service are viewed with direct involvement of local authorities and the federal government.

Nationwide, the primary rail freight corridors are owned and operated by the seven Class I freight railroads:

- BNSF Railway Company (BNSF);
- CSX Transportation, Inc. (CSXT);
- Grand Trunk Corporation (GTC);
- Kansas City Southern Railway Company (KCS);
- Norfolk Southern Railway Company (NS);
- Soo Line Railroad Company (Soo); and
- Union Pacific Railroad Company (UP).

Freight railroad categorization can vary, for example, between the Association of American Railroads (AAR) and the Surface Transportation Board (STB), so certain statistics shown in this chapter, such as numbers of railroads and track miles, may also vary.

The total rail freight network in New York State consists of approximately 4,208 route miles of railroad right-of-way (ROW), covering 59 of the state's 62 counties, and with connections to all adjacent states and Canadian provinces. While this total rail route mileage differs from the following chart, the 4,208 includes all freight rail mileage – that of freight railroads and freight mileage over Amtrak and commuter railroads.

<b>Rail Freight Network in New York State</b>				
	New York State (2000)		New York State (2006)	
Railroad Category	Number	Miles Operated	Number	Miles Operated
Class I (U.S. Only)	2	1,919	2	1,606
Class I (Canadian)	2	403	2	389
Class II - Regional	4	304	4	330
Class III - Local	19	961	22	1,170
Switching & Terminal	8	96	7	127
<b>Total</b>	<b>35</b>	<b>3,683</b>	<b>37*</b>	<b>3,622**</b>
* Does not include Commuter, Amtrak or Tourist trains (see text). **Excludes Amtrak, commuter mileage (see text). <b>Source: AAR Railroad Statistics</b>				

**Figure 8 Rail Freight Network in New York State**

There are four Class I railroads operating in New York State; CSX Transportation, Canadian Pacific Railway and Norfolk Southern Railway have a significant statewide presence, while Canadian National Railway extends only a short distance into the state at the Buffalo and Rouses Point gateways. Thirty-three regional, short line and terminal railroads also provide freight services throughout the state. These operations (see Figure 9) range from large regional railroads serving a multistate area to small terminal railroads serving a single industrial park. Based on 2005 AAR statistics, for New York State, the Class I, Class II and Class III railroads are:

- **Class I (Freight – Major Carrier):** There are four Class I Railroads: CSX Transportation (CSXT), Canadian Pacific Railway, Norfolk Southern Railway and Canadian National Railway (CN). CSXT is the largest, operating 1292 route miles; CN is the shortest, with three route miles.
- **Class II (Regional):** There are four Regional Railroads: Buffalo & Pittsburgh Railroad; New York Susquehanna & Western Railway (NYS&W); Pan Am Railways; and the Providence & Worcester Railroad, which operates in New York State on trackage rights only and does not own any facilities. NYSW is the largest, operating 249 route miles; Pan Am Railways is the shortest, with 53 route miles in New York.
- **Class III (Short Lines/Terminal):** There are 29 Class III Railroads. The Western New York & Pennsylvania is the largest, operating 136 route miles; the Massena Terminal Railroad is the shortest, with four route miles. The Housatonic Railroad operates in New York State on trackage rights only and does not own any facilities. Terminal Railroads include the Albany Port Railroad (APRR); New York New Jersey Rail (NYNJ), recently acquired and now owned by the Port Authority of New York and New Jersey (PANYNJ); and the South Brooklyn Railroad. The APRR is 10 miles long; the NYNJ is only two route miles. Some of the Short Line railroads host tourist trains on their railroad, either through a separate corporation or as part of their operations.

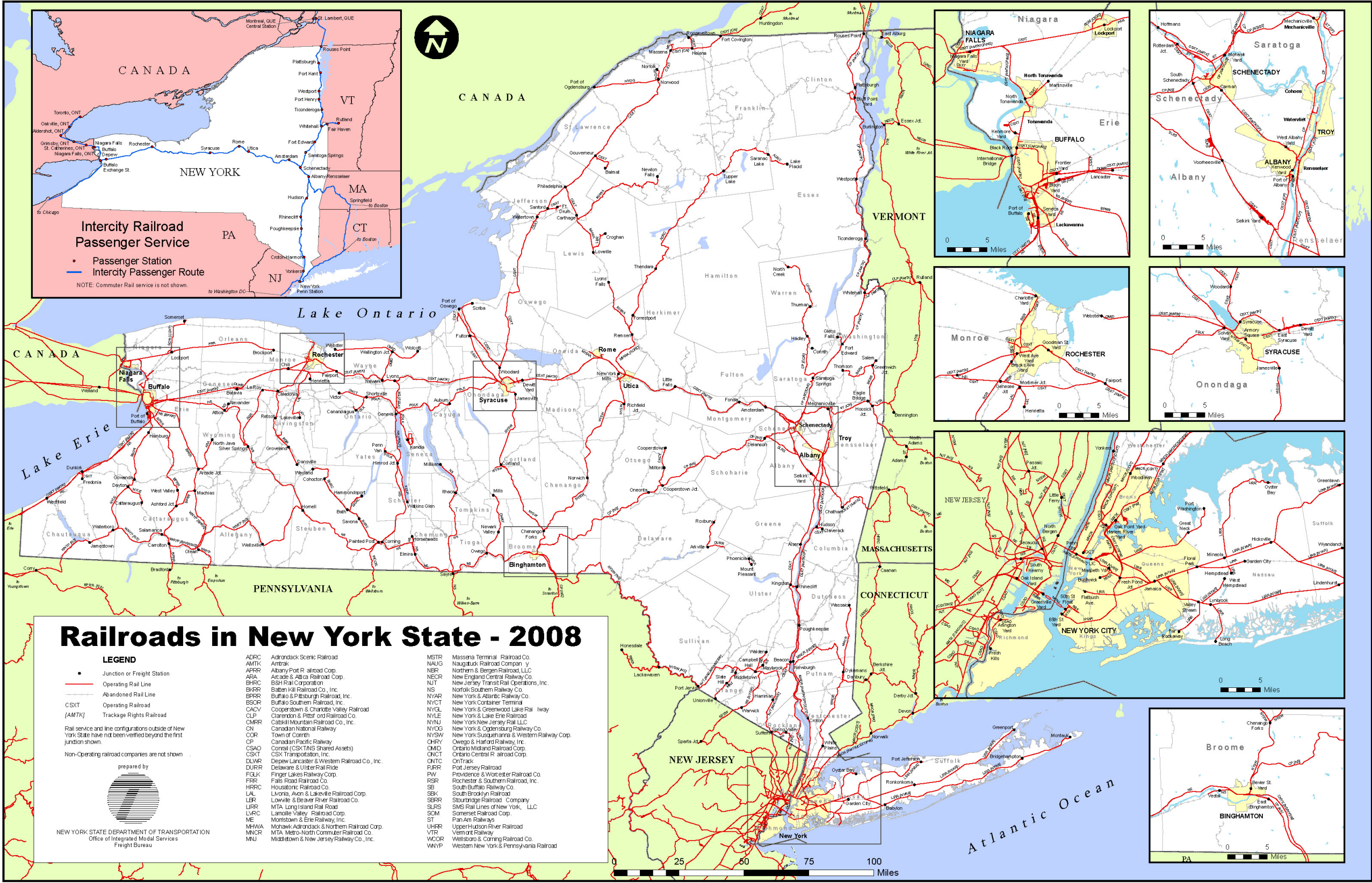


Figure 9 Railroads in New York State - 2008

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## 4.2 Freight Activity, Traffic Density and Service Description

### Freight Movements and Trends

A Bureau of Transportation Statistics Special Report (July 2007) states that domestic freight traffic totaled more than 4.5 trillion ton-miles in 2005 – an increase of more than 350 billion from 1996. However, within this 8.7 percent increase, the rail mode grew by 25.9 percent and truck by 21.8 percent. The growth of these two modes reflects the continued growth of the goods sector of the economy generally. Railroads carry the largest share of ton-miles, with a market share of 38.2 percent in 2005, up from 33 percent in 1996. While ton-miles is the primary physical measure of freight transportation output, further review will need to center on mode share as indicated by revenues earned or value of commodities.

NYS DOT used these three sources to produce a more comprehensive view of New York State goods movement: Commodity Flow Survey [2002 and 1997]; Trans-Border Surface Freight Transportation Data; and U.S. Waterway Data.

- More than \$555 billion in goods were transported to/from/within New York State in 2002 – an 8.2 percent increase over 1997. According to the *2002 Commodity Flow Survey*, nationally, 67 percent of the commodities by weight were moved by truck and 16 percent by rail; in New York State, 90 percent went by truck and only 3 percent by rail. In the New York City area, 80 percent of freight by weight was moved by truck and only 1 percent by rail.
- New York State plays a key role in the trade between the United States and Canada and the resultant freight movement between the two countries. In 2005, the value of goods entering the United States from Canada through New York State border crossings was \$63.2 billion (23.8 percent of total U.S.); for exports, the value of goods traveling through New York State crossings was \$44.3 billion (23 percent of total). The Buffalo and Niagara crossings accounted for 60 percent of the imports and 73.4 percent of the exports. Of this total traffic, trucks hauled 68.2 percent of all imports and 90.1 percent of exports; rail carried only 16.6 percent of imports and 4.7 percent of exports.
- The USDOT Freight Analysis Framework forecasts that demand for freight transportation is expected to increase from 19.3 billion tons to 37.2 billion tons by 2035, or about 93 percent. According to this forecast, trucks will see a 98 percent gain in freight traffic, while rail freight is expected to grow by 88 percent by 2035.

A Niagara Frontier urban area freight transportation study now under way estimates a major increase in rail freight shipments – from 47 million tons in 2004 to 93 million tons by 2035. This is notable particularly in intermodal shipments involving containers that are projected to increase nearly 130 percent. Despite this dramatic increase, for rail freight, carload traffic would continue to account for the largest volume of tonnage through 2035. Due to the continued growth of the transportation and chemical commodities, cross-border rail traffic is projected to nearly triple by 2035 – from 6.4 million tons in 2004 to 18.2 million tons. The ongoing Niagara Frontier study will look at other localities in the United States similar to the Buffalo/Niagara region and will analyze what they have done as a basis for future freight rail investments.

One example of strategic freight rail investments is the November 2007 opening of the CSX Intermodal (CSXI) Buffalo Intermodal Container Transfer Facility (ICTF) at Seneca Yard with an estimated capacity of 60,000 annual lifts. The new terminal is a result of public-private partnership efforts by the State of New York and CSX Corporation to expand transportation services into the western New York region. CSXI will offer new container rail service between the New York metropolitan area and the new Buffalo ICTF as part of the Port Authority of New York and New Jersey's (PANYNJ) Port Inland Distribution Network (PIDN). The opening of the new Seneca Yard container terminal represents the second such rail-served terminal in the PANYNJ's PIDN network joining the established Worcester, Mass., PIDN terminal.

The new Buffalo ICTF service also enables domestic and international containers to reach the Buffalo and Toronto markets six days per week. The Buffalo ICTF will also have frequent service with the Chicago market. This new intermodal operation will be a vital part of the container traffic and is expected to become an important rail business segment in the region.

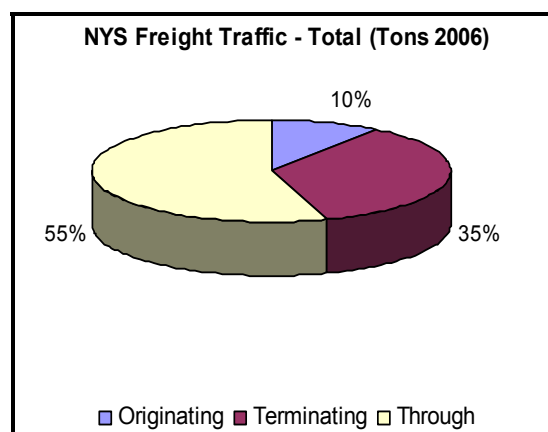
Note that area-wide freight studies similar to that of the Niagara Frontier are being done for the Binghamton and Ogdensburg areas. Further, these studies will look at truck freight increases; it will be important to use this information to decide strategies for investments in the freight systems.

### Commodities

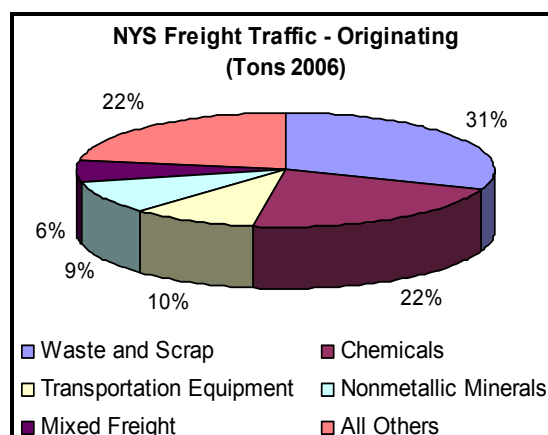
In terms of tonnage, roughly half of all commodities traveling within New York State are actually traveling through the state. Most of the state-related traffic is terminating in New York. Of the nearly 7.6 million tons originating in New York State, slightly more than one-fifth relates to chemicals and about one-third relates to waste and scrap haulage. For a single category terminating in New York State, more than one-third is coal.

<b>New York State Freight Service 2006 (tons)</b>	
Originating	7,567,850
Terminating	26,924,604
Through	42,224,051
<b>Total</b>	<b>76,716,505</b>

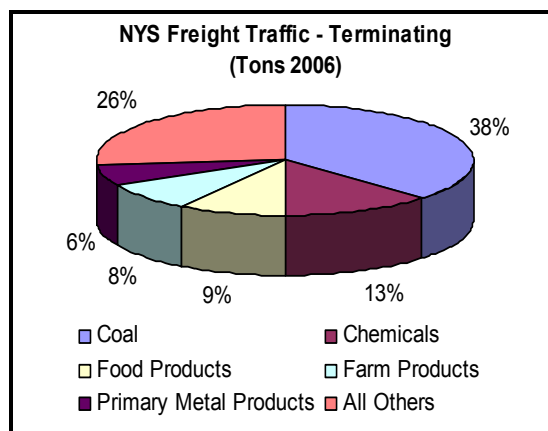
**Figure 10 NYS Freight Service**



**Figure 11 NYS Freight Traffic - Total**



**Figure 12 NYS Freight Traffic - Originating**



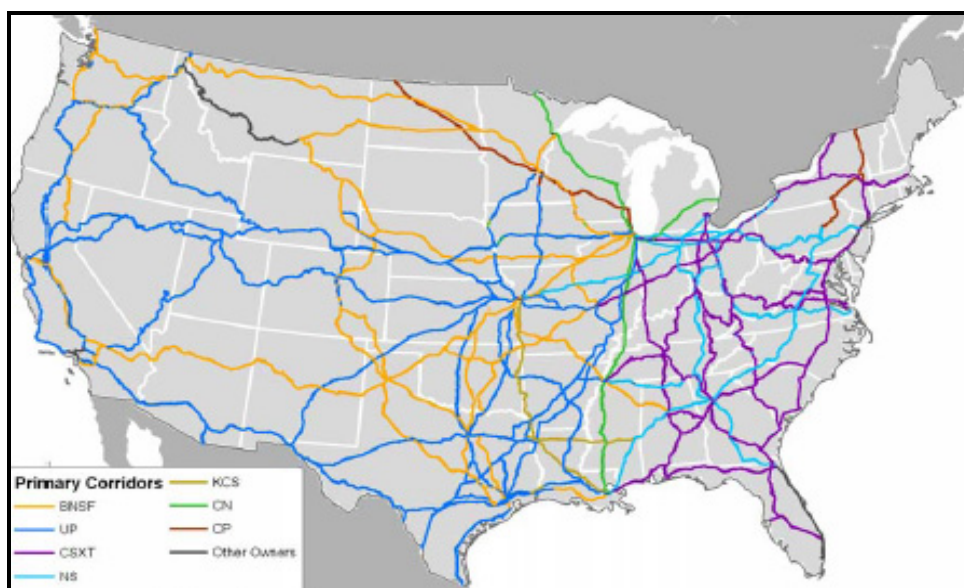
**Figure 13 NYS Freight Traffic - Terminating**

## Capacity and Investment

Congress formed the *National Surface Transportation Policy and Revenue Study Commission* in 2005. The Commission was charged with completing a study of the nation's surface transportation network and, then developing a conceptual plan to meet the nation's 21<sup>st</sup> century transportation needs. The Commission requested the Association of American Railroads (AAR) to begin a study to identify freight rail infrastructure needs, estimated costs and potential financing methods to meet the estimated increase in rail freight traffic by 2035. This was the first time the nation's freight railroads collectively sought to assess the industry's long-term capacity expansion and investment needs. In September 2007, the AAR completed its *National Rail Freight Infrastructure Capacity and Investment Study*.

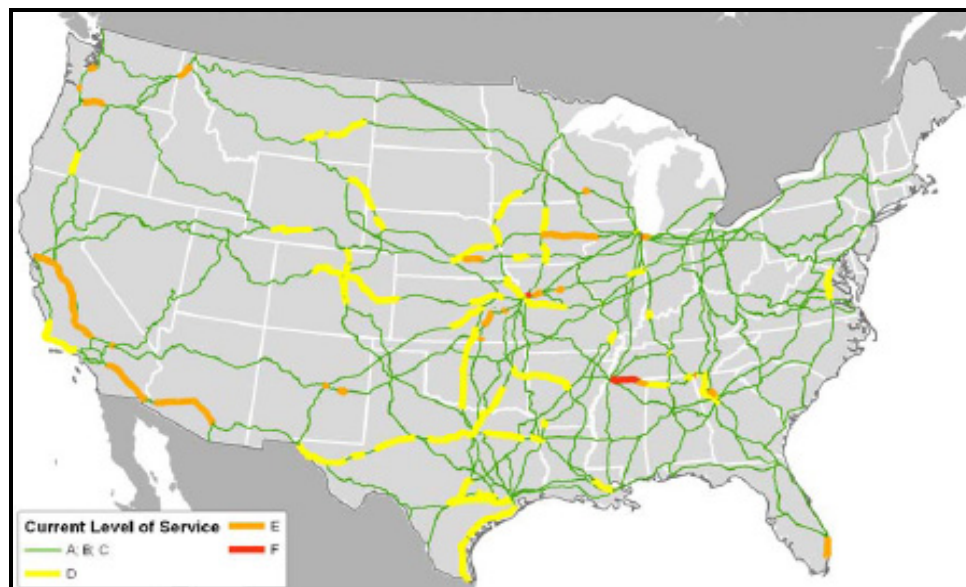
The Continuing Congestion Issue: For 20 years, highway lane-miles have remained relatively level while the highway vehicle-miles of travel have increased exponentially, producing a dramatic increase in highway traffic congestion. Both public officials and shippers turned to the railroads as an alternative for moving more freight; however, the freight rail system is facing capacity constraints similar to the highway mode. As freight rail traffic in terms of ton-miles increased significantly over the past two decades, track-miles have been declining. By 2035, the estimated growth in rail freight traffic is expected to absorb all of the existing excess main line capacity in the national rail freight system.

The Rail Freight Network: The AAR study focused on the 52,340 miles of primary rail freight corridors within the United States. The designated primary rail freight corridors depicted in the following map represent one-third of the nation's rail miles and carries the majority of all rail freight traffic. The primary rail freight corridors are owned and operated by the seven Class I freight railroads. The study did not include a forecast of passenger rail or an estimate of future rail passenger capacity needs. However, existing rail passenger services comprised of long-distance, intercity and commuter are included but held at existing volumes; these are then added to the study's projected overall changes freight train volumes.



**Figure 14 AAR Primary Rail Corridors**

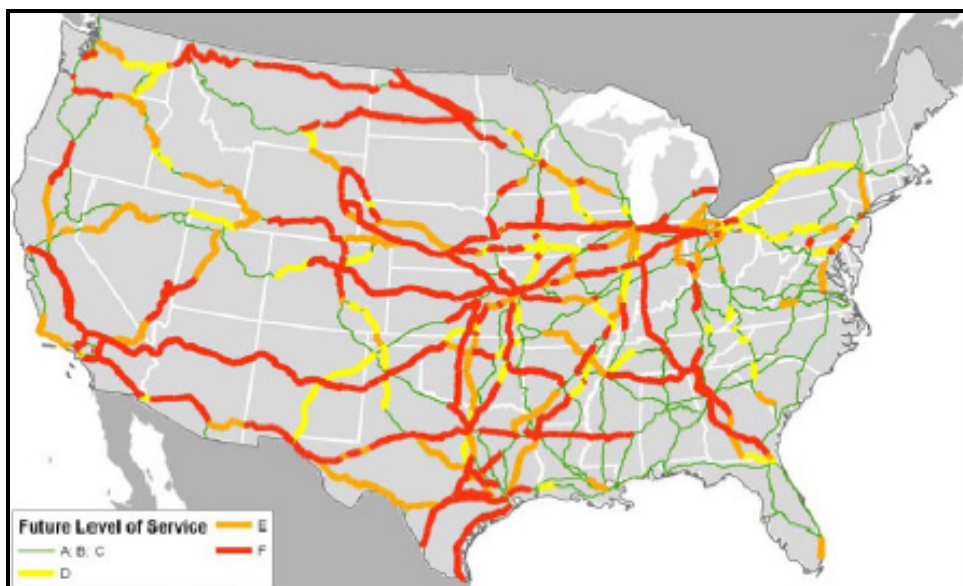
Determining Current Train Capacity Conditions: The AAR study compared current freight rail traffic volumes to existing capacity to ascertain the level of congestion along the nation's Primary Rail Corridors. Capacity was determined by three major factors: number of tracks; type of traffic control system; and the mix of train types. The freight rail level of service (LOS) ratios noted in the following map are similar to the highway LOS format of levels A through F used for evaluating highway traffic congestion. Levels A, B, and C (green) indicate rail corridors or segments that are below capacity. Level D (yellow) represents near capacity. Level E (orange) depicts corridors or segments that are at capacity. Level F (red) represents corridors or segments above capacity. The majority, or 88 percent, of Primary Rail Corridor mileage is currently below capacity (green) while 12 percent is near or at capacity (yellow and orange). Less than 1 percent of Primary Rail Corridor mileage is above capacity (red).



**Figure 15 Existing Train Volume to Existing Corridor Capacity**

Future 2035 Growth in Rail Traffic Compared to Existing Corridor Capacity: The map below from the AAR study depicts estimated future growth in freight rail traffic by 2035 and overlays the growth in rail traffic over the existing rail corridor system.

According to the AAR Study, three western freight rail hubs (Chicago, Kansas City and Cleveland-Toledo) are major bottlenecks for rail freight traffic. They will likely continue as major obstacles to rail traffic as rail freight traffic volumes increase. For example, 37,500 rail cars, or 40 percent of the nation's rail freight volume pass through Chicago daily; that is expected to increase to 67,000 per day by 2020.



**Figure 16 Future 2035 Rail Traffic Volumes Compared to Existing Corridor Capacity**

Under a “no build” scenario, the result would be a dramatic increase in the miles of Primary Rail Corridors or rail line segments that are above capacity. Specifically, Primary Rail Corridor mileages along which freight train volumes will be above capacity (red) and congested are estimated to increase to 30 percent from less than 1 percent in 2007. Primary Rail Corridor mileages along which train volumes will be below capacity (green) are estimated to decrease to 45 percent from 88 percent in 2007. Corridor mileages along which train volumes will be near or at capacity (yellow and orange) are estimated to increase to 25 percent from only 12 percent in 2007.

**Estimated Cost and Financing:** The AAR study estimated that \$148 billion of infrastructure capacity improvements will be needed over the next 28 years just to keep pace with economic growth and meet USDOT’s projected rail freight traffic demand. Of this \$148 billion, the Class I freight railroads portion is estimated at \$135 billion (91 percent); Regional and Short Lines represent the estimated \$13 billion balance (9 percent).

As examples, the CREATE (Chicago Regional Environmental Transportation Efficiency) Program consists of constructing six rail flyovers and eliminating 25 highway at-grade crossings at an estimated cost of \$1.5 billion. The funding shares of the \$1.5 billion CREATE program is as follows: freight railroads, \$212 million; METRA commuter railroad, \$20 million; federal government, \$900 million; State of Illinois, \$100 million; the City of Chicago, \$30 million; and \$272 million other, which represents the program’s funding shortfall. It is assumed that the shortfall is to be closed as future funding becomes available. CREATE is scheduled to take six years to complete and the cost is to be shared by the railroads and federal and state governments.

The AAR study estimated that the nation’s Class I railroads will be able to generate only \$96 billion for needed improvements through their increased earnings, productivity enhancements, and higher traffic volumes. The estimated \$39 billion (33 percent) shortfall - or \$1.4 billion annually - will have to be made up through

other sources, such as investment tax incentives, public-private partnerships or other means. Since the study is focused only on Class I freight railroads, it does not address how the regional and short lines will be able to finance the estimated \$13 billion in small railroad capital needs.

### **Potential Effect on New York State and the New York Metropolitan Region**

NYS DOT is reviewing the AAR-based analysis of freight rail congestion as it applies to New York State, and specifically the New York metropolitan region. Initial findings conclude that if the proposed track and facility improvements are not implemented, the projected growth in rail traffic by 2035 would cause increased capacity constraints and more congestion to the principal rail corridors serving the state. In particular, CSXT's main line across upstate New York (former Conrail "Chicago Line") from the Pennsylvania state line to Buffalo, the Capital District and the River Line to northern New Jersey would see an increase in congestion. Under the "no build" scenario, the "Chicago Line" would go from below capacity (green) to near capacity (yellow). The River Line along the west side of the Hudson River would go from below capacity (green) to capacity (orange).

The major western freight rail hubs greatly affect New York State rail freight service. Transit time for a typical freight train through the Chicago Terminal (a distance of 30 miles) can take as long as a trip from the west coast to Chicago (a trip of more than 800 miles). Delays at the nation's critical rail freight gateways in the Midwest cascade through the rail system, diminishing the quality of rail service for New York rail shippers.

NYS DOT has long recognized the issues and implications of limited rail capacity and related cascading delay combined with the forecasted increases in rail freight traffic on the nation's rail system, as highlighted in the AAR study. The 2005 Hudson Line Joint Users Study is an example of a study that examined these issues in greater detail respective to the Hudson-Line corridor.

The Hudson Line Joint Users Study analyzed the impacts of the mixed speeds, types of equipment and the mixed loads of the various users. These variations in operating requirements often resulted in congestion; potential solutions cited operator-specific benefits and costs and indirect benefits to the other users. While some of the focus was the Metro-North territory south of Poughkeepsie, it became apparent that a delay occurring in the Albany area causing a train to miss window further south can cause additional delays for all operators. When a train misses its scheduled time slot, this results in a series of delays down line or what is known in the railroad industry as "cascading delays."

The AAR Study and the New York's Hudson Line Joint Users Study are attempts to identify the nature and size of the rail capacity issue. The AAR Study is a macro-level study, analyzing capacity issues from a network or systemwide basis and proposing systemwide improvements, such as adding a new signal system for the network. The Hudson Line Study is a micro-level study, analyzing the capacity of a specific rail line and identifying individual chokepoints, which are locations or facilities that constrain the flow of rail traffic. The study proposes individual project upgrades, such as track crossover switches, and high-level rail station platforms to improve rail traffic flow at identified chokepoints.

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NYSDOT staff identified other areas for continued analysis of rail congestion:

- The remaining two Primary Rail Corridors serving the New York Metropolitan Region via the Northern New Jersey rail network, under the “no build” condition, could also see more congestion. Currently, the Norfolk Southern Pennsylvania Main Line and the CSXT Baltimore Line are below capacity for freight rail service. Without capacity and terminal improvements, greater congestion on segments of these major rail corridors is possible.
- The AAR study noted that the projected shortfall in rail capacity by 2035 would likely mean a significant diversion of freight from rail to highway. It does not consider additional capacity needs for a significant diversion of freight from truck to rail. Significant diversion of freight from truck to rail would likely not take place under the “no build” scenario. Rather, it is more likely that increased rail congestion under the “no build” condition may actually divert rail freight to trucks due to increased schedule trip durations and reduced schedule reliability.
- The AAR study only looks at the projected increases in rail freight traffic by 2035. A very important point not addressed is the desire or need for additional passenger rail capacity over the designated primary rail freight corridors. This would likely limit any public policy initiatives to add intercity passenger rail frequencies along the Empire Corridor (CSXT Chicago Line).
- Although not discussed in the AAR report, a “no-build” future condition could likely cause a significant diversion of ocean imports from the U.S. and Canadian west coast Pacific ports to Atlantic and Gulf ports to avoid the overburdened national rail land bridge. This could put additional pressure on Atlantic and Gulf ports and the highway and rail systems that support those eastern and southern U.S. port regions.
- The need for Primary Rail Corridors and small railroad capacity improvements within New York, to keep pace with the estimated growth in rail freight traffic, will likely require some degree of state participation, particularly within the capital program.

### **Revenue Adequacy of Class I Railroads**

The railroad industry requires adequate revenues to generate a sufficient rate of return for attracting capital investment or for borrowing funds at reasonable rates. Without adequate capital investment for maintaining and improving the rail system, the system could collapse from under investment.

The Surface Transportation Board (STB) announced on May 6, 2008, that it had made its determinations of revenue adequacy for the seven Class I freight railroads (the Nation's largest) for 2006. The board found that three Class I railroads, the BNSF Railway Company, the Norfolk Southern Railway Company and the Soo Line Railroad Company (a subsidiary of Canadian Pacific Railway Company), were revenue adequate for 2006. All other Class I freight railroads were found to be revenue inadequate for that year.

A railroad is considered to be revenue adequate if it achieves a rate of Return On net Investment (ROI) equal to at least the current cost of capital (i.e., the “cost of borrowing”) for that railroad. Congress directed the board to conduct such revenue adequacy determinations on an annual basis. Revenue adequacy (or inadequacy) does not directly relate to whether the railroad actually has funds available to invest in capital improvements. Rather, being a private enterprise, and needing to be responsive to its shareholders, a railroad must make a rational decision whether to spend its money on tracks or locomotives or other capital (or even to borrow the necessary funds) based on whether it can make money.

If a railroad does not have the funds, and the cost to borrow is too high, the railroad will not undertake the investment; if it does have the funds but the ROI is too low, the railroad could make more by “leaving it in the bank” or investing elsewhere. Historically, the rail industry has been one of the most capital- intensive industries; therefore, finding funds for investment in railroads can be difficult, especially under a “revenue-inadequate” condition.

In its April 15, 2008, decision in the board proceeding titled Railroad Cost of Capital-2006, the agency determined that the 2006 rail industry cost of capital was 9.94 percent. By comparing that figure to 2006 ROI data filed with the agency by the Class I railroads in their Annual Report filings, the board made revenue adequacy calculations for each railroad operating as of December 31, 2006. A summary of the ROIs for all Class I freight railroads (representing their “cost of borrowing”) follows:

BNSF Railway Company	11.43 percent
CSX Transportation, Inc.	8.15 percent
Grand Trunk Corporation <sup>5</sup>	9.47 percent
Kansas City Southern Railway Company	9.31 percent
Norfolk Southern Railway Company	14.36 percent
Soo Line Railroad Company <sup>6</sup>	11.60 percent
Union Pacific Railroad Company	8.21 percent

Using the STB’s 9.94 percent cost of capital measure, only three of the nation’s Class I railroads either met or exceeded the STB’s threshold in 2006: BNSF Railway, Norfolk-Southern and the Soo Line Railroad.

### **New York State Freight Railroad Bottlenecks**

There are a number of “bottlenecks” that restrict rail freight flow in New York State. A bottleneck is a localized constriction in the rail transportation network that reduces the efficient flow of rail traffic. The elimination of a bottleneck allows for higher capacity on the existing line; this increases the amount of rail traffic a specific line can accommodate. The identified bottlenecks in New York State include:

#### **A. Buffalo Rail Terminal Area**

The terminal area is served by four Class I railroads: CSX Transportation (CSXT), Norfolk Southern (NS), Canadian National (CN) and Canadian Pacific Railway (CPR). Each railroad has its respective terminal facilities, classification yards and

<sup>5</sup> Grand Trunk Corporation Consolidated (Including all Canadian National U.S. affiliates)

<sup>6</sup> Soo Line Railroad Company (Including all Canadian Pacific U.S. affiliates)

interchange and main line tracks. The terminal serves as a major hub for international rail movements, car classifications and intermodal through movements. A major expansion of intermodal transfer operations is planned. Rail operations are periodically hampered by a physical bottleneck at the drawbridge over the Buffalo River (CP Draw) and yard capacity problems at peak periods. The complex network of tracks and yards is subject to congestion and delays due to trains operating over the maze of trackage and limited yard capacity.

#### B. River Line

This main line route is essentially a single track rail line between the northern New Jersey Terminal area and the Selkirk Yard. Along with the Chicago Line, this line is CSXT's principle intermodal route between the Port Authority of New York and New Jersey and Chicago. It is near or at capacity, experiencing congestion, and causing delays for CSXT's time-sensitive intermodal traffic. Also, a tunnel beneath West Point limits maximum clearances, and periodic yard capacity problems at Selkirk can cause congestion and delays that affect freight flow on the adjacent main line. The line has been upgraded with the addition of two new sidings that went into service in 2007.

Efforts are being made to address the worst at-grade crossings. To develop support for double tracking the line, it may be necessary to combine the initiative with quiet zones, selected grade crossing eliminations, grade crossing improvements, guarantees of no blocking of crossings by stopped trains and, possibly, some provisions for a third track for future transit use.

#### C. Hudson Line

This line is a multiple track main line that handles a substantial volume of intercity and commuter passenger traffic, specifically between Poughkeepsie and Manhattan. Freight service consists of through freight limited to a nighttime window and several locals per day. In addition to competing high passenger train volume, there are substandard clearance issues, and a lack of modern freight terminal facilities that impede the development and expansion of freight service along the Hudson Line. The *Hudson Line Railroad Corridor Transportation Plan* study identified a list of projects required to meet increasing capacity needs in the future.

Whenever station structures and bridges over the line are reconditioned or replaced, possible vertical clearance improvements are included in the design effort. Some structures are problematic where raising a bridge a few feet can cause collateral impact. Restrictions in the Bronx are more critical and harder to resolve. There is also the question of how much rail traffic of what size would use the Hudson Line. Questions exist about the use of the Hudson Line for freight, except for major shippers with their own sidings, citing the lack of a place where a major intermodal facility could be built.

#### D. New York City Rail Terminal Area

The Bronx, Brooklyn and Queens freight rail network suffers from a lack of terminal facilities required to accommodate increasing rail freight service levels. Other deficiencies include low operating speeds, substandard clearances, rail car weight restrictions over the existing track infrastructure and reduced capacity, time limits

and schedule conflicts due to the high volume of rail commuter traffic over the main lines within the terminal. There are no modern rail freight facilities within the terminal area, and the existing rail freight terminals are obsolete, inefficient and lack spare capacity. The problem is amplified with the high cost and lack of space.

#### E. Fremont Industrial Track/Bay Ridge Branch

These lines, together with the New York & Atlantic Railroad's Fresh Ponds Yard, comprise the only overland freight route facilities available to provide rail freight service to Brooklyn, Queens and Long Island. This rail freight route starts at Oak Point Yard in the Bronx and extends through Queens and Brooklyn, with rail freight connections for Long Island at Fresh Pond and the Brooklyn Waterfront at 65th Street Yard. It is primarily a non-signalized single-track line with substandard clearances, speed restrictions, and weight limitations – it can not handle 286,000-pound cars. These limitations preclude use of intermodal equipment or heavier rail cars for bulk movements.

#### F. Trans Hudson Freight Rail Barrier

The Hudson River from the Albany area to New York Harbor and the Atlantic Ocean forms a significant barrier to freight rail goods movement to and from New York City, Long Island, and southern New England. The closest freight railroad bridge crossing of the Hudson River to New York City is between Selkirk and Castleton. Owned by CSX Transportation, the Castleton Bridge is approximately 140 miles north of the New York Harbor area. Thus, an all-rail connection from the American South and mid-Atlantic regions to Long Island, Brooklyn, Queens and the Bronx is forced to take a circuitous 280-mile-long trip up and down each side of the Hudson River. Today, most such freight rail movements instead are drayed by truck between the Northern New Jersey terminal area and the east of Hudson freight customers in the metropolitan region. Interestingly, there are a few rail cars floated on barges across New York Harbor for rail interchange in Brooklyn. This rail car float service is principally used for Norfolk Southern rail moves for customers in Brooklyn, Queens and Long Island.

#### G. Long Island Rail Road Main Line

The LIRR Main Line is a high-volume rail commuter line and the only rail line available for freight movement across Long Island. Freight rail operations are of low-priority status along this critical corridor due to the high volume of commuter trains serving Long Island. As a result, freight rail operations are restricted in terms of train length, speed, time of day and track capacity issues (number of trains). There are rail car weight and clearance restrictions that preclude the use of the most modern conventional rail freight cars, such as high-capacity covered hoppers, auto racks and trailer-on-flat car loads. Also, there are no modern truck-rail intermodal freight terminals on Long Island to handle this significant rail freight market segment.

#### H. Rouses Point

This crossing serves as Canadian Pacific's international rail crossing between New York State and Quebec. Freight trains are often delayed at Rouses Point for border inspection, especially for cargo that has not been pre-cleared by customs. The

placement of a Vehicle and Container Inspection System (VACIS) at this location by U. S. Department of Homeland Security requires stopping southbound freight for inspection. Since 9/11, border inspection, in addition to regular inspection, now requires that an entire train consisting of up to 150 rail cars be X-rayed. This increases train dwell time at the border on the single track line, causing delay to passenger trains and erratic delivery of rail shipments. Construction of a siding for conducting inspections is limited due to the number of road crossings in the area.

#### I. Binghamton Rail Terminal Area

The terminal is a medium-sized rail freight hub accessed by Canadian Pacific, Norfolk Southern, New York Susquehanna & Western (NYS&W), and the Central New York and CSXT. The railroads have terminal, rail yard facilities and interchange tracks in and around the City of Binghamton. Changes in operating procedures among the railroads and limited yard capacity have caused delays for intermodal through movements and local deliveries in the area. Reaching the various rail facilities requires crossing the tracks of through and local freight trains of different railroads, thus causing conflicting train movements that cause congestion. In general, the Binghamton yard has issues relating to conflicting movements, and the Conklin yard has capacity concerns. The current Binghamton Area Freight Demand Study will complete a freight systems analysis, identify specific problems and identify projects to address area needs.

#### J. Portage Bridge

Portage Bridge located on Norfolk Southern's Southern Tier Line north of Hornell is a single tracked, long steel deck truss that is 105 years old. The bridge has been identified as being near the end of its useful life and could be closed at any time. It is currently weight restricted and has a speed restriction of 10 mph. The weight restriction and low operating speeds significantly impact the line's overall operating capacity. Any long-term closing of the Portage Bridge would threaten the viability of the entire route between Buffalo and Binghamton.



**Figure 17 NS Portage Bridge over Genesee River, Letchworth State Park**

### **The Northeast Corridor**

The Northeast Corridor (NEC) rail system connecting Boston, New York City and Washington, D.C., is an important component of the nation's transportation network and a critical alternative to congested interstates in the densely developed Northeast. The NEC provides connectivity to the national freight network and contributes significantly to the economic vitality of the Northeast and the nation by providing essential freight rail access to ports and industries from Maine to Virginia. The NEC moves freight traffic to and from Brooklyn, Queens and Long Island.

There are a total of seven freight railroads moving 14 million car-miles of freight per year along the length of the NEC. On a typical day, these freight railroads operate 50 trains over various portions of the NEC. While most freight operations take place at night when fewer passenger trains are operating, a limited number of freight trains operate during the daytime with operators noting that daytime operations are vital for sustaining service to certain local customers and capturing new business.

Factors that had contributed to the shift of freight traffic away from the NEC in the 1980s and 1990s included less availability of NEC freight maintenance and yard sites, higher NEC access and maintenance fees, limited freight operating windows and an industry trend towards larger freight trains unsuitable for certain NEC structures such as Baltimore's B&P tunnels.

While the volume of freight movements has been relatively constant, freight railroads now envision more expansive freight use of the NEC. National rail freight volume is projected to increase 44 percent to 888 million tons, with a commensurate increase expected on the NEC. On some segments between Boston and New York, volumes are expected to increase 200 percent or more by 2030.

Due to this substantial anticipated growth in freight movement, projects to identify and to eliminate bottlenecks and to improve the north-south flow of freight traffic on the NEC are under way. The freight railroads have also set as a goal protecting and improving freight rail car load clearances on the NEC when constructing or reconstructing station platforms and overhead catenary wire; they recommend that the need for daytime operations to meet customer needs on non-freight-owned portions of the core network be considered in developing plans for future services.

### **The Patriot Corridor**

In the fall of 2008, NS and PAR submitted an application to the Surface Transportation Board for the creation of a new joint venture entity, Pan Am Southern LLC (PAS), to establish the "Patriot Corridor" between the Capital District and Ayer, Mass. NS intends to make capital investments to upgrade the track in this corridor to 286,000-pound capacity and for speeds of 40 mph and to make vertical clearance improvements in the corridor to allow unrestricted operation of enclosed multilevel rail cars. NS also proposes improvements for Ayer, Mass., including upgrades to the existing intermodal terminal and a new automotive terminal. These capital investments will combine to take long-distance trucks off New York's highways.

NS is also proposing construction of a new joint intermodal and automotive terminal in Mechanicville. This will replace the existing capacity-constrained facility that NS

leases from CPR in downtown Albany. Overall, this transaction produces a significant benefit to the State of New York.

### 4.3 Freight Terminals, Intermodal Facilities, and Major Yards

Freight Terminals are facilities where freight cars are gathered up in to trains or where trains are broken down so that cars can be distributed to shippers. Intermodal facilities are locations where freight containers or trailers are transferred between the freight modes involved in the intermodal freight trip. Typically, this includes some combination of rail, truck and water modes. Major yards, known in the rail industry as classifications yards, are facilities where individual rail cars are grouped together (blocked) by destination and then made up in to trains containing multiple blocks of cars.

#### Intermodal Facilities

There are five major intermodal terminals located in New York State serving the intermodal container market:

1. The Buffalo Intermodal Container Transfer Facility (ICTF) at Seneca Yard - which serves the greater Buffalo area and western New York - was opened in November 2007. It is managed by CSX Intermodal (CSXI). This facility replaced the Williams Street Intermodal Terminal which was at capacity. Located on the CSXT Lakeshore Subdivision in the City of Lackawanna and Village of Blasdell, N.Y., this IT facility handles domestic containers, international containers and TOFC/COFC<sup>7</sup>.

This facility is a component of the Port Authority of New York & New Jersey's Port Inland Distribution Network (PIDN). As part of the PIDN, NYSDOT, PANYNJ and CSXT jointly funded the design and construction of facilities to relieve the Port Authorities on-dock congestion. International containers are off-loaded from ocean-going vessels at the terminals in Northern New Jersey. They are moved from the CSXT South Kearny Intermodal Terminal to the Buffalo ICTF for further sorting for truck distribution or onward rail movement to Chicago.

2. CSX Transportation's DeWitt Yard is located near Syracuse and serves the central and northeastern portions of New York. This terminal is serviced by a network of 13 trains which reach intermodal terminals throughout CSXT's system and beyond. This former rail car hump classification yard was converted into a major intermodal terminal by Conrail. It consolidated previous intermodal terminal operations in Selkirk, East Syracuse and Rochester into one new, larger capacity facility for upstate New York. This facility handles international containers to and from Chicago, domestic containers and TOFC. The facility primarily handles double-stack container traffic. Containers for upstate New York are "filleted" from the top layer of double-stack container well cars and transloaded to container chassis for tractor-trailer distribution. The containers in the bottom layer remain in the well car and continue on to Beacon Park Intermodal Terminal in Boston, Mass.

<sup>7</sup> TOFC – Trailer on Flat Car; COFC – Container on Flat Car

This route does not have sufficient vertical clearance for current generation 20'-03" double-stack container trains.

3. Norfolk Southern's Bison Yard is located in Buffalo and serves the western portion of the state. Service from the facility includes five-day-per-week trains from Chicago and Toledo. This facility handles TOFC/COFC/Stack Car as well as both bottom and top lift EMP<sup>8</sup> (48' and 53') containers. This facility handles international and domestic traffic, primarily between Chicago and Buffalo.
4. Kenwood Yard in Albany is located on CPR's Voorheesville Running Track and is adjacent to the Port of Albany. The facility is owned by CPR and leased to Norfolk Southern (NS), which operates the intermodal terminal providing five-day-per-week service. NS reaches this facility by means of trackage rights agreements with CPR. The facility handles TOFC/COFC/Stack Car, as well as both bottom and top lift EMP (48' and 53') containers. This facility handles domestic traffic only, primarily between Chicago and Albany.

Note that neither the NS Albany nor Buffalo Intermodal Terminals can be reached by current generation double stack container trains (20'3" ATR<sup>9</sup>).

5. The New York Container Terminal (NYCT) is a full-service international container and general cargo-handling facility. It is located at Howland Hook, Staten Island, and is the only operating rail intermodal terminal located within the five boroughs of New York City. In 2005, the former Howland Hook Marine Terminal officially changed its name to New York Container Terminal, Inc. NYCT covers 187 acres and is a three-berth container facility operated under a long-term lease agreement from the PANYNJ. Both CSX Transportation and Norfolk Southern Railway can serve this facility. However, NYCT cannot be reached by current generation double-stack container trains (20'-03" above top of rail).

Recent expansion - a 500-foot berth expansion, dredging and newly commissioned cranes able to service post-Panamax vessels – provides NYCT with the highest-volume cargo capacities of any facility in the New York Harbor. It is strategically located near the Goethals Bridge, is readily accessible to major truck routes and has capability for on-dock rail service connecting to the North American intermodal rail network. The rail terminal opened in 2007 following the reconstruction of the Staten Island Railroad and rehabilitation of Arthur Kill Lift Bridge by the New York City Economic Development Corporation.

CSXI also manages four intermodal terminals identified in their network as in the New York City area, though all are physically located in northern New Jersey. These are included here as they are reached via the CSXT River Subdivision from Selkirk Yard south on the west shore of the Hudson River to the NY/NJ border. The entire route south is cleared for current generation double stack container cars at least 20'-

<sup>8</sup> EMP is a domestic interline container service offered by Union Pacific and Norfolk Southern, which provides a fleet of nearly 25,000 48' and 53' domestic containers and chassis that may move throughout a large network.

<sup>9</sup> ATR – Above Top of Rail

2" ATR. From north to south, the four intermodal terminals in northern New Jersey are:

- Little Ferry. This facility handles domestic containers, international containers and TOFC.
- North Bergen. This facility handles domestic container, international TOFC and domestic TOFC.
- North & South Kearny. This facility handles domestic containers; North Kearny also handles international containers.
- Dockside. This is the CSXT name for the PANYNJ Elizabeth Marine Terminal and the Port Newark Terminal; it handles only international containers.

A similar situation occurs with the development of rail facilities in western Massachusetts rather than in New York. In both cases, the question is why the freight railroad or terminal developer located the facility outside of New York State.

### Major Yards

CSX Transportation operates three major rail car classification yards in New York:

- Frontier Yard, Buffalo (1083 rail cars per day);
- DeWitt Yard, Syracuse (376 rail cars per day); and
- Selkirk Yard, Bethlehem, south of Albany (1729 rail cars per day).

## 4.4 Rail System Asset Conditions: Freight Rail Service

### Track

The Federal Railroad Administration has established regulations governing the safe operation of trains over various track conditions (Track Safety Standards, 49 CFR Part 213). These regulations establish the minimum track conditions necessary for safe train operations in 10 different speed regimes (Classes 1 thru 9 and Excepted). However, the track conditions allowable under the Track Safety Standards are not adequate for sustained, cost-effective rail operations.

In 2007, the Department of Transportation conducted a comprehensive review of track conditions throughout the state. Track conditions varied with the operational requirements of each rail line and ranged from "Excepted" track, with a 10-mph speed limit and prohibitions against movement of hazardous materials and passengers, to Class 6 track, with a maximum allowable speed of 110 mph. In general, these track conditions were found to be adequate for current operations, but additional investments would be required for significant increases in future traffic levels.

The AAR National Rail Freight Infrastructure Capacity and Investment Study forecasted that New York's major rail routes, primarily the CSX Chicago and River Lines, could see an increase from 30 to 80 freight trains per day by 2035. Other New York State main lines, such as the Canadian Pacific's former Delaware and Hudson Railway, could see an estimated increase up to 30 freight trains per day by 2035.

## **Bridges**

When most of New York's rail lines were originally built in the latter half of the 19<sup>th</sup> century, timber bridges and trestles were an economical solution to bridging the many streams, rivers and valleys that cross the state. These bridges utilized readily available local materials and were adequate to carry the loads of early railroading. The turn of the century saw many changes in the industry as new steel freight cars that could carry much heavier loads replaced earlier wooden cars. Public outcry over rail safety led to the grade separation of many highway crossings, and the coming of age of the American economy led to ever-increasing traffic levels. These events combined to drive the reconstruction of the rail network and replacement of most of the early bridges with new structures early in the 20<sup>th</sup> century. Many of these rail bridges are still in use today.

The Department of Transportation's bridge inventory contains the built dates of 1,942 of the approximate 6,000 rail bridges in the state. The oldest bridge dates to 1868; the newest bridge was built in 2006. More significantly, the mean built date for rail bridges in New York is 1923. These bridges had been built to withstand the dynamic impact of the much heavier steam locomotives, with an average age of 85 years; but these structures represent a future vulnerability in the rail network as operations are expected to increase and heavier axle load rail cars become the norm.

Under existing federal regulations and New York State Law, railroads are required to inspect their bridges regularly; the results of those inspections are to be submitted to NYSDOT. The Rail Safety Improvement Act of 2008 strengthens bridge condition reporting requirements. (Please refer to Section 7.3 titled Rail Safety in this report.)

## **Train Control Signal Systems**

Control of train movement is usually exercised at three varying levels of sophistication. The highest level is that of a signalized railroad, where a train dispatcher controls movement of trains over the line by means of either a wayside or cab signal control system and by remotely controlled switches to transfer a train from one track to another and to Controlled ("passing") Sidings.

The next lower level of control is still performed by the train dispatcher but there is no signal system. The train dispatcher still controls movement over the line in question but this is done through a combination of radio and telephone conversations and written documentation, sometimes referred to as "Train Orders" or a "Form D."

The lowest level of control is usually performed by a yardmaster, again on a track on which there is no signal system. The authority to operate on this track is granted by the yardmaster, using rules and documentation requirements that are not as rigorous as used by the train dispatcher. When a yardmaster is not on duty, the train dispatcher usually controls the line in question.

Within the basic description provided above, there are two key issues: safety and capacity. Given the speeds and weight of trains, any collision could be catastrophic. The lengths of today's trains, along with speed, also mean that decisions, such as train moves through switches and onto passing sidings, must be carefully calculated in advance. These decisions can only be made if a signal system exists that allows

the “controller” to see the operations and to communicate with the train. The better this communications system works, the greater safety will occur and more capacity can be exacted from the network.

The mix of train types and speeds on the system increases the complexity and, therefore, requires a more complex signal system. The type of signal system directly affects the allowable speeds. With an advanced signal and control system, train speeds can be increased. Such a system allows Amtrak to achieve 110-mph service on portions of the Hudson Line; without such a system, these higher speeds would require exclusive passenger rights-of-way along Amtrak’s Empire Corridor across upstate New York.

The main line between Albany and Buffalo is one of CSXT’s highest volumes on its entire system, with much of its freight traffic (approximately 55 trains per day) traveling during daytime hours. Current operating speeds up to 79 mph are allowed by the signal system for this critical freight and passenger rail shared-use corridor. For higher allowable passenger train speeds, signal improvements become increasingly important west of Albany. To increase allowable operating speeds above 79 mph there would be a need, per FRA regulations, to install a state-of-the-art Positive Train Control (PTC) system based on a real-time, moving block. This improvement would allow optimized time savings and more efficient operations by increasing freight and passenger train on-time performance and the ability to add more train frequencies.

One issue is that such a system would require trains – passenger and freight – to be equipped with what are called CAB signals<sup>10</sup> (such as used on the Hudson Line) or with PTC equipment to accommodate higher-speed passenger service along shared-use rail corridors. For main line across upstate New York used by Amtrak’s Empire Corridor service, CAB signal or PTC installation would be a significant cost to equip the many freight locomotives in use throughout the entire CSXT system that would be expected to see service in New York State.

### **Positive Train Control**

Positive Train Control (PTC) is not a single technology; it is a term used to describe a number of different technologies with different capabilities that control train operations. Positive train control is not an “off-the-shelf” system or software that can be implemented overnight. To be effective, a PTC system must be “interoperable.” That is, it must be able to operate over the vast 140,000-mile national network that trains travel, pieces of which are owned by various freight railroads, Amtrak and commuter railroads. Braking issues also remain to be resolved in terms of the distance requirement posed by variables such as train length, weight, grade of track and track curvature. This is a safety critical issue, as improper braking can cause derailments and accidents.

Nationwide, there are 11 different PTC projects in one stage or another of development and implementation, involving nine different railroads, in at least 16 different states and consisting of more than 4,000 track miles. Significant expansion of these systems is expected soon. A summary listing of the major PTC system

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<sup>10</sup> A CAB signal is a signal located in a locomotive or operating cab that indicates the conditions affecting train movement.

projects currently in progress in the United States is available on the Federal Rail Administration Web site <http://www.fra.dot.gov>.

With the enactment of the Rail Safety Improvement Act of 2008, all Class I railroads must submit to the USDOT Secretary for approval by the end of 2015 plans for the deployment of a Positive Train Control system on their respective systems.

Under the Rail Safety Improvement Act of 2008, the state, working in partnership with the FRA, Amtrak and CSXT, should deploy Positive Train Control technology on the Empire Corridor as it becomes feasible to reduce the risk of accidents, improve the capacity of the corridor and increase reliability of service.

#### **4.5 Rail Line Abandonments: Recent, Proposed and At-Risk Lines**

Rail line abandonment is a concern, just as the tearing up of track and other facilities by Conrail during the 1970s to 1990s to avoid tax assessments was a critical issue to New York State. In both cases, the loss of track may achieve a short-term objective but the long-term impact is diminishing freight rail capacity.

As freight rail volumes have increased, we have felt the impact of the capacity loss on the system. The cost to now replace that previously deleted capacity is an impediment to growth. In many cases, abandoned rail rights-of-way (ROW) have been lost to other forms of development and reassembling that ROW is now either impossible or very expensive. Therefore, as part of this plan, NYSDOT will continue to analyze lines that have been lost and those that stand at risk.

##### **Rail Abandonments 2002 - 2007**

At one time, the rail network in New York encompassed more than 8,000 route miles; that network has been reduced to approximately 4,208 active route miles today. The frequency of rail line abandonment within New York has slowed dramatically since the widespread rail system rationalization of the late 1970s and early 1980s.

While abandonments still do occur, they have differed from earlier abandonments where entire corridors were eliminated. Over the last five years, eight abandonment applications have been approved by the Surface Transportation Board (STB). Six of those lines were short stub-ended spurs of only a few miles in length. Another line, although a through route, had been operated as a short stub-ended spur prior to its abandonment. Another abandoned rail line (CSXT's Port Morris Branch) had significant clearance restrictions and this through route was made redundant following the construction and 1998 service introduction of the NYSDOT Oak Point Link in the Bronx.

##### **Rail Lines for which Abandonment or Discontinuance Applications were Approved in 2008**

There have been three abandonment or discontinuance proceedings involving rail lines in New York State approved by the federal STB. These are:

- CPR Green Island Branch, Cohoes to Green Island – The Surface Transportation Board issued a Notice of Interim Trail Use on June 30, 2008. If

no trail use agreement is reached, abandonment authority is effective December 27, 2008.

- M&NJ Main Line, Slate Hill to NJ State Line – The Surface Transportation Board granted abandonment authority on June 19, 2008.
- NYS&W Utica Main Line, Chenango Forks to Sherburne – The Surface Transportation Board granted a discontinuance of service, effective October 1, 2008.

### **Rail Lines for which Abandonment or Discontinuance Applications are Pending in 2008**

There is one abandonment proceeding involving rail lines in New York State pending before the federal Surface Transportation Board as follows:

- B&P Main Line, Ashford to Orchard Park – The Buffalo & Pittsburgh Railroad filed for abandonment of this line segment on September 16, 2008. This abandonment will be effective on November 5, 2008, unless stayed pending reconsideration.

### **Significant Rail Line Segments Not Currently In Service**

In addition to previously abandoned and pending rail line abandonments, rail lines not in service are of large concern to the state. Rail line segments not in service represent economic development assets whose potential is unfulfilled. The concern is that the longer a rail line segment remains “out of service,” the more likely it might be removed from the rail network. An example of a rail line segment not in service and of concern follows:

- MA&N Newton Falls Line, Carthage to Newton Falls – This 46-mile rail line has been out of service for several years after its sole customer ceased operations in the fall of 2000. The Newton Falls paper-making plant was reactivated in 2007. However, the rail line remains unused as it now requires substantial rehabilitation to bring its condition to a safe, operational state. It has not been determined whether sufficient freight rail revenues could be generated to operate and maintain the line if the repairs were performed.

### **Railroad Corridor Preservation**

New York State Transportation Law Article 2, Section 18 provides the State of New York with a preferential right to acquire any real property which has been abandoned for railroad transportation purposes and prohibits the disposal of real property without a determination from the Department of Transportation that Section 18 does not apply or a release of the State’s preferential right.

This authority, combined with the STB’s regulations regarding public use of abandoned rail rights-of-way, has been used to preserve critical pieces of railroad rights-of-way for reuse as restored rail lines, highways, pedestrian-recreational trails and utility corridors. The aforementioned STB abandonment proceedings in New York are open for trail-use negotiations with various public entities.

## 4.6 Corridor and Freight Planning Efforts

NYS DOT is pursuing several studies that are examining how the transportation network can help the state capitalize on existing and emerging economic development opportunities. Each study recognizes that an integrated, multimodal transportation policy is needed to address concerns of transportation agencies, modal operators, user groups and stakeholders (including shippers), such as bridge authorities and the traveling public. One such completed study, discussed in greater detail elsewhere, is the *I-87 Multimodal Corridor Study*, undertaken to address the substantial growth in trade and tourism that had occurred in the Interstate 87/Autoroute 15 NAFTA corridor between New York City and Montreal.

An example on the regional level is the *Niagara Frontier Urban Area Freight Transportation Study* conducted under the auspices of the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC). The study was initiated in 2007 to assess the Niagara Region's freight transportation network capacity to handle freight needs now and in the future, while identifying and assessing new economic development opportunities. Tasks include estimating the level of cross-border trade; review of freight origin/destinations; forecasting future trade volumes in 5-year increments through 2025; assessing the ability of the network to handle those volumes; and developing proposals to address any future deficiencies.

Also, the Ogdensburg Bridge and Port Authority (OBPA) and NYS DOT are undertaking the *North Country Freight Needs Study and Comprehensive Plan for the Port of Ogdensburg* to develop a regional freight plan for the surrounding counties. The study will analyze truck, rail, air and marine freight flows to identify the role of the Port of Ogdensburg in meeting the region's current and future needs, as well as the role of the Ogdensburg international bridge and the New York & Ogdensburg Railway (which links to the CSXT main line serving this region).

The *Cross Harbor Freight Movement Project* (the Cross Harbor Project) proposes the near-term rehabilitation and the long-term improvement of the underutilized rail freight network connecting the New York City and New England markets to national markets west of the Hudson River. The Port Authority of New York and New Jersey (PANYNJ), which has undertaken the local sponsorship of the Cross Harbor Project, is prepared to work with federal, state, local and industry partners to take on the near-term and long-term issues regarding the Cross Harbor rail network.

If the regional rail network that can supply goods to the nation's largest consumer market is not maintained in the near term, the window of opportunity to create long-term improvements that benefit the national movement of goods by rail will close. Thus, it is PANYNJ's intention to utilize the SAFETEA-LU Section 1301 funding to return the existing rail network to a state of good repair in keeping with the intent of the No Action Alternative as defined in the existing Draft Environmental Impact Study.

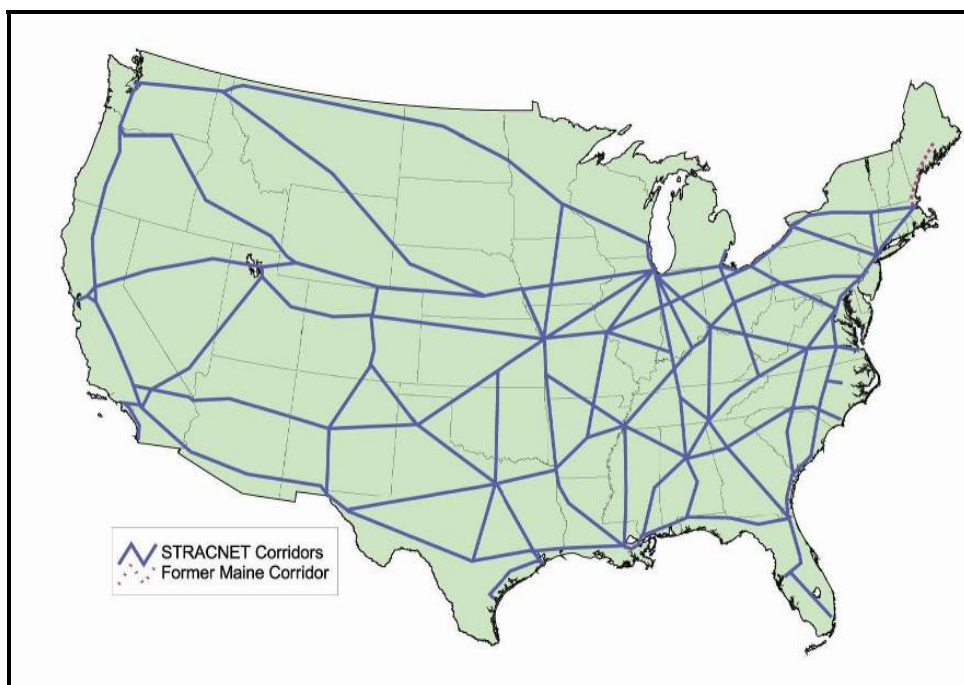
Parallel to this activity and in coordination with its project partners, the Port Authority will work to identify a preferred alternative for continuing the national rail service across the New York Harbor into the east of Hudson region by supplementing the existing Draft Environmental Impact Study (EIS), completed by the New York City Economic Development Corporation in 2004, and by completing a Final EIS and

Record of Decision. A Notice to Proceed for the supplemental EIS is being drafted and will be published in the Federal Register. Goals for the EIS will include:

- Improve the movement of goods into, out of and through the metropolitan region;
- Create a more modally balanced goods movement system in the New York City region;
- Improve environmental quality in the region by diverting freight movements to less- polluting modes of transportation;
- Provide strategic redundancy to the region's vital Hudson River crossings.
- Provide seamless rail connections and handle train operations, particularly at the float connection, efficiently.
- Restore efficiency, integrity and uniform performance standards to the regional rail system.

### Strategic Rail Corridor Network

NYSDOT continues to work with the United States Military Surface Deployment and Distribution Command's Transportation Engineering Agency to provide updates affecting the national Strategic Rail Corridor Network (STRACNET). The most recent update was March 2008. STRACNET and its associated connector lines are the civilian rail lines most important to national defense. STRACNET is a 32,000-mile interconnected network of rail corridors (not actual rail lines).



**Figure 18 Strategic Rail Corridor Network (STRACNET)**

The lines designated for STRACNET within each corridor, and for most connectors to military installations and activities requiring rail service, meet defense readiness requirements for maintenance condition, clearance and gross weight capability.

The following map depicts freight rail lines (shown in red) that are within STRACNET corridors, with the operating railroad identified. These rail lines provide access through New York State to the Port of New York and New Jersey in northern New Jersey and to military installations in eastern Massachusetts. Included on the map are Defense Connector Lines depicted by dashed black lines. These Defense Connector lines include the CSXT St. Lawrence Subdivision north from Syracuse to Fort Drum near Watertown, N.Y., and the PAR Rotterdam Branch from Rotterdam Junction, N.Y. to the CPR Freight Subdivision in Mechanicville, N.Y., thence south along the CPR Colonie Subdivision to the Watervliet Arsenal in the Capital District.

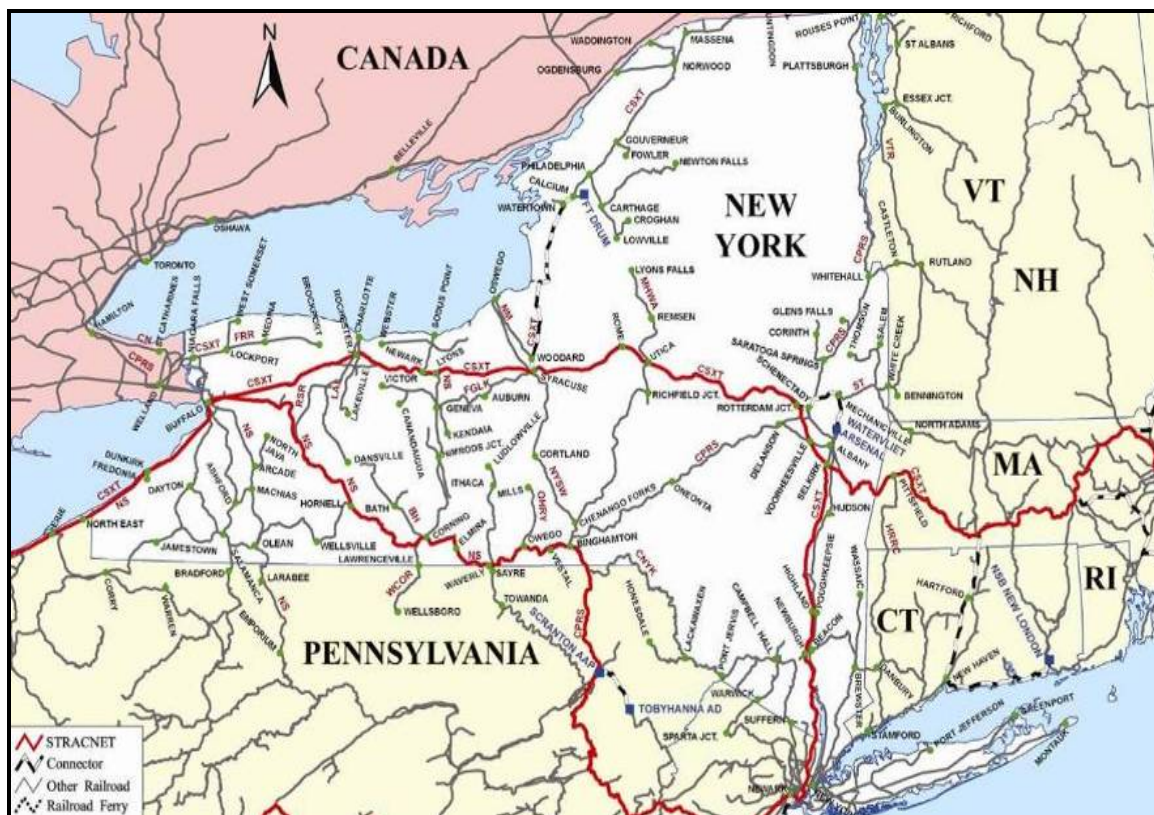


Figure 19 STRACNET & Defense Connector Lines in New York State

### Freight Rail Service Planning in Upstate MPOs

Freight rail is part of the area-wide and long range transportation planning responsibilities of the Metropolitan Planning Organizations (MPOs). Further, if federal funds are to be used for freight rail improvements, the project must first be included in an approved Transportation Improvement program (TIP). Below are examples of upstate MPO efforts on freight rail planning:

**Binghamton:** The *Binghamton Area Freight Transportation Study* is examining the critical role as a freight hub and changing transportation needs in the freight network. The Binghamton Metropolitan Transportation Study (BMTS) is the metropolitan transportation planning organization for the Binghamton area, which is a critical freight transportation hub that is well served by Interstates 81, 88, and 86 (NY-17) and three freight railroads: Canadian Pacific, Norfolk Southern and New York Susquehanna & Western. Despite access to three freight railroads, very few

companies utilize rail shipping, mostly for bulk commodities. This is not likely to change soon but it is important that the rail infrastructure be maintained to support local rail shippers. Because freight movement is important to the state's economy, NYSDOT has adopted the "trade corridor" model of evaluating freight flow, so any evaluation of I-81 or I-86 will include adjacent railroads. An integrated corridor management approach is proposed to manage these freight flows.

Buffalo-Niagara Frontier: The Buffalo-Niagara region has four major Class I rail freight carriers: CSX Transportation, Norfolk Southern, Canadian Pacific Railway and Canadian National. This western New York region also has several local short line operators that interchange with one of more of the four major railroads. The Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) is the metropolitan transportation planning organization for this region. It recognizes the importance of reliable travel movements for freight shipments and preserving and improving existing facilities. Globalization and international and trans-border trade opportunities to promote the efficiency and reliability of freight movement (truck and rail) within and through the region and to improve multimodal facilities and system connectivity to capitalize on growing international and trans-border trade opportunities. Further, the GBNRTC long range plan anticipates that economics will drive the push for increased efficiencies in freight logistics across all modes. Truck traffic will increasingly compete with auto travel for scarce highway capacity; rail and waterborne freight networks will be more attractive alternatives to truck movements. As noted earlier, the *Niagara Frontier Urban Area Freight Transportation Study* is examining the critical role of a freight hub and the changing transportation needs in the freight network.

Utica-Rome: The Herkimer-Oneida Counties Transportation Study (HOCTS) is the metropolitan transportation planning organization for the region. Freight movement is provided by CSXT and short line operators. The rail recommendations in the MPO's long range plan are based on the NYSDOT mission to preserve, maintain and enhance an efficient rail network to move freight and people at economical rates now and in the future. The plan states that rail transportation is an efficient way to move freight while saving energy, reducing air pollution relieving traffic congestion and reducing maintenance and repair on the highway network. Recommendations include the elimination or correction of unsafe grade crossings. Redevelopment efforts for Utica's Union Station have focused on maintaining and enhancing the station's multimodal transportation functions in part to serve the Adirondack Scenic Railroad. New and relocated track allow use of the station for passengers and for freight service. The long range plan calls to continue to promote upgrading the physical and operating quality of essential freight rail service.

### **Freight Rail Service Planning in the New York Metropolitan Area**

The New York metropolitan area includes New York City, Nassau and Suffolk counties on Long Island, and Putnam, Rockland, and Westchester counties in the Hudson Valley. Along with its neighboring communities in New Jersey and Connecticut, the metropolitan area is the core of the nation's largest consumer market. The region's seaport freight facilities form the third-largest container port in the nation and the largest on the East Coast. Modally balanced freight access to and from the region is key to serving the region's consumers and businesses and other national markets.

Freight planning has been a focus for the New York Metropolitan Transportation Council (NYMTC), the federally recognized metropolitan planning organization (MPO) for the New York City metropolitan area. The update of its NYMTC Regional Freight Plan will start in 2008-09. As part of the ongoing freight planning effort, NYMTC has held outreach and listening sessions to gather stakeholder and public comment. Development of a freight model is anticipated soon to complement this MPO's passenger modeling capacity. NYMTC is also undertaking several other studies: the Feasibility of Freight Villages in NYMTC Region and, working in conjunction with NJTPA and ConnDOT, the *Multi-State Truck Stop Inventory and Assessment*.

In addition, some of NYMTC's member agencies have begun individual efforts focusing on their individual facilities. The New York City Economic Development Corporation investigated improvements to freight rail facilities on Staten Island and the south Brooklyn waterfront. This investigation sought opportunities for new maritime and economic development while balancing environmental sustainability -- Brooklyn waterfront improvements were identified and Staten Island improvements were implemented in partnership with the Port Authority of New York and New Jersey (PANYNJ). Specific NYSDOT project-related studies continue on LIRR undergrade bridges and AAR Plate F and Trailer on Flat Car (TOFC) rail clearances in Brooklyn and Queens.

Improving the reliability of goods and package delivery without increasing congestion on the transportation system also shared by passengers is vital to the region's growth. For that reason, PANYNJ is investing \$600 million in a port rail system called *ExpressRail*. ExpressRail will create on-dock rail at PANYNJ's container terminals in New York and New Jersey and a very critical rail storage area to allow for more 10,000-foot-long trains to move in and out of the port. When the system is fully built by 2011, it will have the capacity to handle 1.5 million cargo containers a year, taking an estimated 2.5 million trucks off the road.

As recently as 1994, only 9 percent of port traffic moved by rail. Currently, 13 percent of the port's increasing volume moves by rail and that share is expected to grow. Additionally, PANYNJ has invested more than \$50 million in infrastructure enhancements that support domestic and other non-port rail shipments. Moving forward, PANYNJ has several planning efforts to identify projects aimed at shifting freight from truck to rail. However, additional public and private rail improvements will be needed locally and nationally to realize this winning strategy.

### **East of Hudson Market Access Initiatives**

MoveNY&NJ is a coalition of concerned leaders from New York's business, labor, environmental, community and planning sectors dedicated to improving the region's freight transportation system through the construction of a Cross Harbor Rail Freight tunnel underneath New York Harbor. The Cross Harbor Rail Freight Tunnel would provide a Hudson River crossing to connect freight railroads in New Jersey to railroads in Sunset Park, Brooklyn. Such a connection would enable freight to travel to east-of-Hudson destinations by rail to access east of Hudson markets.

Environmental Defense and the East of Hudson Rail Freight Operations Task Force released a report in 2004 on freight rail investment in New York City and northern New Jersey; it cited the need to invest in freight transport in the Hudson Region.

The report outlines the region's growing congestion problem and how to address it through investments in freight rail for the east of Hudson region to increase its mobility and economic competitiveness.

### **Other Studies**

Canadian Studies: In 2007, the Canadian government announced a \$2.1 billion Gateway and Border Crossings Fund as a part of a framework for strategic gateways and trade corridors. Strategies advanced are to enhance the multimodal integration of major transportation systems. One of the first initiatives funded was the *Ontario-Quebec Continental Gateway and Trade Corridor Study*, which could have a direct impact on freight travel to and through New York State. This corridor was identified as strategic because of its importance in moving trade between Quebec and Ontario, and to/from the United States, which remains Canada's most important trade partner. More than 70 percent of Canada's international trade is with the United States and more than 60 more than of Canada's Gross Domestic Product is generated within the Ontario-Quebec region.

Approximately 80 percent of Canada's trade-by-truck moves through Ontario-Quebec border crossings. The top five U.S.-Canada border crossings for truck freight are along the Ontario-Quebec Corridor, including Buffalo-Fort Erie, Champlain-Lacolle and Alexandria Bay-Lansdowne, Ont. Similarly, more than 80 percent of Canada's trade-by-rail moves through this corridor, including Buffalo-Fort Erie, Rouses Point-Lacolle and Fort Covington, N.Y.-Dundee, QC.

In addition to these large corridor studies, the Ontario Transportation Ministry (MTO) is heavily involved in the *Greater Toronto Area Corridor Planning and Environmental Study*. This will provide analysis for highway and rail facilities that will have an impact on the southern Ontario/Niagara region and, therefore, on the border crossings and freight movement into New York State.

The St. Lawrence Seaway and the Great Lakes: The Great Lakes-St. Lawrence Seaway System is the largest marine corridor in North America and includes the Port of Montreal, the second-largest in Canada. In November 2007, the U.S. and Canada announced the completion of a study that looked at this transportation system, including the potential to alleviate congestion on the highway and rail networks and at border crossings and to better integrate the three modes, given the projected growth in economy and trade for all modes in both countries. Further on the St. Lawrence Seaway is the Port of Ogdensburg that serves as the principal intermodal facility in New York's North Country. The port facility services truck, rail, and marine freight and is the first U.S. port on the Seaway.

## **4.7 Rail Freight System Issues and Needs**

### **High Axle Loads**

By emphasizing the economies of scale, railroads have been able to reduce their costs and, in some cases, recapture traffic lost to other modes. A key element has been the increased use of high axle load cars with gross weights of 286,000 pounds and up to 315,000 pounds (286k and 315k, respectively). For Class II and III railroads to accommodate this traffic, it is critical that investments are made to return the track structure to a state of good repair, as previously noted, but the

infrastructure needs go much deeper. Bridges have been less of a concern as railroads have lived off the structural capacity in their bridges built for steam locomotives. However, high axle load traffic is consuming the remaining fatigue life of these bridges. Significant capital investments will be needed to address these assets in the future.

Currently, the only routes that are 315k-capable are the CSXT main lines across upstate New York from the Ontario/New York border crossings at Niagara Falls and Buffalo International Bridge, and from Pennsylvania/New York border, east to Selkirk Yard. From the Capital District, the CSXT 315k routes continue east into Massachusetts and south into New Jersey.

The 286k-capable routes are primarily the remaining main lines of the Class 1 and Class 2 railroads. These include the CPR main lines from the Quebec/New York border crossing at Rouses Point, south to the Capital District, thence south through Binghamton into Pennsylvania; the CSXT Hudson Subdivision from the Capital District south to Highbridge Yard in the Bronx and connection with the NYSDOT 286k-capable Oak Point Link to Oak Point Yard; the NS main lines from the from Pennsylvania/New York border east through Buffalo and across the southern tier of New York to Binghamton (except the weight restriction of 273k in the vicinity of the Portage Bridge over the Genesee River); the BPRR main line from Buffalo south through Olean into Pennsylvania; and the NYSW main lines from Syracuse and Utica (the latter currently out of service) through Binghamton to Port Jervis. The project to achieve 286k capability by replacing or rehabilitating the NS Portage Bridge is in the scoping stage. The proposed joint venture by NS and PAR to create the "Pan Am Southern" includes the upgrade of the PAR main lines from Rotterdam east through Mechanicville into Vermont and Massachusetts. This will achieve 286k capability.

With the exception of the Major Class I freight railroads, most of the rail lines in New York State are not physically capable of carrying high axle load (286k) rail cars. These restricted rail lines include those owned by Amtrak and the Long Island Rail Road in the downstate metropolitan area. Within downstate New York, select portions of the Metro-North Commuter Railroad's Hudson Line are rated to safely and effectively accommodate 286k rail cars. A state rail network map of Rail Car Weight Limits follows in Figure 20.

### **State of Good Repair**

Before discussing the infrastructure needs to accommodate future traffic, it is necessary to assess the infrastructure needs for today's traffic. The railroad infrastructure must accommodate existing traffic safely and efficiently. The four Class I railroads must dedicate the resources necessary to ensure well-maintained track and bridge structures.

The ability to maintain the existing infrastructure to a state of good repair is a challenge for the Class II and Class III railroads. Many of these lines suffered from years of deferred maintenance before being spun off by the larger carriers. These lines typically lack the resources of the larger railroads but are forced to catch up to bring the railroad back to a state of good repair. Unfortunately, many of these lines find it difficult to catch up as their limited resources are expended in making emergency repairs.

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## Clearances

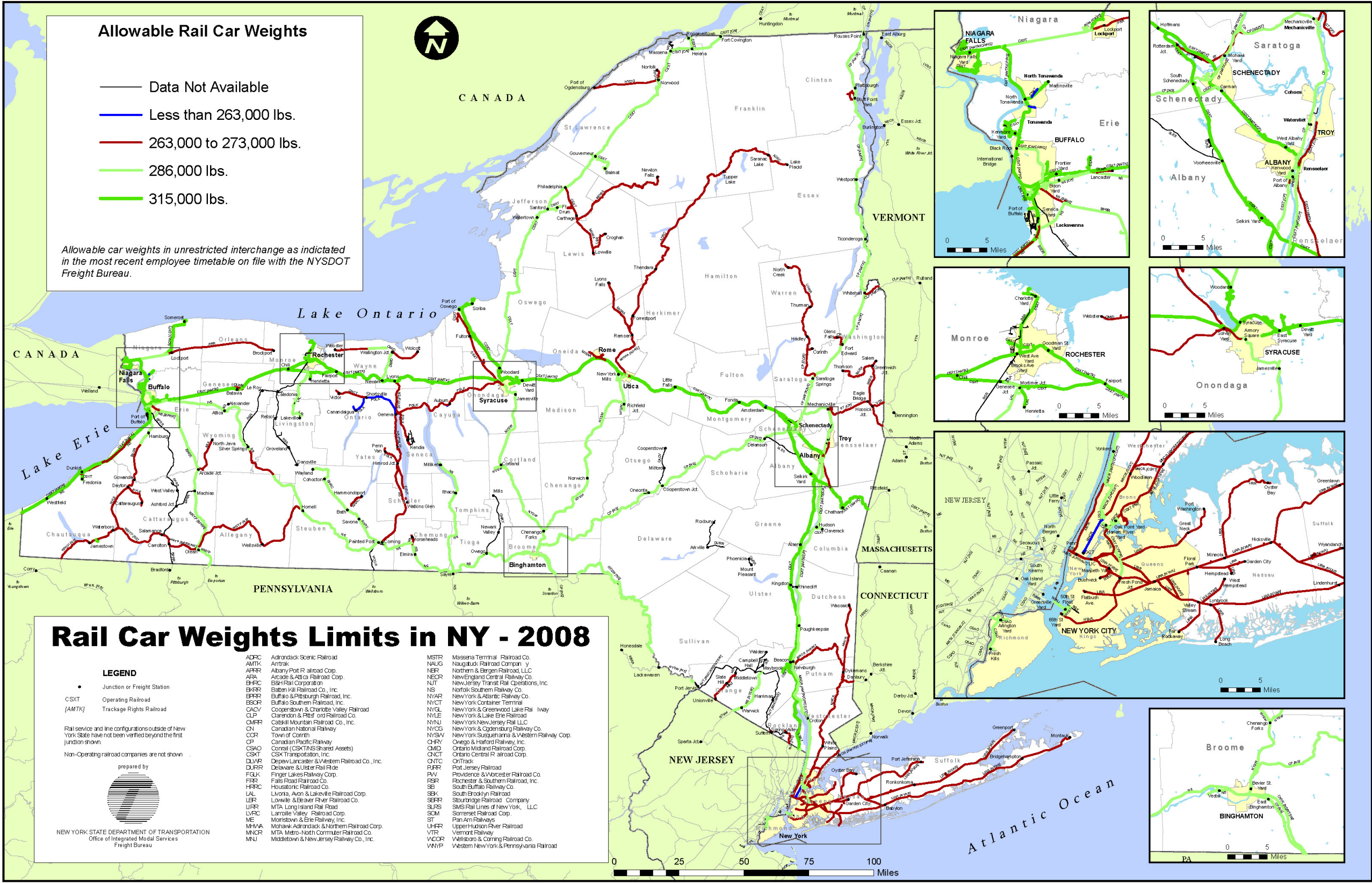
The primary main line corridors through New York are either cleared for double-stack traffic or have ongoing capital projects to address the last remaining obstructions. However, in the critically congested New York City metropolitan region, outdated overhead clearances hinder the ability of the railroad to serve the market with today's larger freight cars. If rail use is to increase in the downstate region, these restrictions must be addressed by some combination of raising bridges or lowering tracks. The number of structures to be cleared and their complexity add dramatically to the cost of making these improvements.

There are a number of primary and secondary rail routes in upstate New York affected by limited horizontal and vertical clearances. These restrictions hamper the rail freight industry's ability to institute new services or capture additional market share. A fold-out state rail network map of Allowable Rail Car Clearances follows in Figure 21.

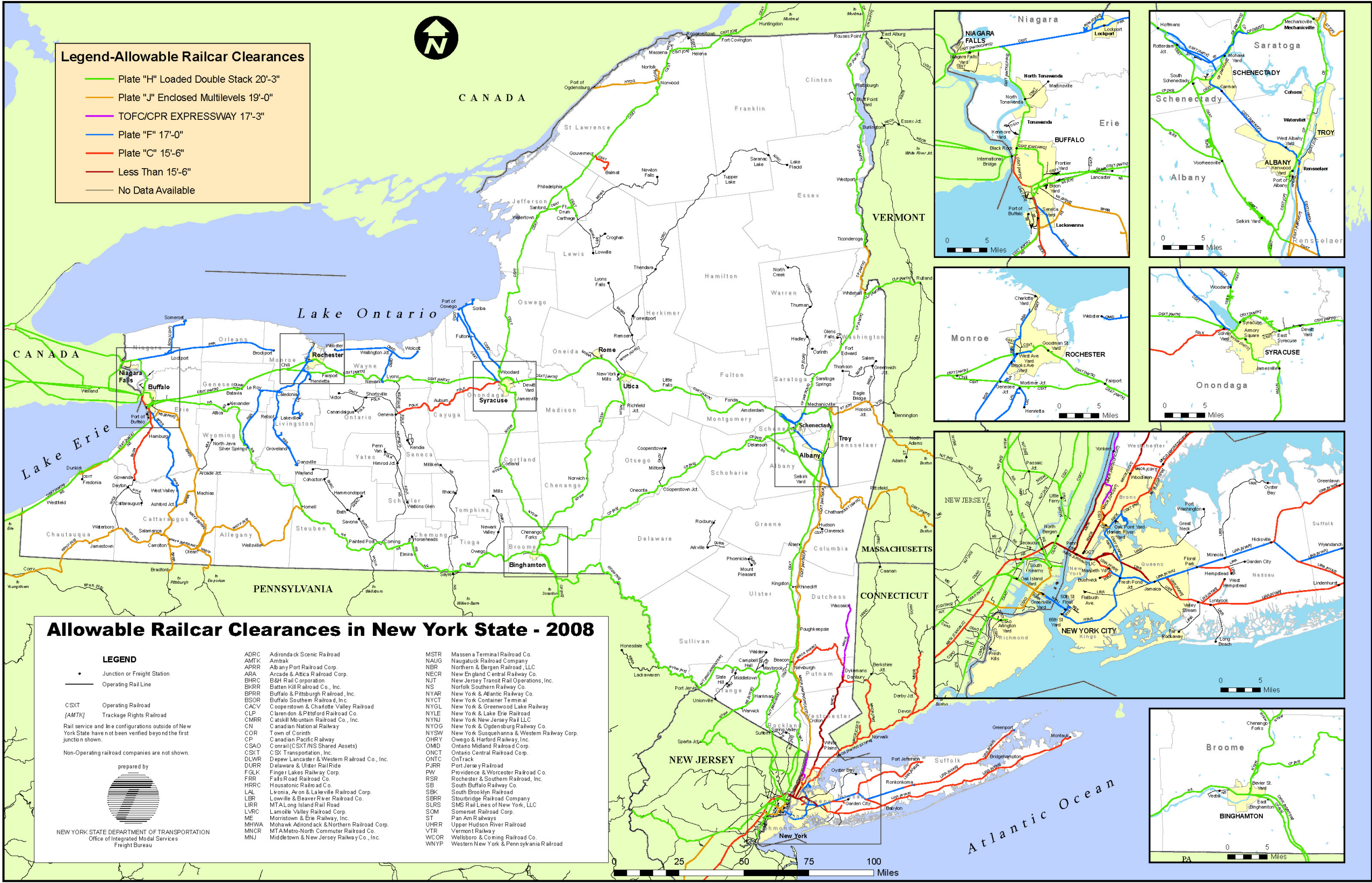
The most significant obstruction is on Canadian Pacific Railway's Canadian Subdivision, which is not cleared for double-stack rail cars. This rail line corridor runs between the Capital District and the international border at Rouses Point and is CPR's primary freight route in the eastern United States. In partnership with NYSDOT, Canadian Pacific has addressed seven obstructions, including two rock tunnels; two overhead highway bridge obstructions remain. These last two structures are scheduled for replacement in 2008 and it is anticipated that this key route will have suitable clearance by mid-2009. This is an example of how NYSDOT and a railroad, working together, can develop an overall program with focused investments to address specific problems. These final two bridges will allow proper clearance for the entire length.

The downstate region is more significantly affected by the lack of railroad clearances. Metro-North's Hudson Line is equipped with both high-level passenger platforms and 3<sup>rd</sup> rail electrification. While both are crucial to efficient commuter operations, they also restrict access to the New York City metropolitan region for wide rail car loads. NYSDOT has invested in improving vertical clearances in the corridor, providing clearances from Selkirk Yard south to Tarrytown and, more recently, TOFC clearances from Tarrytown south to Harlem River Yard.

Beyond Harlem River Yard, the freight lines in the Bronx, Queens and Brooklyn also have clearance restrictions limiting rail service. These restrictions hinder the economies of rail transportation. Beyond the current impacts, the North American rail industry's prevailing trend for rail car fleet replacement and new car construction is toward larger rail cars – both longer and taller (width has remained consistent) often with greater weight-carrying capacity. As the shorter-height rail car fleet ages, the decreasing car supply able to negotiate the existing rail line clearance restrictions will further affect and reduce the ability of New York City and Long Island shippers to utilize rail for their freight transportation needs.



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## Capacity Issues

The New York State Department of Transportation has categorized capacity constraints on the freight rail network into four distinct issues. Each is discussed in detail below:

**Line Haul Freight Issues:** The growth in rail traffic is straining the current rail infrastructure. Bottlenecks, such as CSX Transportation's single-track River Subdivision, can limit the economic growth of the Port of New York and New Jersey or an entire region. For the Class I railroads, the primary issues are capacity and fluidity. The expansion of containerized foreign trade through the Port of New York and New Jersey has caused major increases of intermodal rail movements on New York's main line in the rail network. This expansion is occurring on lines that were rationalized only 20 years ago to reduce rail operating costs necessary to attain a financially stable rail system following the massive rail bankruptcies in the Northeast.

Although New York's Class I railroads have invested substantially in additional passing sidings and signal technology, often with state financial assistance, the freight growth exceeds the capacity gains being made.

**Freight – Intercity Passenger Issues:** Amtrak operates four distinct services within New York. Its primary main line, the Northeast Corridor (NEC), cuts across the New York City metropolitan region and includes New York's Pennsylvania Station, the nation's busiest passenger rail station. East of Penn Station from New Rochelle to the Connecticut line (and beyond to New Haven, Ct.), the NEC is under the control of Metro-North.

Penn Station also serves as the eastern/southern terminal for Amtrak's *Empire Service* and several long-distance trains: the *Maple Leaf*, *Lake Shore Limited* and the state-supported *Adirondack* (N.Y.) and *Ethan Allen Express* (Vt.). All share the Hudson Line between New York City and Albany-Rensselaer in the Capital District. The *Adirondack* and *Ethan Allen Express* continue north on the Canadian Pacific Railway, while the *Maple Leaf*, *Lake Shore Limited* and other *Empire Service* trains continue west on CSXT main line facilities between Albany, Buffalo and beyond.

These routes traverse the primary main lines of Class I railroads and are generally kept in a state of good repair. However, each corridor has unique physical characteristics and a mix of train operations that require future infrastructure investment. On CSXT's double track main line between the Capital District and Buffalo, freight train volumes (number of freights per day, time of day) are paramount. This route is the state's busiest freight route, handling approximately 55 freight trains per day. This critical freight rail corridor also accommodates eight intercity passenger trains per day (four in both directions) across upstate New York. Any disruption to the corridor operating plan, either from scheduled maintenance or construction, unscheduled freight train delays or additional train volumes, hampers passenger and freight train on-time schedule performance.

North of Schenectady, Amtrak's *Adirondack* and *Ethan Allen Express* trains share Canadian Pacific Railway's single track Canadian Subdivision as far as Whitehall, where the *Ethan Allen* heads east on the Clarendon & Pittsford to Rutland, Vt., while the *Adirondack* continues north on the Canadian Subdivision to the international border crossing at Rouses Point. Canadian Pacific's recent haulage arrangements

with Norfolk Southern and CSX Transportation, while beneficial for the freight railroads, may present additional interference to Amtrak operations in this corridor as freight train volumes are expected to increase significantly. Canadian Pacific, with some state assistance, has invested in the corridor to enable this new freight traffic to move reliably; Amtrak's operations have benefited from these investments.

Earlier, this chapter discussed the importance and expected benefits of an improved signal and train control system, in part because of the mix of freight and passenger service in shared-use rail corridors. Each rail service has its own speeds and travel capabilities that produce in both safety and capacity concerns. One suggested solution has been a dedicated passenger track, especially for the CSXT Buffalo-Albany rail corridor; but, as also noted previously, in some areas that ROW has been lost due to past railroad policies and the cost may be prohibitive. Further, as part of the discussion of the AAR *National Rail Freight Infrastructure Capacity and Investment Study*, the growth anticipated for passenger and freight is leading to increased potential conflict. Amtrak is seeing some of its largest percentage ridership increases along the Buffalo-Albany rail corridor despite the level of freight-related delay. With high gas prices, ridership is expected to keep growing; this increase will create pressure for more reliable service and, eventually, more frequency of passenger trains. At the same time, CSXT is expecting increase in freight rail business activity. New York State will continue to work with both rail companies so they can effectively and efficiently serve their respective passenger and freight rail service customers, markets, and business goals.

**Freight-Commuter Issues:** The New York City Metropolitan Area is served by three of the largest commuter railroads in the country: the Long Island Rail Road, Metro-North Railroad and New Jersey Transit (NJT). Each of these is a government-owned entity whose primary mission is to provide commuter service to and from New York City. In most cases, these entities own (or lease) the rail infrastructure and control maintenance, operations and dispatching (the most notable exception is NJT operations over Amtrak's Northeast Corridor).

However, rail freight service continues to operate over most of these lines. CSX Transportation, Norfolk Southern Railway, Canadian Pacific Railway, New York Susquehanna & Western, Providence & Worcester, Housatonic Railroad and New York & Atlantic Railway each operate at least a portion of their route mileage in the state on commuter routes. Conversely, there is little trackage in metropolitan New York that is used exclusively for freight operations. For example, there are approximately 811 main line track miles in the seven counties that comprise New York City and Long Island, but only 61 main line track miles (7.5 percent) are utilized exclusively for freight.

As the region's population grows and congestion delays on the regions highways and bridges increase, so will public demand for commuter rail service. NJT and the Long Island Rail Road are progressing mega-projects to increase passenger capacity into Manhattan. NJT is developing the Trans-Hudson Express (THE) Tunnel into the Penn Station area and LIRR is constructing its East Side Access into Grand Central Terminal; both are intended to address the commuter growth needs in the coming years. It is anticipated that the corresponding growth in both service frequencies and geographic reach will be accomplished, in part, by effectively shrinking the operating windows for freight rail service along the commuter railroad networks in the New York metropolitan region. A comprehensive approach to corridor planning is

in the *Hudson Line Railroad Corridor Transportation Plan* study: Metro-North, Amtrak, CSX Transportation, Canadian Pacific Railway and the New York State Department of Transportation jointly funded a study to determine the infrastructure needed for future operating plans and traffic projections of the four operating railroads and for NYSDOT's transportation policy goals. The final report of this "Joint Users" study identified a program of specific capital investments along the Hudson Line corridor that will significantly improve the operating metrics for all four railroads over the no-build scenario. The "Joint Users" study also quantified the anticipated benefits to each rail service provider in the corridor and recommended a cost allocation for each recommended capital investment. These conclusions were fully endorsed by all five stakeholders.

**Class II/Class III Issues:** Generally speaking, these two classes of railroads have lower operating speeds and track conditions in comparison to Class I rail lines. Further, it is clear that the need for capacity improvement is not limited to the Class I railroads. Prior to being sold to a short line railroad, the "excess" sidings and yard tracks of Class I-owned branch lines were often removed to minimize maintenance costs and real property tax liabilities. Those actions made business sense under the regulatory and tax framework of the time. However, today, under the management of short line operators, rail traffic has returned to many of these light branch lines; the lack of runaround sidings, yard tracks and interchange tracks can cause inefficient operations that increase the railroads' costs to serve the shippers or can decrease safety.

### **Development of New Railroads**

A recent trend in the rail industry has been the conversion of private industrial spurs and sidings, ranging from a single side track to an extensive network of track within an industrial park, to common carrier railroad operation. Occasionally, these transactions have included proposals for new construction. While in many cases this is a legitimate business transaction, in other cases, there is growing concern that these transactions are designed to take advantage of the pre-emption of state and local zoning and environmental regulation associated with common carrier railroads. For five years, there have been several number of such transactions proposed in New York with varying results. Note that Surface Transportation Board (STB) authority over new railroad construction pre-empts state and local regulations.

### **Development of New Rail Freight Services**

In October 2007, the partnership of CSXT, Union Pacific and Railex initiated a new twice-weekly unit train service carrying perishables (fresh fruits and vegetables) from Wallula, Wash., to Schenectady (Rotterdam). The cross-country trip takes 128 hours, a time very competitive with over-the-road truck.

The 55-car train has next-generation refrigerated boxcars that have the most efficient insulation, use an environmentally friendly and energy efficient refrigeration unit and have a Global Positioning System (GPS) to monitor the "health" of the refrigeration unit and the temperature inside the rail car. In October 2008, a second 55-car produce train began operating weekly from Delano, Calif., to Schenectady (Rotterdam) using the same of state-of-the-art refrigerated boxcars as the Wallula, Wash., train.

Each train carries the same amount of produce and perishable items that would have been moved by more than 200 over-the-road trucks. With the produce moving by rail rather than by truck, 100,000 fewer gallons of diesel fuel are used each time the produce unit train operates.

### **Real Property Taxation of Rail Transportation Infrastructure**

Historically, property taxes on railroad property in New York State have been among the highest in the nation. The state's tax structure actually discourages -- rather than encourages -- greater investment by the private railroads in their infrastructures. As a result, it often made sound business sense to remove existing track or sell off the rail lines to short line railroad companies if the lines were low density to avoid local real property tax levies.

Presently, railroad ownership falls into three basic categories with direct implications on the taxable status of the transportation rights-of-way and infrastructure in the state. As shown in the state rail map (Figure 22) depicting Taxable Status of Rail Rights-Of-Way, the categories are:

- Freight rail lines that are Tax Exempt or receive some form of abatement due to their ownership by a local government entity such as a municipality, IDA, local rail authority, federal government or public benefit corporation.
- Freight Rail Lines that have Full Taxable Status.
- Rail lines with freight trackage rights owned by the state or a state authority.

New York State Real Property Law, Sections 489-d and 489-v, were changed in 2003 to provide some limited real property tax relief to freight railroad companies. While the benefits of this measure are just now going into effect, local real property tax levels in New York State are expected to be closer to those in our neighboring Northeast states, even though they will still be above the national average.

Any reduction to local real property taxes likely will have a positive effect on future capital infrastructure investment decisions of many freight railroads. The competing modes of freight transportation generally do not pay real property taxes on major portions of the transportation infrastructure that they use. For example, publicly owned, built, and maintained highway; airport; and waterway facilities typically are not subject to such local taxes. Therefore, continuing attention to the effect of local property taxes on freight railroads is needed.

In addition to considering public comments on the state's real property tax methodology regarding railroads that were received during the Rail Plan public outreach phase, NYSDOT will also review other states' railroad-related tax methodologies. The goal is to identify positive incentives for private investment in freight rail infrastructure and services.

### **Conclusion**

New York State's freight rail network serves 59 of the state's counties on more than 4,200 route miles. Service is provided by four Class I (major) railroads, supplemented by 32 regional, short-line and terminal railroads. However, New York

State lags the nation in handling commodities by rail, as only 3 percent of commodities by weight moved by rail in New York State in 2002, compared to 16 percent nationally. Numerous “bottlenecks,” such as vertical clearance restrictions in a tunnel or elsewhere, restrict the flow of rail freight.

Five major intermodal terminals facilitate the transfer of freight (generally in containers) among rail lines and highway and waterborne modes. Several corridor and freight planning efforts are under way to develop integrated multimodal transportation policies that address the concerns of all parties involved in freight transportation in New York.

Key issues affecting the freight rail network in New York include accommodation of heavy rail cars over the standard weight of 286,000 pounds; bringing rail lines to a state of good repair; upgrading limited horizontal and vertical clearances to allow movement of today’s larger rail cars; expanding the capacity of freight lines, as well as lines shared by freight and passenger trains, to handle more train movements; and the level of real property taxation of rail lines.

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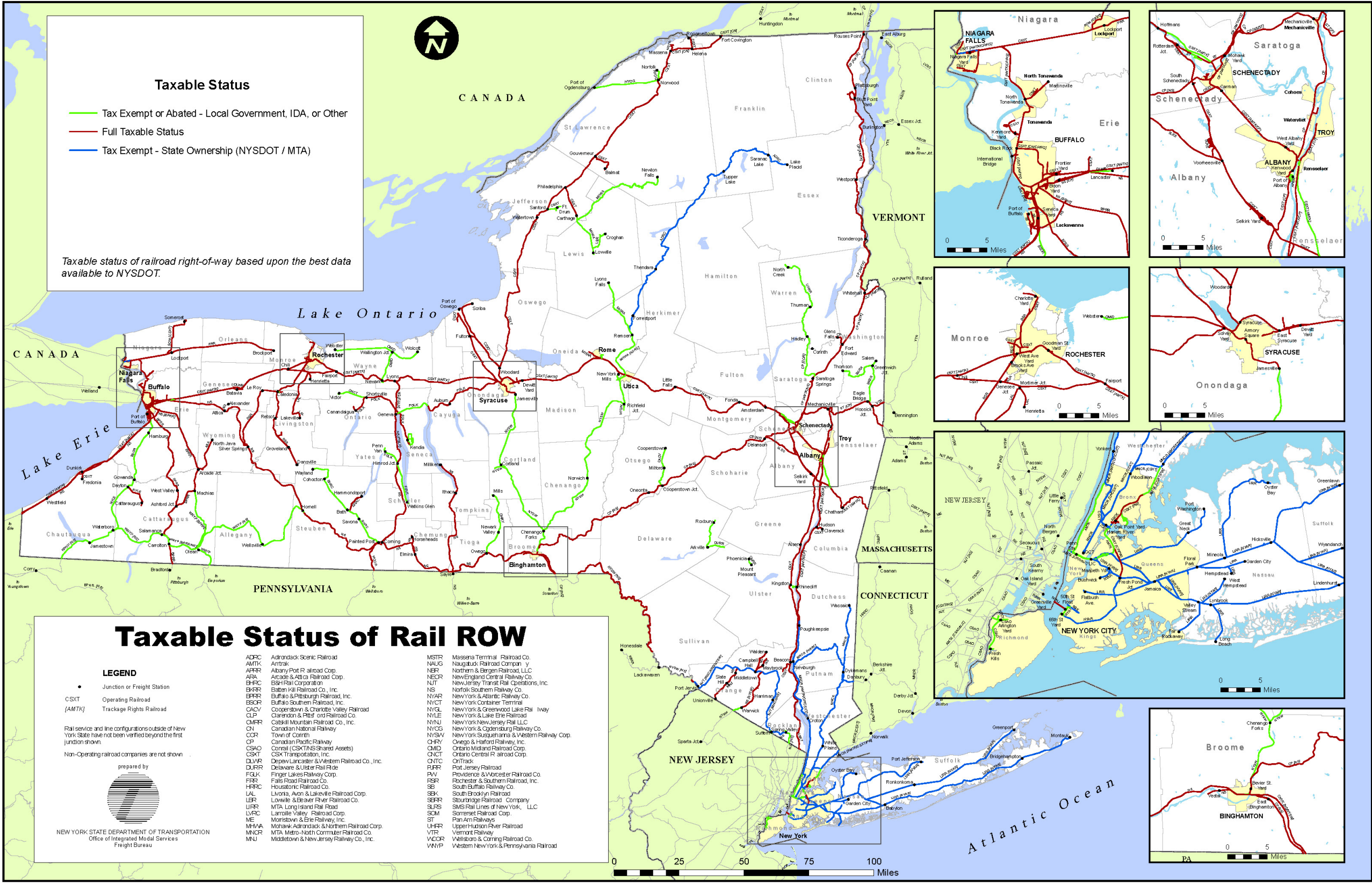


Figure 22 Taxable Status of Rail ROW

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## CHAPTER 5 – INTERCITY PASSENGER RAIL

### 5.1 The Intercity Passenger Rail Network in New York State

#### Overview

Intercity passenger rail service in the United States and in New York State is provided by Amtrak, officially the National Railroad Passenger Corporation. Amtrak's national passenger rail system currently covers 22,000 miles of rail, serving more than 500 communities in 47 states. During federal fiscal year 2007, a record 25.8 million passengers rode Amtrak. The latest nationwide ridership numbers, for the period from October 1, 2007, to July 31, 2008, show an 11.3 percent increase over the same period last year.

Amtrak was created in 1970 through enactment of the Railroad Passenger Service Act (P.L.91-518) to retain national passenger rail service and began operations on May 1, 1971. Prior to the creation of Amtrak, intercity passenger rail service in the United States had been provided by private freight railroad companies. Ridership on these lines had been declining since World War II due to increased competition from automobile and air travel. Congress recognized the need for a national system of rail travel, charging Amtrak to operate a core network of 23,000 miles on tracks owned mostly by private freight railroads.



**Figure 23 Amtrak at Syracuse Intermodal Transportation Center**

States such as New York recognized the need to preserve and to invest in intercity passenger rail. The first priority was to continue "core" routes essential to their constituencies. In New York State, this core service included routes from New York City to Albany and west to Niagara Falls. Section 403(b) of the Rail Passenger Service Act allowed states to retain services not included in Amtrak's core system or to introduce a new Amtrak service by paying part of the operating losses incurred by that service. On July 1, 1978, New York State, in cooperation with Amtrak, established one of the first state-supported Amtrak services -- the *Adirondack* from Albany-Rensselaer to Montreal. New York State continues to provide operating support for the *Adirondack* service. In August 2000, the *Adirondack* was named one of the Top Ten Most Scenic Train Trips in the World by National Geographic Traveler magazine.

## 5.2 Existing Passenger Rail Services, Stations, and Routes

### Service Summary

Amtrak markets and provides intercity passenger rail service in upstate New York as follows: *Empire Service*, *Adirondack*, the multistate *Lake Shore Limited* and the *Maple Leaf* to Toronto, Canada. Those services reach 25 passenger rail stations of various size and ridership.

Seven passenger rail stations are served from Penn Station in New York City to the Albany-Rensselaer station in Rensselaer, along the southern portion of Amtrak's Empire Corridor and located east of the Hudson River. Another nine passenger rail stations are served between Albany-Rensselaer and Niagara Falls, N.Y., along the western portion of Amtrak's Empire Corridor. *Adirondack* service reaches an additional nine passenger rail stations in New York north of Schenectady to the international border at Rouses Point on its route to Montreal, Quebec. New York State is also served by Amtrak's Northeast Corridor service at Penn Station in Manhattan. That service operates on the main line between Boston, Mass., and Washington, D.C.

#### a. *Empire Service*:

The rail corridor for Amtrak's *Empire Service* lies entirely within New York State and includes the following segments:

- |  |                  |
|--|------------------|
| • Niagara Falls-Buffalo (Niagara Branch)       | 29 miles         |
| • Buffalo-Albany (Chicago Line)                | 290 miles        |
| • Albany-Rensselaer-Penn Station (Hudson Line) | <u>142 miles</u> |
|  | Total 461 miles  |

Connections to cities and other services include:

Northeast Corridor from Penn Station;  
Boston from Albany-Rensselaer Station;  
Montreal and VIA Rail from the *Adirondack*;  
Chicago from the *Lake Shore Limited*;  
Toronto and VIA Rail from the *Maple Leaf*.

#### b. *Adirondack*:

The route of the state-supported *Adirondack* includes the following segments:

- |   |                  |
|---|------------------|
| • Albany-Rensselaer-Penn Station (part of Empire Corridor)            | 142 miles        |
| • Albany-Rensselaer-Montreal<br>(Adirondack Corridor-subsidized part) | <u>240 miles</u> |
|   | Total 382 miles  |

Connections to other services include:

Northeast Corridor from Penn Station;  
Boston from Albany-Rensselaer Station;  
Western N.Y./Chicago from *Lake Shore Limited*;  
Rutland, Vt. from *Ethan Allen*;  
Montreal and VIA Rail from the *Adirondack*.

The state-supported *Adirondack* service is important for tourism and economic development, provides rail passenger service to residents of the Adirondack area and is a connection to Montreal.

c. Lake Shore Limited:

The *Lake Shore Limited* provides long-distance service with endpoints in New York City's Penn Station and Chicago's Union Station. In New York State, it includes the following segments:

- Buffalo–Albany-Rensselaer (Chicago Line) 290 miles
- Albany-Rensselaer-Penn Station (Hudson Line) 142 miles
- Total 432 miles
- There are no stops along the approximate 90 miles from Buffalo to the Pennsylvania state line in western New York.
- The Albany-Rensselaer–Boston portion of the *Lake Shore Limited* is served by a connecting train operating only between these points.
- The primary route of the *Lake Shore Limited* runs from Albany-Rensselaer to Penn Station in Manhattan.

Connections to other services include:

Northeast Corridor from Penn Station;  
Rutland, Vt. from the *Ethan Allen*;  
Montreal and VIA Rail from the *Adirondack*;  
Chicago and the many Amtrak routes originating at that station;  
Toronto and VIA Rail from the *Maple Leaf*.

d. Maple Leaf:

The *Maple Leaf* is grouped as part of Amtrak's *Empire Service*, providing service between the Penn Station in New York City and Niagara Falls, N.Y.. The train continues on to Toronto, making four intermediate stops. The service between Toronto and Niagara Falls, Ont., is operated by VIA Rail.

- U.S./Canada border, Niagara Falls–Buffalo 23 miles
- Buffalo–Albany-Rensselaer (Chicago Line) 290 miles
- Albany-Rensselaer-Penn Station (Hudson Line) 142 miles
- Total 455 miles

Connections to other services include:

Northeast Corridor from Penn Station;  
Rutland, Vt. from the *Ethan Allen*;  
Montreal and VIA Rail from the *Adirondack*;  
Chicago from *Lake Shore Limited*;  
Toronto and VIA Rail.

e. Intercity Passenger Train Services

There are 13 round-trip trains that provide the services described above. All 13 travel between Penn Station and Albany-Rensselaer stations:

- Seven round-trip trains serve only the Hudson Line between Penn Station and Albany-Rensselaer.
- Four additional round-trip trains continue west:
  - Two are *Empire Service* trains that continue to Niagara Falls;
  - The *Maple Leaf* provides service through Niagara Falls to Toronto;
  - The fourth is the *Lake Shore Limited* providing service through Buffalo to Chicago.
- Two additional trains are state-supported with a terminus in Penn Station. State support for the portions of each train north of Albany-Rensselaer are as follows:
  - New York's state-supported *Adirondack* providing service to Montreal;
  - Vermont's state-supported *Ethan Allen* providing service to Rutland via Whitehall on the Adirondack Corridor.

The following map shows the number of round-trip trains currently in service in New York State.

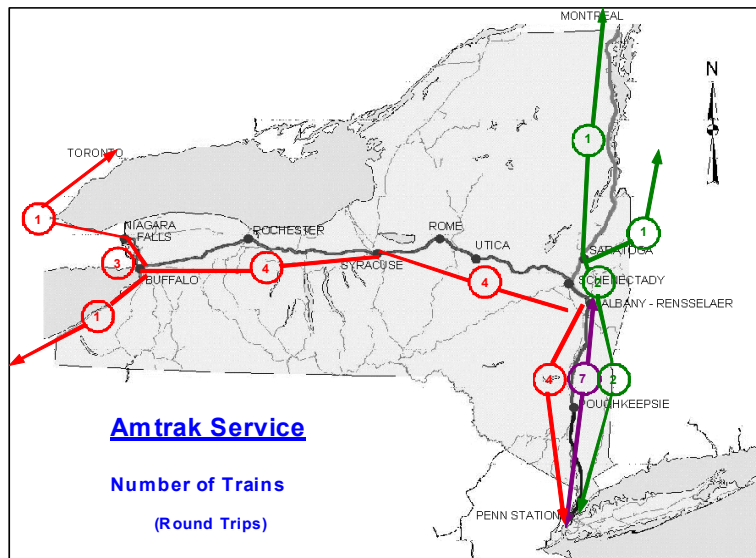


Figure 24 Amtrak Service - Number of Round-Trip Trains

### Intercity Passenger Rail Service Compared to Other Modes

As demonstrated on the Northeast Corridor, where intercity passenger rail has been reported to serve a majority of the market, rail service can be and is competitive with other modes. Empire Service between Penn Station in New York City and Albany-Rensselaer is also highly competitive with other travel modes and is particularly popular with business travelers. These services demonstrate that people will choose to travel by rail regularly if it meets their needs; this will produce less congestion for other modes of travel. Rail passengers have the advantage of traveling from one city center to another city center. For example, rail passengers traveling to Penn Station in Manhattan enjoy direct connections to the subway and commuter rail networks. Rail travel in all of the route segments in the table below, except Albany to Montreal, are relatively competitive with automobile travel in terms of travel time.

Amtrak has changed its fare structure to emulate the “yield management” practices of the airline industry by utilizing a system that maximizes the fare at peak times on peak days and offers a cheaper off-peak fare. Amtrak’s *Revenue Management System* also sets ticket fares for high-demand trains at prices higher than fares for lower-demand trains. Amtrak’s fare structure also is generally time-dependent. The earlier a ticket is purchased prior to the travel date, the lower the price; a purchase closer to the travel date will generally be at a higher price. Historically, Amtrak has set *Empire Service* and *Adirondack* fares considerably higher than other similar Amtrak routes in the nation. In addition, Amtrak often excludes these upstate New York routes from special promotions or discounts often given on comparable intercity passenger rail routes in other areas of the country.

<b>Approximate Travel Time (Hours)</b>			
<b>Segment</b>	<b>Rail</b>	<b>Auto*</b>	<b>Air**</b>
Albany - NYC	2.5	2.5	1
Albany - Buffalo	4.8-5.25	4.4	1
NYC - Buffalo	7.3	6.7	1.5
Albany - Montreal	8.8	3.7	3.5
*NYS Thruway or I-87 North **Air travel time is airport to airport and does not include travel time to/from airport or security. Travel to/from Manhattan can be significant. For example, a subway trip from Penn Station to John F. Kennedy Airport Terminal #1 is approximately one hour.			

**Figure 25 Approximate Travel Times**

The travel times for the route segments in the above table do not consider factors for automobile and air travel that increase the cost and travel time of these modes of travel. Some factors include traffic congestion, road work delays, parking (especially in New York City where parking is limited and costly), air travel security check-in, growing plane delays and cancellations, air passenger dissatisfaction and rising air fares.

In 2008, NYSDOT conducted an analysis comparing travel times of scheduled airline and rail service between the Northeast Corridor cities of Boston, Providence, New Haven, New York City, Newark, Philadelphia, Baltimore and Washington, D.C. This analysis showed that Amtrak travel times among Northeast Corridor cities beat air travel times in most instances when considering a one-hour standard for security clearance and travel from midtown (where train stations are typically located) to the airport. This was especially evident in travel from New York City to every other Northeast Corridor city where there is scheduled airline service (Boston, Providence, Philadelphia, Baltimore and Washington, D.C.).

Continued improvements to intercity passenger rail service, specifically those that reduce travel time, increase schedule reliability and/or make pricing more competitive with other modes, will increase the attractiveness of this invaluable asset.

### 5.3 Passenger Rail Intermodal Facilities

Amtrak provides service to 25 stations in New York State (see Figure 28). Some of those stations, such as Hudson and Amsterdam, are owned by Amtrak; others, such as Albany-Rensselaer and Syracuse, are owned by other entities. Regardless of station ownership, it is reasonable to expect that transportation providers who utilize a facility bear some responsibility for that station's infrastructure.

Intermodal connectivity strives for a convenient, seamless service between modes at transportation hubs to enhance regional mobility. The availability of information on connecting travel modes is essential to coordinated service.



**Figure 26 Amtrak Stations in New York State**

The intermodal facility in Syracuse is a good example. The Central New York Regional Transportation Authority (CNYRTA) owns and operates an intermodal facility that is served by Amtrak, *Greyhound* and *Trailways* intercity bus services and local CNYRTA bus services. The facility has extensive transit information available to arriving Amtrak passengers. Local buses and destinations are announced, as are all intercity trains and buses. Although coordinated service does not exist, transfer among modes is relatively simple.

Among the difficulties related to better intermodal coordination is the poor on-time performance along the corridor, especially for longer-distance trains and the limited train frequencies beyond Albany to the west and north.

The Capital District Transportation Authority's Rensselaer Rail Station is more commonly known as the Albany-Rensselaer station. The station opened in September 2002 and is Amtrak's 9<sup>th</sup>- busiest station in the country, serving more than 650,000 people each year. The multilevel facility features retail, commercial and meeting space as well as ticketing, customer comfort and travel features and conveniences. High-level boarding platforms eliminate the need to cross tracks, ensuring passenger safety and convenience.



**Figure 27 Rensselaer Rail Station**

Penn Station in New York City – Pennsylvania Station in midtown Manhattan is the nation’s busiest Amtrak station. Transportation providers serving this station include: New Jersey Transit (NJT), the Long Island Rail Road (LIRR) and the New York City Transit Authority.

Moynihan Station in New York City – The expanded Moynihan Station project is being developed to improve passenger circulation and platform access at the Pennsylvania Station complex. Improved passenger movements are expected to expand railroad capacity and train throughput. All railroads using the completed Penn Station/Moynihan complex -- serving Amtrak, LIRR, and NJ Transit – likely would benefit from the improvements in platform access, pedestrian circulation, and other modifications.

In September 2008, Governor Paterson announced specific conditions for state investment in developing the Moynihan Station project. This represents a significant infrastructure priority for the state. The conditions are to ensure that the improvements in transportation capacity at the station are coordinated with other major development and infrastructure projects. The Governor called for all of the project’s partners, from both the public and private sectors, to discuss the challenges in implementation and to report back with an assessment of the challenges and potential solutions.

The Governor’s conditions include:

- Ensuring an increase in transportation capacity by expanding the number of tracks and platforms at the station and instituting operational changes by the LIRR, NJ Transit, and Amtrak.
- Coordinating the station’s development in tandem with other major development projects, including New Jersey’s Access to the Region’s Core (briefly discussed in Chapter 6, Section 6.5).
- Ensuring that the project helps to revitalize the surrounding community.

<b>Amtrak-served Stations in New York State</b>		
<b>STATION</b>	<b>OWNER</b>	<b>INTERMODAL CONNECTIONS</b>
<b><i>Empire Corridor - West</i></b>		
<b>Niagara Falls</b>	Amtrak-Old Station	
<b>Buffalo - Exchange Street</b>	City of Buffalo	Guaranteed Thruway bus connections to Dunkirk, Fredonia and Jamestown
<b>Buffalo/Depew</b>	Amtrak	
<b>Rochester</b>	Amtrak	
<b>Syracuse</b>	CENTRO	Connections with Greyhound and Trailways intercity Bus, and Centro local/regional transit service.
<b>Rome</b>	City of Rome	
<b>Utica</b>	Oneida County	Connections with Greyhound, Trailways and Birney Bus services; and Adirondack Scenic Railway.
<b>Amsterdam</b>	Amtrak	
<b>Schenectady</b>	Amtrak	Connections with CDTA (Capital District Transportation Authority) local bus service.
<b><i>Hudson Line / Empire Corridor - South</i></b>		
<b>Albany-Rensselaer</b>	CDTA	Connections with CDTA bus service.
<b>Hudson</b>	Amtrak	
<b>Rhinecliff</b>	Amtrak	
<b>Poughkeepsie</b>	Metro-North Railroad	Connecting Service with Metro-North Commuter Rail Service and local transit buses.
<b>Croton</b>	Metro-North Railroad	
<b>Yonkers</b>	Metro-North Railroad	Connections with Metro-North Commuter Rail Service and city buses.
<b>Penn Station (New York City)</b>	Amtrak	Connecting service with Long Island Rail Road, New Jersey Transit and MTA (Metropolitan Transportation Authority) subway and bus services.
<b><i>Adirondack Corridor</i></b>		
<b>Rouses Point</b>	CPR - Delaware & Hudson Railway (D&H)	
<b>Plattsburgh</b>	Plattsburgh Depot Partnership	
<b>Port Kent</b>	Town of Chesterfield	Connection with Lake Champlain Ferry to Burlington, Vt.
<b>Westport</b>	Town of Westport	Connecting bus service to Lake Placid.
<b>Port Henry</b>	CPR - Delaware & Hudson Railway (D&H)	
<b>Ticonderoga</b>	Town of Ticonderoga	
<b>Whitehall</b>	Village of Whitehall	
<b>Fort Edward</b>	Fort Edward Local Development Corp.	Connection to Greater Glens Falls Transit bus service to Glens Falls.
<b>Saratoga Springs</b>	CDTA	Connections with CDTA bus service.

**Figure 28 Amtrak-Served Stations in New York State**

## 5.4 Route Ownership/Facility Assets/Conflicts

Most intercity passenger rail service in New York State runs on track that is owned by freight railroads or other private entities.

CSXT is the primary owner of the Empire Corridor route from Poughkeepsie to Niagara Falls. Amtrak leases a portion of the double-track CSXT Hudson Subdivision from the Stuyvesant area through the Albany-Rensselaer Station and the single-track portion from this station over the Livingston Avenue Bridge across the Hudson River west through Schenectady Station.

An important fact is that CSXT controls the train dispatching along the corridor from Niagara Falls/Buffalo to Poughkeepsie (start of Metro-North territory) and, thus, is responsible for freight and passenger train movements along this route.

Amtrak owns and maintains the southernmost 10.8 miles of track from the Spuyten Duyvil Bridge across the Harlem River (northern tip of Manhattan) into Penn Station. Amtrak also owns roughly seven miles of track just west of the Schenectady Station. In addition, Amtrak owns what is called the Post Road Subdivision that connects to the CSXT Berkshire Subdivision that allows for service between Albany-Rensselaer and Boston.



**Figure 29 Host Railroads along Amtrak Service Routes**

The Metropolitan Transportation Authority's Metro-North Railroad leases the track along the east side of the Hudson up to Poughkeepsie from Midtown Trackage Ventures LLC (the company that now owns the assets of the former Penn Central Railroad). The lease runs through 2274. Metro-North operates, maintains, and makes capital improvements to the rail line.

The Canadian Pacific Railroad owns and maintains the track in New York north from Schenectady Station to Rouses Point. At Rouses Point near the international border, the *Adirondack* service switches to Canadian National Railway Company (CN) track for its connection into Central Station in Montreal.

The Niagara Falls Bridge Commission (NFBC) owns and maintains the Whirlpool Rapids Bridge that crosses the U.S.-Canada international border and connects Niagara Falls, N.Y. and Niagara Falls, Ont.



**Figure 30 CN Whirlpool Rapids Bridge, Top Tier, Amtrak Service Only**

The top tier of the bridge accommodates railroad operations while the bottom tier is automobile highway traffic. The NFBC and CN have a long-term use agreement; since CN no longer runs freight service over this bridge, it passes on any maintenance expense to Amtrak.

### **5.5 Intercity Passenger Rail Service Performance**

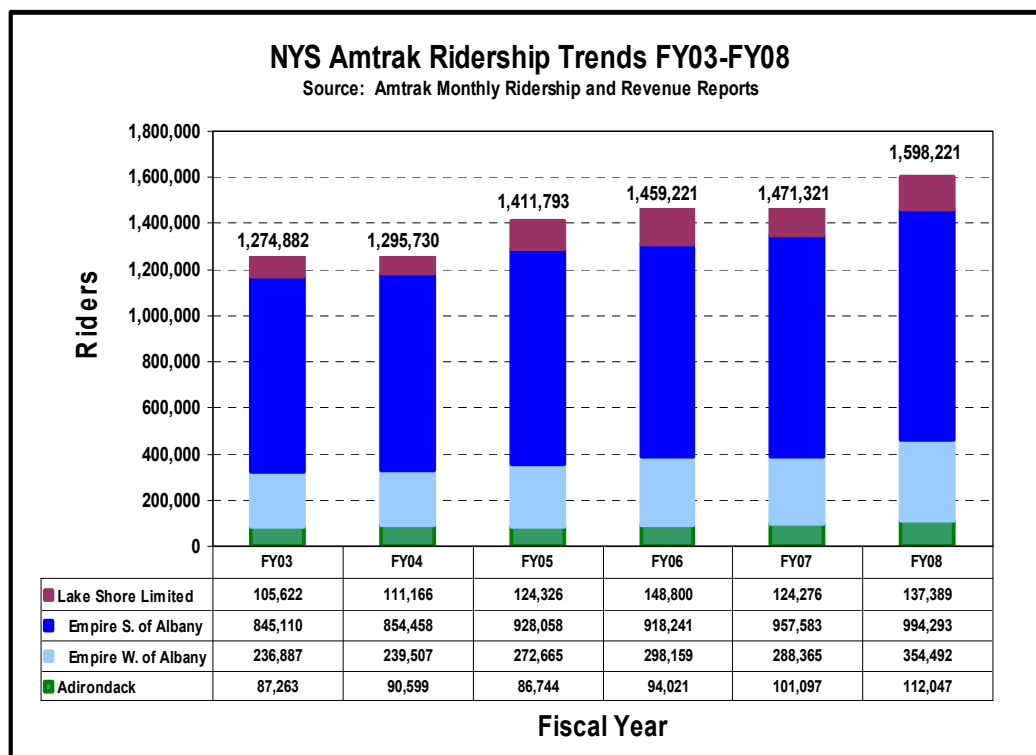
Unless otherwise noted, all figures in this section are based on the Federal Fiscal Year that runs from October 1<sup>st</sup> through September 30<sup>th</sup>.

#### **Ridership**

Total passenger rail ridership in New York State for the most recent Federal Fiscal Year (FFY 2008: 10/1/07 to 9/30/08) was 1,598,221, with most of this associated with the Albany–Penn Station segment (994,293; 62 percent). The *Lake Shore Limited* ridership is only that portion associated with New York State. Ridership along the Northeast Corridor at Penn Station is not included in this total, although in excess of 8 million Amtrak passengers board or alight at this station annually.

*Annual Trend:*

Total New York State ridership is up 8.6 percent from FY 2007 levels. For the Empire Corridor south of Albany, ridership increased by 3.8 percent, while west of Albany ridership grew substantially by 22.9 percent.

*Five-Year Trend:*

**Figure 31 NYS Amtrak Ridership Trends**

As represented in the preceding chart, total Amtrak ridership in upstate New York has grown significantly in all corridors. Total statewide ridership grew by more than 25 percent during the last five years. Most notably, *Empire Service* west of Albany-Rensselaer has increased by 50 percent since FY 2003, while ridership on *Empire Service* south increased by 18 percent. Adirondack ridership increased 28 percent over the five-year period.

### On-Time Performance

On-Time Performance (OTP) is defined as the percentage of trains that arrive at their final destination at the scheduled arrival time plus the tolerance allowed for that segment. The tolerances for New York State trains are: Penn Station to Albany-Rensselaer - 10 minutes; Penn Station to Montreal - 20 minutes; and, Penn Station to Niagara Falls, 25 minutes.

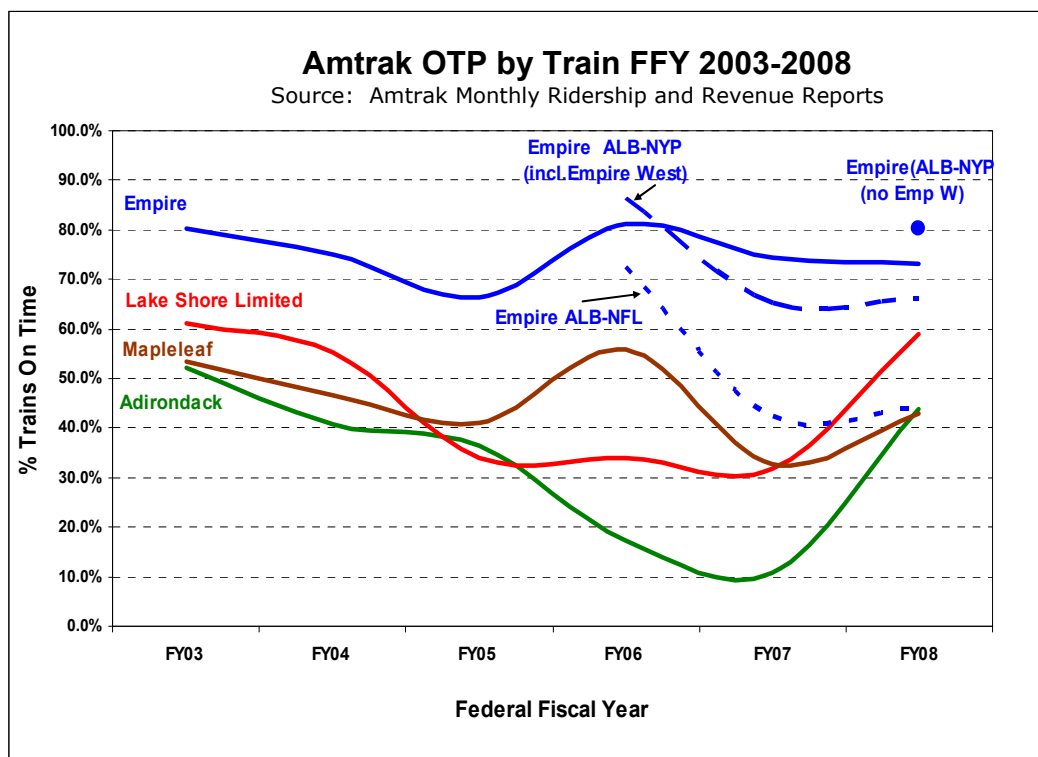
### OTP Annual Trend:

Overall OTP for all Amtrak trains statewide was 63.9 percent in FFY 2008. Amtrak's goal is 90 percent. Empire service trains had an average OTP of 73.0 percent. Those Empire trains traveling only between Penn Station and Albany had an OTP of 80.1 percent, while trains between Penn Station and Niagara Falls had an OTP of 44.2 percent. The Maple Leaf to Toronto was on time only 42.8 percent of the time, while Adirondack OTP was 43.9 percent. The Maple Leaf and especially the Adirondack can be subjected to lengthy delays at the border in addition to other factors.

### OTP Five-Year Trend:

As represented in the following trend line chart, total on-time performance had declined significantly from FFY 03 to FFY 07. However, in FFY 08, OTP shows signs of recovering toward FFY 03 levels as a result of efforts among Amtrak, the railroads and NYSDOT to identify and to address the OTP issues.

Although on-time performance along the Empire Corridor had declined over this period, ridership has grown, as noted above. Several positive ridership factors may be offsetting the negative ridership impact of declining OTP, including: greater driving costs (i.e. fuel, tolls), changes in airline and bus fares and reduced mobility options as airlines discontinue flights in upstate New York.



**Figure 32 Amtrak On-Time-Performance by Train FFY 2003-2008**

*Causes for OTP Delays:*

Amtrak routinely collects information on the causes of train delays. FFY 08 OTP delay data is under analysis. The following table summarizes delay data for FFY 07 for all NYS passenger rail service.

Segment	Source of Delay	Share of Responsibility 2007	Major Causes of Delay
Albany – Penn Station	Host	76%	Speed Restrictions; Commuter Train Interference
	Amtrak	17%	Engine Failure; Passenger Related
	Other Causes	7%	Waiting on Time, Police Related
Albany - Niagara Falls	Host	82%	Freight Train Interference; Speed Restrictions
	Amtrak	10%	Passenger Issues; Crew Related Delays
	Other Causes	8%	Customs & Immigration; Waiting on Time
Schenectady - Montreal	Host	77%	Speed Restrictions
	Amtrak	7%	Passenger Issues
	Other Causes	16%	Customs & Immigration

**Figure 33 Major Causes of OTP Delay FFY 2007**

*Host Railroad-Caused Delays:*

Host railroads include: CSXT, Canadian Pacific Railway, Metro-North and Canadian National. All three service corridor segments describe at least 76 percent of all delays are associated with the host railroads.

The major cause of host railroad delays varies depending on the segment examined. For Albany–Penn Station and Schenectady–Montreal, speed restrictions, including defect and slow orders, cause the most delays. The speed restrictions are the result of the track condition and the large amount of work being done on the line. The interference of commuter trains is the second-most common cause of delay between Albany–Penn Station. Albany–Niagara Falls service is most often delayed by freight train interference; this is a heavily used freight rail line.

*Amtrak-Caused Delays:*

For FFY 07 from Albany, Amtrak-related delays caused 17 percent of the problems to Penn Station and 10 percent to Niagara Falls. From Schenectady to Montreal, Amtrak is accountable for only 7 percent of the problems. For all delays attributed to Amtrak, passenger-related is either the first- or second-most common cause.

*Other Causes of OTP Delay:*

For the Albany-Niagara Falls and Schenectady-Montreal segments, reasons for delay that cannot be attributed to Amtrak or the host railroad are border-crossing delays; customs and immigration review is the cause of most other delays on the Schenectady-Montreal and the Albany-Niagara Falls service. Between Albany and Penn Station, inclement weather caused most other delays.

**Root Causes and Financial Impacts of Amtrak Delays**

The diverse and problematic reasons for delays along the Empire Corridor are mirrored nationwide on virtually all corridors. On September 8, 2008, the USDOT Office of Inspector General analyzed the root causes of delays to Amtrak trains operating outside the Northeast Corridor (NEC). The objectives of the audit were to: (1) identify the root causes of delays for Amtrak trains operating outside the NEC; (2) assess whether Amtrak's passenger trains have been granted preference over freight trains as prescribed by law; (3) identify practices in dispatching trains that influence delays; and (4) evaluate whether delays in maintaining track have affected Amtrak train delays.

The report found several root causes of Amtrak train delays, including: (1) host railroad dispatching practices, some of which result in preference violations; (2) track maintenance practices and the resulting speed restrictions; (3) insufficient track capacity; and (4) external factors beyond the host railroads' control. They also identified host railroad dispatching practices that violate Amtrak's preference rights. However, lack of agreement among Amtrak and the host railroads, both on how to measure delays and how to define Amtrak's right to preference in the use of rail infrastructure, make measuring violations of preference and allocating the exact causes of delay difficult.

An earlier 2008 Federal Railroad Administration Inspector General report (March 28, 2008), which focused on the effects of poor OTP on Amtrak's performance, found that improving Amtrak's OTP on routes outside the NEC to 85 percent in fiscal year 2006 would have reduced Amtrak's operating loss by \$137 million (primarily by increasing ticket revenues and decreasing labor and fuel costs). This constituted more than 30 percent of Amtrak's \$452 million FY 2006 cash loss.

Both reports referenced the root causes and found that steps can be taken, within current law and with statutory changes, to reduce Amtrak train delays and to improve its OTP.

**5.6 Rail System Asset Condition: Intercity Passenger Service**

Amtrak maintains a fleet of 57 passenger coaches and 16 Food Service/*Business Class* cars to provide 16 train sets for the Empire Corridor operations in the state. This includes the Hudson Line service from New York City to Albany, full corridor service to Niagara Falls and the *Adirondack* to Montreal. In addition, it covers the Albany-Boston run. The equipment is roughly 30 years old and was built by the former Budd Company of Philadelphia, Pa.

Due to greater ridership levels, particularly west of Albany, the equipment pool is inadequate to increase the service levels. Amtrak states that no additional equipment is available to New York State from the national Amtrak pool.

The 16 food service cars used throughout the Empire Corridor also contain a select number of Amtrak *Business Class* seats. The food service in these rail cars is staffed only for those eight daily trains with routes that travel west of Albany–Rensselaer. Amtrak practice is to not provide food service staff for these food service cars that run on the 13 daily round-trip trains traveling only between Penn Station and Albany–Rensselaer. With no food service staff, these cars are included in the respective trains solely to provide *Business Class* seating on this busy portion of the Empire Corridor.

### **5.7 Passenger Rail Issues at International Border Crossings**

The border crossings between New York and Canada present unique issues that affect intercity rail passenger service connections to Montreal (the Adirondack) and Toronto (the Maple Leaf). Two top issues are where customs and immigration reviews occur (on-train or off-train – given that such inspections cannot be conducted either at the passenger’s boarding or de-boarding station) and where baggage is placed on the train (baggage car vs. with passenger). The new procedures implemented in response to the events of September 11, 2001, have magnified the challenges of reducing delays at the borders.

Regarding Amtrak’s *Adirondack* service, there are ongoing discussions to create a sealed train between Rouses Point and Montreal; this would allow for clearance or pre-clearance to be conducted at the Montreal station instead of en route. Recent federal legislation requires a report on rail border crossings. As part of H.R. 1, Section 1523 called for a passenger rail border crossing study to be submitted to Congress by August 2008. The study considered many factors necessary to make pre-screening and pre-clearance of Amtrak passengers a reality.

#### *Canadian Passenger Rail Inspection Procedures and Requirements:*

There have been changes affecting rail service. Amtrak is working with the Canada Border Services Agency (CBSA) to discuss issues regarding those impacts. NYSDOT is participating and will assist Amtrak in an analysis of a joint-use facility in Montreal.

#### *Future Investments:*

Currently, there are improvements under consideration that collectively would improve the border crossing for intercity passenger rail operations and custom inspections. Improvements specifically related to individual trains include the introduction of baggage cars, a sealed train and pre-clearance. The sealed train improvements would require changes to either the current Montreal terminus at Central Station or Windsor Station to allow for customs and immigration improvements.

Relevant border station improvements under review include a new CBSA facility within the Niagara Falls station in Ontario, a new station at Customs House in Niagara Falls, N.Y. (the two are connected by the Whirlpool Bridge), and remodeling of the Rouses Point Station. Any such review should consider potential freight rail impacts as well as passenger service, and the impact on

border-related delay. As with any station evaluation, any impact the station might produce, either at the local or regional level, as well as connectivity to local transportation systems and destinations, must be considered, along with any impact on current Amtrak service and construction and maintenance costs and responsibilities.

## **5.8 Intercity Passenger Rail Studies in New York State**

### **Hudson Line “Joint Users” Study**

Completed in November 2005, the *Hudson Line Railroad Corridor Transportation Plan* “Joint Users” study identified and evaluated potential projects to improve operational capacity and flexibility and travel time for commuter, intercity passenger and freight service along the Hudson Line between New York City and Schenectady as demand increases over the following 20 years. The “Joint Users” study final report was issued in November 2005.

### **High Speed Rail (HSR)**

There have been many efforts to study high-speed passenger rail service in New York State. The most recent study was completed by the New York State Senate Task Force on High Speed Rail in January 2006. The study area included the *Empire Service’s* south corridor (i.e. Empire Corridor South), generally described as the Hudson Line between New York Penn Station and Albany-Rensselaer, and the *Empire Service’s* west corridor from Albany-Rensselaer to Buffalo (i.e. Empire Corridor West). The purpose was to investigate implementation and operation of high-speed rail (HSR) routes in New York State through:

- Examination and analysis of potential HSR routes and stations;
- Economic impact of a HSR system;
- Environmental impacts from construction and operation of a HSR system;
- Economic feasibility of HSR, including ridership and revenue forecasts; and/or
- Coordination with existing intercity passenger rail and commuter rail services.

Secondary efforts investigated potential extensions that would integrate any New York State system with other rail transportation systems within the Northeast and potential connections to the Mid-west. The final Task Force Report is available at: <http://www.cdfa.org/hsr/>.

### **Corridor Studies**

The *I-87 Multimodal Corridor Study* was undertaken to address the substantial growth in trade and tourism in the Interstate 87/ Autoroute 15 NAFTA corridor between New York City and Montreal. The corridor, through its connections to crossing highways, rail lines and other modal connectors, serves a broad area that includes the Mid-Atlantic states, New England and eastern Canada, representing a total population of approximately 80 million people.

In addition to I-87 and its parallel highway facilities, the study focused on needs and improvements for freight and passenger rail, aviation and waterborne modes and any intermodal connectors. The *I-87 Multimodal Corridor Study* and the concurrently conducted *I-87 Corridor High Speed Rail Prefeasibility Study* recommended specific improvements for both passenger and rail service, some of which have been implemented while others are under design or require further study. Specifically, \$27 million in strategic investments have been made along the Canadian Pacific Railway's Canadian Main Line between Schenectady and the international border at Rouses Point. Other initiatives, such as a *Secured Montreal Rail Passenger Facility* that would allow both U.S. and Canadian border enforcement personnel to conduct security operations from a shared, single facility, are still in the early conceptual development stages.

### **Ohio and Lake Erie Regional Rail Cleveland Hub Study**

The Ohio Rail Development Commission undertook a multipart study, beginning in 2001, to develop a passenger rail service plan for Ohio, utilizing Cleveland as a service hub. NYSDOT participated in this study because of overlapping interests in the Cleveland-Buffalo-Toronto corridor. NYS participated in the inspection of existing rail services from Cleveland to Niagara Falls and existing and proposed Buffalo and Niagara Falls station locations. The Ohio study's objectives dovetailed with the proposed improvements to New York's Empire Service, and modeling efforts indicated a synergistic opportunity for both sets of improvements. System developments in Ohio rail service would also provide improved connections to the proposed Midwest Initiative's system development and improvement goals

### **Empire Corridor West Railroad Transportation Plan Study**

The Empire Corridor West (ECW) study is a rail network modeling, operations simulation analysis, and infrastructure improvement feasibility assessment capacity study of the Empire Corridor from Rensselaer to Niagara Falls. Funding for this rail corridor study was provided by the New York State Senate Task Force on High Speed Rail. The ECW study focus is identifying the potential infrastructure and operation elements beneficial to improving passenger and freight rail services on the current rail corridor west of Schenectady. The study will propose recommendations for improving passenger and freight operations over the Empire Corridor's shared use trackage. Begun in September 2008, the ECW Study will take approximately one year to complete with a final report, including infrastructure capital improvement recommendations, to be released in fall of 2009.

### **Binghamton Rail Passenger Service Study**

In cooperation with New York State Department of Transportation, local governmental entities and the railroads, Amtrak will conduct a study on the feasibility of establishing rail passenger service from Binghamton to New York City. The study will look at several options, including from Binghamton to Scranton (with ongoing service to the New York City area), and from Binghamton to Syracuse. Recommendations from the Binghamton Rail Passenger study effort will be incorporated into the statewide rail network as embodied in the State Rail Plan.

## **5.9 Intercity Passenger Rail Issues and Needs in New York State**

In New York State, there are few tracks dedicated solely to passenger service. Intercity passenger rail service operates on tracks owned or controlled by freight railroads, commuter railroads and, only to a small degree, Amtrak.

Federal legislation creating Amtrak requires that passenger trains are to be given priority over freight trains. However, as owners of the track, freight railroads recognize that passenger train schedules and frequency have a direct, negative impact on their business. From the freight railroad standpoint, each additional passenger train reduces the railroad's ability to accommodate freight services; if a freight train has to wait on a siding for a passenger train to pass, the run time of the freight train increases, adding costs for the railroad. Freight carriers, therefore, have concerns that new passenger services or increased train frequencies not diminish their ability to operate existing freight service or increase freight capacity in the future. Their interest is to optimize the limited capacity for potential freight growth, so their willingness to accept additional passenger service is directly proportional to the amount of capital investment available to create added capacity or operating flexibility to accommodate passenger trains without reducing freight rail operational effectiveness.

In addition to the limitation on capacity imposed by available trackage, speed variations reduce capacity and affect passenger and freight trains. Freight trains generally operate at speeds slower than Amtrak trains, in accordance with FRA track class operating restrictions. Slower-moving freight trains would have to move to a siding to let the Amtrak train pass or the faster-moving Amtrak train has to slow down behind the slower freight train. This does not allow for optimal usage of tracks.

### **Operating Issues and Needs**

In New York State, Amtrak provides primarily intercity service. Some of those services are, however, operated in a commuter rail environment and some people use Amtrak as a commuter service.

The federal Railroad Passenger Service Act of 1970 that created Amtrak also identified a "core" network of intercity rail passenger service that included the Empire Corridor across upstate New York. Individual states were given the ability to offer financial assistance to Amtrak to provide passenger service to routes that were not included in the final system plan. This state-supported service became known as "403(b)" service. The *Adirondack* is the only passenger rail service supported by the State of New York.

The formula for state-supported service has undergone changes, including which operating and capital costs related to the service are to be considered and at what percentage level. The current formula covers 100 percent of "fully allocated" operating losses.

There were also agreements with Amtrak that saw NYSDOT undertaking capital projects (e.g., track or station improvements) in lieu of the subsidy payment. Therefore, it is difficult to analyze subsidy payment trends. That said, in 1984, New York State paid Amtrak \$583,770 to support the *Adirondack* service, rising to more

than \$1 million in 2000. In 2004, this amount was more than \$4 million and for FY 2008 (current year) it is \$4.8 million.

In 2006, Congress directed Amtrak to develop the *Strategic Reform Initiative* (SRI) that would require states to pay 100 percent of fully allocated costs for all Amtrak services. Based on FFY 2006 revenues and costs, the estimated annual costs in FFY 2012 would total nearly \$60 million (this does not include any capital or overhead). This encompasses all Amtrak service in New York State, with the exception of the Lake Shore Ltd. The SRI was proposed to be phased in over a five-year period.

As discussed, NYSDOT has provided support for *Adirondack* service. It is reasonable to expect that if Amtrak provides new or improved service that there would be a state role in supporting that service. States should not be required to provide additional funding for existing service. Determination of the level of state contribution should take into account all funds that a state provides, including capital investments they have made either directly or via a third party. Any change in the current maintenance of effort would result in New York and other states having to pay to support the current passenger rail system rather than providing more or better service.

### **Passenger Station Issues and Needs**

Beyond New York's investment in rail infrastructure is the need to improve the interface with localities. In addition to newly constructed stations in Syracuse, Albany-Rensselaer and Saratoga Springs, there are proposals for new or renovated stations in Buffalo, Dunkirk, Rochester, Niagara Falls, Lyons and Schenectady.

NYSDOT is working with Amtrak, freight railroads and public transportation providers to develop a station action plan. This action plan should incorporate schedule, fare and information systems and service.

### **Capital Issues and Needs**

State investments in tracks, signal systems, bridges and grade crossings on the Empire Corridor helped create and maintain the nation's only high speed passenger service outside of the Northeast Corridor. More recently, over the last 12 years, New York State has invested \$168.5 million in track, signal, grade crossing and station improvement projects to maintain and improve rail service.

Many of these investments were done to benefit both freight and passenger service but are located primarily on freight rights-of-way where the majority of Amtrak's intercity passenger route miles exist in the State. Investments in the rail infrastructure used jointly by Amtrak and Metro-North between New York City and Poughkeepsie often benefited both railroads.

The following table summarizes New York State's capital investments for intercity passenger rail service for the period 1995 through 2007:

<b>NEW YORK STATE CAPITAL INVESTMENT IN INTERCITY RAIL PASSENGER SERVICE</b> <b><i>By Project: 1995 thru 2007</i></b>			
<b>Corridor</b>	<b>Project</b>	<b>Description</b>	<b>Amount</b>
EMPIRE	RTL-II: TRACKWORK	125 MPH DEMONSTRATION	\$2,000,000
	MAINTENANCE FACILITY	RENSSELAER STATION	\$3,590,000
	SYRACUSE	NEW INTERMODAL CENTER	\$19,000,000
	RENSSELAER	NEW INTERMODAL CENTER	\$62,760,000
	ROME	RENOVATED STATION	\$4,325,000
	UTICA	RENOVATED STATION	\$15,500,000
	DEPEW	REMODELED STATION	\$150,000
	POUGHKEEPSIE	STATION/PARKING	\$16,800,000
	GRADE CROSSINGS	MULTI YEAR PROGRAM	\$17,844,324
	CSXT/AMTRAK CAPACITY IMPROVEMENTS	WEST ALBANY	\$2,000,000
		<b>EMPIRE SUBTOTAL</b>	<b>\$143,969,324</b>
ADIRONDACK	SARATOGA SPRINGS	NEW STATION	\$6,050,000
	CP: CANADIAN MAIN LINE	TRACK & SIGNAL WORK	\$18,435,295
	CP: CANADIAN MAIN LINE	CAPACITY IMPROVEMENTS	\$57,628
		<b>ADIRONDACK SUBTOTAL</b>	<b>\$312,481,571</b>
		<b>GRAND TOTAL</b>	<b>\$168,512,247</b>

**Figure 34 NYS Capital Investment in Intercity Rail Passenger Service**

The current poor on-time performance for intercity passenger rail service cited in Section 5.5 of this report is a concern. NYSDOT is extending its Hudson Line Joint Users study to western New York. NYSDOT also continues to work with other states regarding the effectiveness of given investments. For example, NYSDOT has coordinated study efforts with Ohio to understand potential joint benefits of any investments along a Cleveland-Buffalo-Toronto corridor.

As part of the *I-87 Multimodal Corridor Study* in 2004, Canadian Pacific Railway presented a proposal that identified \$40.9 million in capital needs on its Canadian Subdivision between Schenectady and Rouses Point. This investment was expected to allow CPR to raise the maximum allowable speed to 79 mph at the northern and southern ends, along with increases of 5 to 10 mph in train speeds between Whitehall and Port Kent. The program anticipated a 38-minute reduction in run time between Schenectady and Rouses Point. CPR sought financial support from NYSDOT for these capital investments on a 50/50 basis. NYSDOT subsequently funded a number of capital improvements, while CPR made equal or greater investments.

### **5.10 Empire Corridor Mainline Third Track Initiative: Albany - Buffalo**

To improve rail service through upstate New York, this initiative proposes to expand, enhance, and support capacity growth for intercity passenger and freight rail services in the Albany-Buffalo portion of the Empire Corridor. A multi-year, three-phase, implementation plan is being developed to accomplish the necessary environmental, financial, and regulatory changes to increase freight and passenger train capacities and operating speeds by investing in a third mainline express track primarily within the corridor's existing railroad rights-of-way.

For many decades, the former New York Central Railroad Water Level Route from Albany to Buffalo was a four-track speedway carrying passenger and freight trains along express and local tracks. Starting in the 1960s, the New York Central (and later Conrail) rationalized their system by strategically removing track infrastructure to reduce maintenance and operating expenses and to lessen the railroad's real property tax liabilities. As the current owner, CSX Transportation operates this shared use corridor as a high-volume, two-track railroad that is heavily used by 50 to 60 daily freight trains and eight daily scheduled intercity passenger trains. The existing corridor includes a single-track segment between Albany and Schenectady with portions having 110 mph passenger train service and limited freight train activity.

Proposed passenger rail service benefits of this proposed Empire Corridor mainline third track initiative include: increased separation of freight and passenger train operations, passenger schedule time reductions, increased schedule reliability, additional train frequencies, and improved railroad and highway safety of corridor operations. This initiative would create the Empire State Passenger Rail System, reaching across the state and to the national network.

### **5.11 Northeast Corridor**

Amtrak's *Northeast Corridor* service operates on the Northeast Corridor (NEC) main line from Boston to New York to Washington, D.C., and is the most heavily used rail corridor in North America. In addition to service within the Northeast region, the NEC provides connectivity to the national passenger and freight network and contributes significantly to the economic vitality of the Northeast and the nation.

The NEC provides intercity rail service throughout the corridor and hosts commuter rail service in all major Northeast cities. In the densely populated Northeast, the NEC provides a critical alternative to travel via the region's overburdened airports or congested Interstate highways. Amtrak's NEC routes now handle 54 percent of the New York- - Washington air-rail travel market and 39 percent of the New York-Boston air- - rail travel market. A primary reason for this majority market share is that the NEC is successful in the states in which it is located. The NEC states have invested heavily in rail infrastructure. That investment, while not exclusively on the NEC, has ensured that the services feeding the core are strong. Having strong services feeding the NEC is essential to its continued success.

The NEC hosts a complex and unprecedented mix of high speed rail, intercity rail, commuter rail and freight service. Capital investment to date has been insufficient to maintain the infrastructure in a state of good repair, much less provide additional capacity. Key elements of the network are, therefore, in inadequate condition.

Although states and railroads throughout the Northeast are calling for greatly expanded rail services, the NEC is not poised to accommodate future growth. Substantial investment is needed to ensure a vigorous future for the NEC.

Although the main line of the NEC lies primarily outside the borders of New York State, those portions carry a significant portion of the rail traffic. The prime terminal for the New York metropolitan market is Penn Station in New York City. Besides Amtrak intercity service from Boston and Washington, the corridor carries Metro-North Railroad and Long Island Rail Road commuter operations. Metro-North operates between New York City and the northern suburbs on 56 state-owned NEC right-of-way miles. Metro-North operates 423 trains between New Haven, Ct., and New Rochelle, N.Y., via the New Haven Line; and between Poughkeepsie and Manhattan, via the Hudson Line. The LIRR operates between Long Island and terminals in Queens, Brooklyn and Manhattan. The LIRR operates 566 trains on five miles of the NEC between Harold Interlocking (Queens) and Penn Station.

Approximately 500,000 passengers a day pass through Penn Station. The terminal is served by Amtrak intercity passenger trains and LIRR and New Jersey Transit commuter trains, together constituting more than 1,000 weekday trains. Amtrak ridership at Penn Station totaled 8.0 million riders in 2007, with approximately one in every three Amtrak riders nationally using this station.

## **5.12 National Issues & Implications for New York State**

### **Reauthorization of Intercity Passenger Rail**

Federal legislation for authorizing intercity passenger rail, known as the Passenger Rail Investment and Improvement Act of 2008, was signed into law by the President on October 16, 2008. Besides reauthorizing Amtrak, the act establishes a federal requirement for the states to undertake comprehensive rail planning. In addition the act provides for the first time an intercity passenger rail capital grant program for the states.

The law addresses issues important to New York State. However, the state will continue to seek the following goals and objectives for federal intercity passenger rail legislation that were either not addressed in the rail legislation or need changes to address its concerns more fully:

#### Stable Dedicated Federal Funding from Diverse Portfolio of Revenue

There must be a comprehensive, sustainable, diversified portfolio of federal revenue to address the varied investment needs of the nation's entire surface transportation system. Such a strategy can provide stability in revenue and lay the foundation for federal funding mechanisms that are more compatible with sound federal energy policy and provide dedicated federal funding for both freight and intercity passenger rail.

### Climate Change Revenue

Greenhouse gas reduction programs, whether from a cap-and-trade program or a carbon tax, may be a potential source of dedicated federal funding for rail. According to the Annual Energy Outlook 2007 by the U.S. Department of Energy, Energy Information Administration, "Amtrak (intercity passenger rail) is 17 percent more energy efficient than either commercial airlines or automobiles. Passenger rail-driven improvements have helped increase rail line capacity, which benefits freight trains that use the same tracks. Freight rail has a fuel consumption rate 11.5 times more energy efficient on a BTU per ton-mile basis than trucks." Federal investment in intercity passenger rail could be a vital element in a comprehensive strategy to reduce greenhouse gas emissions associated with the transportation sector. When enacting climate change legislation, Congress should consider allocating to intercity passenger rail the portions of any carbon tax or cap-and-trade auction proceeds reflective of transportation's impact on greenhouse gas emissions.

### Capital Assistance for Intercity Passenger Rail Service

The Passenger Rail Investment and Improvement Act of 2008 establishes a multiyear state capital grant program for intercity passenger rail capital investments for new service, additional frequencies, or enhancements and improvements to existing service, with a federal/state share of 80/20. The next challenge is for the state to work with Congress to secure dedicated funds for this program. Although, the approximately \$1.9 billion over five years is a strong start, it is only a portion of deferred national needs.

### State-Supported Routes

- An adequately funded – 80 percent federal share - federal capital program needs to be in place before the states begin to share costs.
- Implementation of standardized methodology to allocate costs should occur only after Amtrak implements an improved financial accounting system. The rail bill requires such a system, but it does not require the new system to be in place before implementing the cost-allocation methodology.
- States may share in the cost for providing new or improved services but should not pay more for current routes and frequency of service nor for achieving state of good repair on the existing Amtrak system.
- States that provide funding for routes must have input on the operations decisions for these routes.

### Alternate Passenger Rail Service Provider(s)

Section 214 of the rail bill initiates a pilot program for carriers that own the infrastructure over which passenger service operates to petition the Federal Railroad Administration to operate intercity passenger service. This is a critical first step to introduce competition in passenger rail service. The pilot program should be carefully monitored and evaluated to maximize its usefulness in developing a more comprehensive program.

### Northeast Corridor

The Passenger Rail Investment and Improvement Act of 2008 requires Amtrak, in consultation with USDOT and states, to develop a capital plan to bring the Northeast Corridor to a state of good repair by 2018. It also directs USDOT to establish a Northeast Corridor Infrastructure and Operations Advisory Commission to promote mutual cooperation and planning pertaining to rail operations in the Northeast Corridor. The act also directs Amtrak to determine the infrastructure and equipment improvements necessary to provide regular high speed service between Washington, D.C., and New York City and between New York City and Boston within specified periods of time. New York State together with other states have long sought this type of corridor planning effort and recognize that it requires commitment and cooperation by the states and Amtrak.

### Improved Accountability

The rail bill includes provisions to improve the accountability of Amtrak. These include an improved financial accounting system within three years of enactment, the annual development and submission to Congress of a five-year financial plan and performance metrics and standards. It is important to monitor the implementation and effectiveness of these reforms.

### Dispute Resolution Process

The rail bill implements a process to resolve track and right-of-way disputes between commuter rail operations and freight railroads. However, it does not create a similar dispute resolution process to address conflicts between intercity passenger and freight rail services. Congress should establish an efficient, fair and equitable dispute resolution process to address conflicts between passenger and freight rail service, such as access to the rail lines, scheduling concerns and other issues that may arise as plans are developed and projects are advanced.

## **National and Regional Transportation Organizations**

New York has been active in national and regional organizations that work to improve national and regional rail passenger and freight service. Those in which NYSDOT is a member include:

The American Association of State Highway and Transportation Organizations (AASHTO) Standing Committee On Rail Transportation (SCORT) mission is to spearhead the effort to achieve enactment of legislation that creates a stable structure for developing intercity passenger rail service into the future.

AASHTO policy asserts that states must play a leadership role in ensuring that any solution will meet the mobility needs of passengers.

The States for Passenger Rail Coalition (S4PRC) is a coalition of state departments of transportation that supports intercity passenger rail initiatives and advocates for federal funding. The coalition's mission is to promote the development, implementation and expansion of intercity passenger rail services with involvement and support from state governments.

The mission of the American Public Transportation Association (APTA) is to strengthen and improve public transportation, serving and leading its diverse membership through advocacy, innovation and information sharing. APTA works to ensure that public transportation is available and accessible for all Americans in communities across the country. NYSDOT and MTA are active members.

The Coalition of Northeastern Governors (CONEG) is a nonpartisan association of the governors of the eight Northeastern states --Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. CONEG encourages intergovernmental cooperation in the Northeast on issues relating to the economic, environmental and social well-being of the Northeast states. Transportation/rail, energy and the economy are the current focal points for CONEG's regional initiatives. Governor Paterson is the Vice Chair of CONEG and will become Chair of CONEG in 2009.

The I-95 Corridor Coalition is an alliance of transportation agencies, toll authorities and related organizations as well as law enforcement from the Maine to Florida with affiliate member organizations in Canada. The Coalition provides a forum for key decision- and policy-makers to address transportation management and operations issues of common interest. It has been a successful model for multistate/jurisdictional interagency cooperation and coordination for more than a decade.

## **Conclusion**

Intercity rail passenger service in New York State is provided exclusively by Amtrak. Empire Service, which serves the corridor between New York City, Albany-Rensselaer, Buffalo, and Niagara Falls, is part of the Amtrak federally funded core system. The State of New York provides operating support for the Adirondack Service, from Albany to Montreal. The Maple Leaf Service extends one Empire Service daily round trip from Niagara Falls to Toronto. The State of Vermont supports the Ethan Allen Service from Albany-Rensselaer to Rutland. These corridor services are supplemented by Amtrak's Lake Shore Limited; this train also serves the Empire Service corridor from New York City to Buffalo and then continues west to Cleveland and Chicago. Penn Station in New York City is the hub of Amtrak's Northeast Corridor, operating north to Boston/Springfield and south to Washington/Richmond/Newport News.

Overall, 12 round trips operate between New York City and Albany/Rensselaer, with two extended to Buffalo and Niagara Falls, one to Montreal, and one to Rutland. The trains mentioned above serve 25 passenger stations in New York State. Several stations are intermodal facilities, providing a seamless transfer between Amtrak rail service and connecting bus and local transit services.

In Federal Fiscal Year 2008 (October 1, 2007, through September 30, 2008), total ridership in New York State was almost 1.6 million, with 62 percent of these trips being taken between Albany-Rensselaer and New York City. Ridership in New York has grown almost 25 percent since 2003 and has increased 9 percent since 2007.

Amtrak services run almost entirely on track owned and controlled by private freight and commuter railroads; this can cause in delays to these services due to freight and commuter train interference, track work and slow orders.

Several important studies of intercity rail passenger service have been completed or are under way in New York State. They range from a study of potential high speed rail development to a study on potential new rail passenger services to Binghamton and studies on capital needs to upgrade the Empire Service infrastructure both south and west of Albany-Rensselaer.

Key issues facing New York State intercity rail passenger service include delays on freight railroads, future funding for state support of Amtrak services, station development needs and the need for stable federal funding for the state's intercity rail passenger services.

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## CHAPTER 6 – COMMUTER RAIL

### 6.1 Commuter Rail Networks of New York State

New York State is home to the two largest commuter rail providers in North America -- the Long Island Rail Road (LIRR) and Metro-North Railroad (Metro-North) -- subsidiary corporations of the Metropolitan Transportation Authority (MTA). MTA is required by statute to develop and implement five-year capital program plans for its commuter rail services. These plans establish systemwide goals, set service standards for operations and relate capital investments to the accomplishment of the goals and service standards.

The Long Island Rail Road provides commuter rail service between Nassau and Suffolk counties and New York City. LIRR is the largest and busiest commuter railroad in North America, carrying 86.1 million passengers in 2007, a 4.9 percent increase over 2006. LIRR infrastructure includes 594 miles of main line track, 296 at-grade-crossings and 124 stations on 11 branch lines. On an average weekday, the LIRR carries 289,586 passengers on 735 trains.<sup>11</sup>



Figure 35 Long Island Rail Road

Metro-North provides commuter rail service between the northern suburbs of New York City and Grand Central Terminal (GCT). Metro-North provides service on the Harlem and Hudson Lines in Dutchess, Putnam, Westchester, and Bronx counties, and the New Haven Line in Connecticut and Westchester and Bronx counties. Metro-North also contracts with New Jersey Transit (NJT) to provide west of Hudson service on the Pascack Valley and Port Jervis Lines, through Rockland and Orange counties

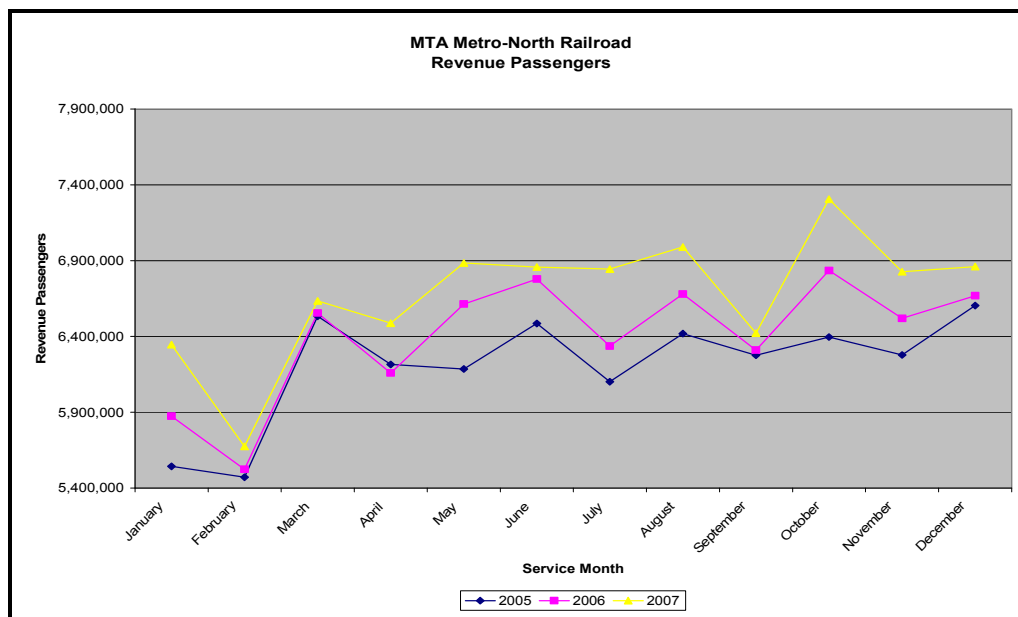
<sup>11</sup> MTA LIRR 2008-2013 Capital Program, p. 3

Metro-North carried 80.1 million riders in 2007, 4.3 percent more than in 2006. Metro-North's infrastructure includes 387 route miles (279 miles – 73.0 percent – within New York State), 795 track miles (552 miles – 70 percent – within New York State), 121 fulltime stations (89 of those – 73 percent – within New York State) on eight lines. On an average weekday, Metro-North carries 278,000 passengers on 652 trains (expanded to 661 trains on April 6, 2008). Metro-North trains achieve an on-time performance of nearly 98 percent.<sup>12</sup>

**Ridership:**

<sup>12</sup> “MTA Capital Program – 2008-2013” Metropolitan Transportation Authority. Feb. 2008. 29 May 2008 <<http://www.mta.info/mta/budget/pdf/2008-2013%20Capital%20Plan.pdf>> (February 2008) 75.

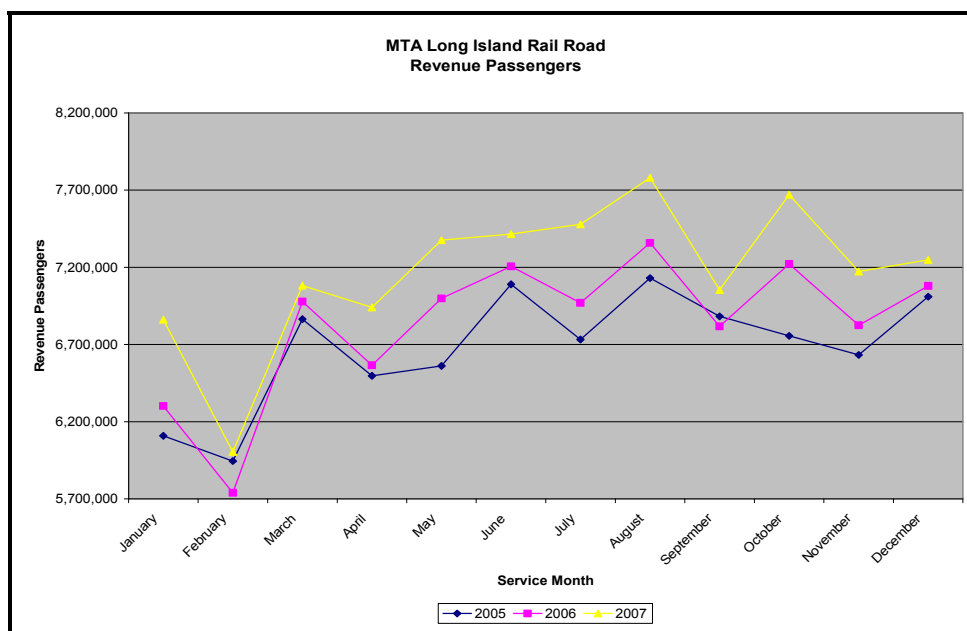
<sup>13</sup> Report on Revenue Passengers and Vehicles, Ridership Data thru Dec. 2007, issued on 2/13/08



**Figure 37 Metro-North Ridership**

Metro-North's ridership growth has outpaced employment in the region, both in terms of Manhattan-bound as well as overall ridership, rising even when employment in key ridership markets falls. Metro-North's market share of weekday commuter trips to Manhattan has increased from 70 percent in 1991 to 81 percent in 2006.

The LIRR's market share of Long Island to Manhattan journey to work trips has remained relatively constant at 78 percent.



**Figure 38 Long Island Rail Road Ridership**

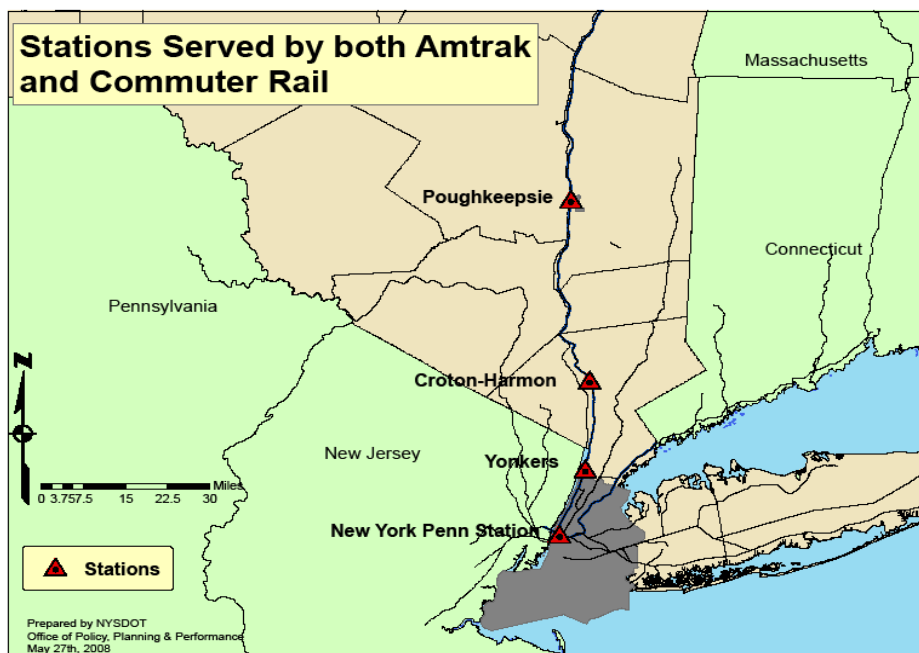
### Performance Reliability:

Reliability of service, including both On-Time Performance (OTP) and the fleets mean distance between failures (MDBF), is important to the success of the commuter railroads. On-time performance for Metro-North has increased to almost 98 percent in 2007 while LIRR reached 95 percent OTP in that same year. MDBF, the distance a rail car travels between breakdowns, has improved from 13,341 miles for Metro-North in 1988 to 110,361 miles in 2007 and from 28,945 in 1988 to 107,825 in 2007 for LIRR. These improvements are due in large part to the MTA's capital programs, beginning in 1982, as well as programmed preventative maintenance programs.

### 6.3 Commuter Rail Intermodal Facilities and Connections

The two largest passenger intermodal facilities used by the commuter railroads are Grand Central Terminal (Metro-North) and Pennsylvania Station (LIRR) where there are connections to Amtrak's intercity passenger service, MTA New York City Transit services and other public transportation services.

There are several stations served by both Amtrak and either LIRR or Metro-North. As shown in the following map, these stations are Penn Station, Yonkers, Croton-Harmon and Poughkeepsie.



**Figure 39 Stations Served by both Amtrak and Commuter Rail**

The following is a brief description of each railroad's key intermodal facilities.

#### Metro-North Commuter Railroad

Grand Central Terminal is in the heart of midtown Manhattan, on 42<sup>nd</sup> Street and Park Avenue. GCT provides access to Metro-North and MTA New York City Transit subways and buses, as well as buses to the region's three major airports. Almost 90

percent of all Metro-North trains travel into and out of this rail terminal every weekday.

Stamford Station in Connecticut is served by 10 Connecticut Transit bus routes, intercity bus routes and Amtrak.

Fordham Station in the Bronx is an important “reverse commuting” location. The station is at a major transportation hub at Fordham Plaza with seven MTA New York City Transit bus routes passing in front of the station.

White Plains Station is in Westchester County and a key point for New York City (NYC) bound travel as well as a destination for reverse peak and intermediate (not originating nor ending in NYC) ridership. The station sits close to 22 Westchester County Bee-Line bus routes, five Transport of Rockland bus routes and eight other regional bus lines.

Harlem/125th Street Station connects the three main routes of the system to the nearby Lexington Avenue IRT subway line (4, 5, and 6 trains) and four MTA New York City Transit bus lines.

### **Long Island Rail Road**

Pennsylvania Station is the primary western terminal for the LIRR commuter network and is in the underground levels of Pennsylvania Plaza, between 7th and 8th Avenues and between 31st and 33rd Streets in midtown Manhattan. Owned by Amtrak, Penn Station is at the center of the Northeast Corridor (NEC).

In addition to services provided by Amtrak and LIRR, commuter rail services are operated by New Jersey Transit. Penn Station is connected to six subway lines and seven bus routes operated by MTA New York City Transit.

Jamaica Station in Queens County is the LIRR’s hub station and has long been the connecting point among 10 LIRR branches and the railroad’s three western terminals at Penn Station, Flatbush Avenue and Hunterspoint Avenue<sup>14</sup>. Since AirTrain service to and from JFK Airport began in 2003, Jamaica Station has also become a busy transfer point.

Flatbush Avenue (Atlantic Terminal) station is in downtown Brooklyn and provides connection to 10 subway lines and five bus lines.

By their very nature, commuter rail stations are intermodal, requiring a different mode of transportation to either get to or come from the station. Typically, this involves using another form of mass transit, such as bus/subway, or as is usually the case with suburban commuter rail stations, the automobile. Station access by bicycle offers a potential alternative; their use may be facilitated since many local bus providers have installed or are installing bike racks on their buses. As examples, the City of Long Beach has bike racks on its buses and Suffolk County Transit, is equipping its entire fleet with bike racks. MTA-Long Island Bus is open to the possibility of putting bike racks on its buses but obtaining the necessary funding is an issue.

<sup>14</sup> “MTA Capital Program – 2008-2013” Metropolitan Transportation Authority. Feb. 2008. 29 May 2008 <<http://www.mta.info/mta/budget/pdf/2008-2013%20Capital%20Plan.pdf>> (February 2008) 49.

## 6.4 Rail System Asset Condition for the Commuter Railroads

### Infrastructure

The LIRR uses 29 yards and six major repair shops. Metro-North uses 15 yards and five major repair shops. The following table provides some asset inventory characteristics for each railroad.

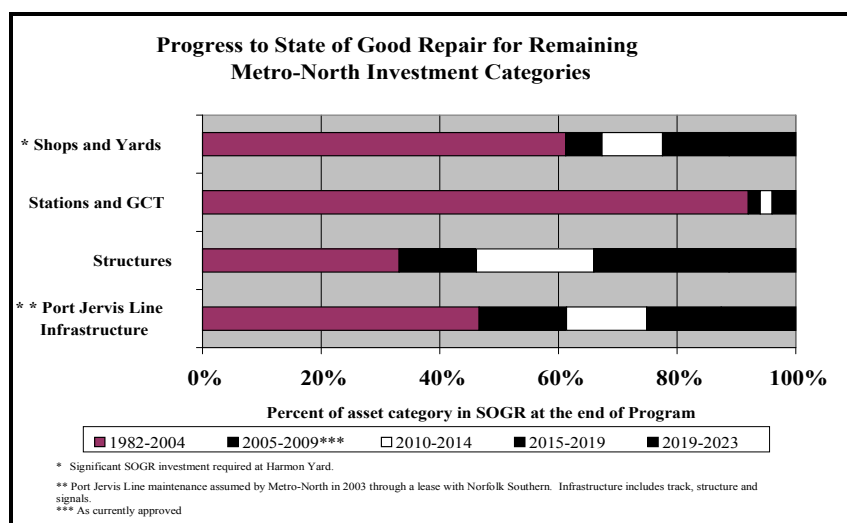
	Stations	Actual Route Miles	Main Line Track Miles	Passenger Cars	Yards	Major Repair Shops
LIRR	124	319.1	594.1	1,140	29	6
Metro-North	115	346.1	794.7	1,119	15	5
Total	239	665.2	1,388.8	2,259	44	11

**Figure 40 LIRR and Metro-North Asset Inventory**

As a result of the 5-year Capital Programs that started in the early 1980s, both commuter railroads are, for the most part, in a state of good repair (SOGR) and both are undergoing a program of rigorous preventive maintenance and ongoing normal replacement. The following is a brief report on the rail system asset condition for each railroad and what is being proposed in the next Capital Program.

### Metro-North System Asset Condition

As depicted in the following summary chart, despite capital improvements from the past 25 years of investments, significant SOGR work remains in a few categories. In addition, it is important to protect investments to date with investments in normal replacement projects. Approximately 90 percent of the investments in the core capital programs are typically earmarked for SOGR and normal replacement (NR) projects. The remaining 10 percent are dedicated to system improvement projects.



**Figure 41 Progress to SOGR for Remaining Metro-North Investment Categories**

### Metro-North Investments

In the next Capital Program, achieving core infrastructure SOGR and protecting past core infrastructure investment will remain critical elements. Regional mobility will be improved through projects that reduce travel times and increase reliability and dependability throughout all aspects of the railroad. Planned projects include modernizing and expanding the fleet, power improvements, replacement and upgrade of the train signal control system and expansion of station facilities and parking to advance the development of key intermodal facilities.

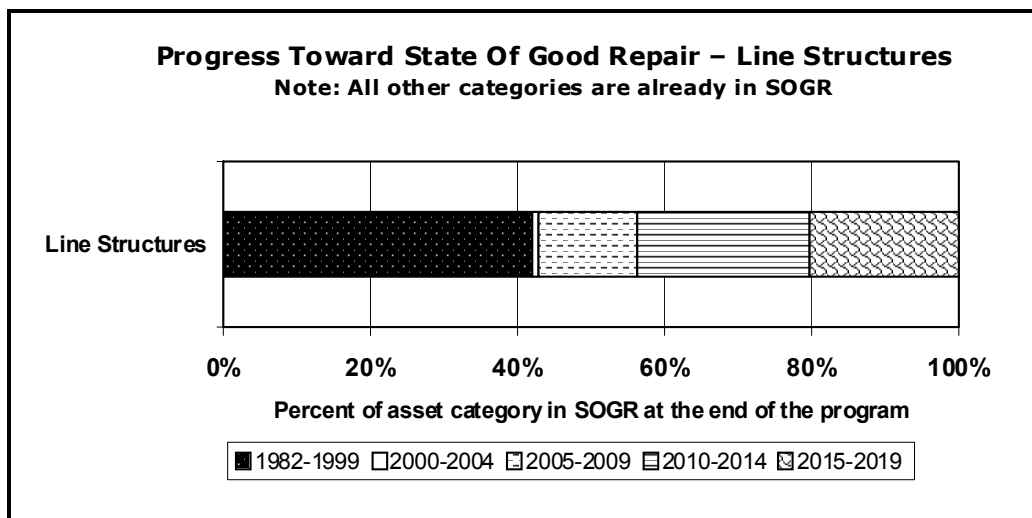
Customer Satisfaction benefits result from improvements in trip quality, station environment, customer information and ease of fare payment. Key improvements include replacing aging and obsolete ticket selling machines, improving communications with customers in stations and infrastructure improvements on the Port Jervis Line.

Safety and Security projects focus on both customer and employee safety and security. Plans for improved safety and security include achieving a state of good repair on certain bridges and Closed Circuit Television improvements at priority locations.

Achieving core infrastructure state of good repair and protecting past core infrastructure investment remain the most critical elements of the next Capital Program.

### Long Island Rail Road System Asset Condition

Investments in its capital assets since 1982 have allowed the Long Island Rail Road to improve its operations. LIRR looks to the future with “network enhancement” initiatives that will expand capacity, increase levels of service and support new LIRR service to Grand Central Terminal.



**Figure 42 Progress Toward SOGR - LIRR Line Structures**

LIRR's intensive infrastructure investments have achieved a state of good repair in all asset categories except Bridges and Viaducts in the Line Structures category. The Line Structure rating does not mean that the asset is unsafe; it characterizes an unacceptable level of cost and effort to maintain the asset through the regular operating budget.

The next Capital Program includes a significant capital investment in the Line Structure category complemented by extensive maintenance work. Through these concentrated efforts, this asset category as a whole is anticipated to achieve SOGR by 2020 as outlined by the following chart.

#### Long Island Rail Road Investments

In addition to normal replacement, a significant portion of LIRR's proposed Capital Program is focused on readiness for forecasted ridership growth and new LIRR service into Grand Central Terminal. The proposed plan demonstrates the railroad's ongoing commitment to maintaining and enhancing mobility, economic health and quality of life in the region. Proposed investments will maintain LIRR in a state of good repair through funding of its most essential components.

### **6.5 Commuter Rail System Issues and Needs**

The New York metropolitan region's commuter railroads are working on projects and studies for system improvement, network expansion and needed capital investment that individually and collectively will dramatically improve each commuter railroad's ability to attract and to provide service to additional commuters throughout the region. The following is a brief description for each project or study.

#### East Side Access

East Side Access is LIRR's \$7.2 billion project that will connect the LIRR Main Line and Port Washington Branch in Queens to a new LIRR terminal beneath Grand Central Terminal.



**Figure 43 MTA/ Long Island Rail Road's East Side Access Project**

This new rail connection will allow the LIRR to operate up to 24 trains per hour in the peak of the rush hour to Grand Central, dramatically shortening travel time for Long Island and eastern Queens commuters traveling to the east side of Manhattan. Among the many benefits of this project will be a new commuter rail station in Sunnyside Queens providing much-needed service to this area of New York City.

#### Main Line Corridor Improvement Project

The Main Line Corridor Improvement Project (MLCIP) proposes to provide a much-needed third track in a critical, 10-mile stretch between Floral Park and Hicksville.

The MLCIP would improve systemwide service reliability for the LIRR by providing more capacity and flexibility to move trains. Five LIRR branches, carrying 41 percent of the railroad's total ridership, converge on this stretch.

#### Tappan Zee Bridge/I-287 Corridor

In September 2008, the Tappan Zee Bridge/I-287 Corridor Environmental Review project team, led by NYSDOT and including the State Thruway Authority and the Metropolitan Transportation Authority Metro-North Railroad (MNR), announced its recommendations for the Tappan Zee Bridge/I-287 Corridor. The team, working in cooperation with the Federal Highway Administration and the Federal Railroad Administration, recommended that the bridge be replaced with a transit-ready bridge and that bus rapid transit and commuter rail transit be added to the corridor.

The project team will move forward to prepare a Draft Environmental Impact Statement (DEIS) to be completed in late 2009, with a final Environmental Impact Statement due in early 2010. The subsequent Record of Decision in 2010 will identify the preferred alternative.

Preliminary estimates of the cost of the new bridge, built to handle both bus rapid transit and commuter rail service, is \$6.4 billion, plus \$2.9 billion more for bus rapid transit and highway improvements and an additional \$6.7 billion for the build-out of commuter rail service in the future. These estimates may change over the next few years as decisions are made on alignment, bridge design and other details. NYSDOT will work with a financial advisor to develop options to fund the project.

The recommended solution calls for full-corridor bus rapid transit from Suffern to Port Chester with transfer points and new stations in between. It includes a new, two-track commuter rail transit service from the Port Jervis Line at Suffern, across Rockland County with several new stations and over the new bridge, connecting to the Hudson Line south of Tarrytown and, thus, providing direct service to Grand Central Terminal in Manhattan. Anticipated growth in travel demand in this region and the ability of the proposed transit modes to accommodate it were among the most important considerations in making this recommendation. The combination of bus rapid transit and commuter rail transit also would provide the most flexibility to accommodate multiple markets, including the cross-corridor and New York City travel markets.

### West of Hudson Regional Transit Access (including Rail Access to Stewart Airport)

This initiative will provide expanded service to address the growing demand in Metro-North's West of Hudson commuter market and to provide fast and reliable transit access that will support the development of Stewart Airport. The analysis will be coordinated with the Port Authority, NJ Transit and NYSDOT through a steering committee

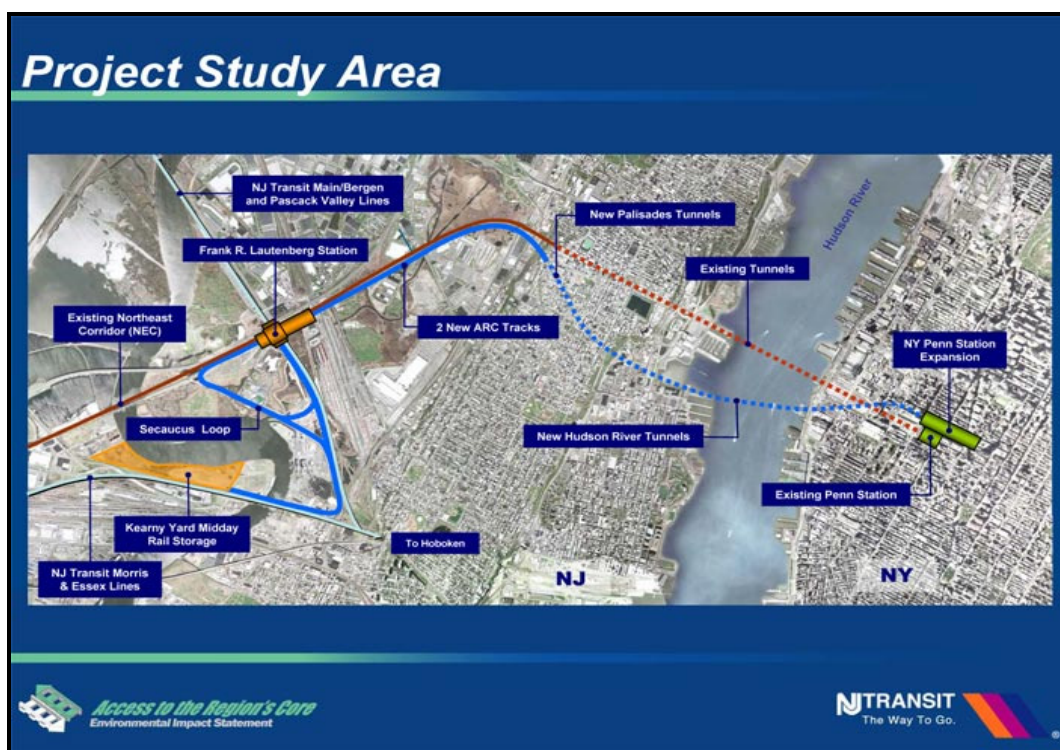
Transit access to Stewart Airport would encourage development at the airport and position it as a reliever to New York metropolitan area's major airports. Transit access is also seen as an important ingredient for the airport to be a key player in and generator of important local and regional economic development.

### Moynihan Station

The Expanded Moynihan Station Project is being developed to improve passenger circulation and platform access at the Penn Station complex in Manhattan; to expand railroad capacity and passenger throughput; to restore and to preserve an important historic resource; and to create a financially viable and dynamic mixed-use rail and transit-oriented development.

### Access to the Region's Core

Access to the Region's Core is designed to increase the commuter rail capacity of NJT and Metro-North service west of the Hudson River into New York City. This regional commuter rail project extends from Frank R. Lautenberg Station in Secaucus, N.J., to Fifth Avenue and West 34th Street in Manhattan near the current Penn Station.



**Figure 44 Access to the Region's Core West of Hudson River**

Once the project is complete, the anticipated West of Hudson train capacity into New York City would increase from 23 trains per hour to 48 trains per hour. This would enable 32,350 more weekday riders into Manhattan, a 22 percent increase over the no-build alternative, and a 63 percent increase in riders who currently use trains (West of Hudson) to access Manhattan. The net effect of the new station would increase West of Hudson rail capacity into midtown Manhattan by nearly 44 percent.<sup>15</sup>

#### Harlem Line Capacity Study

This study will identify and evaluate potential projects to improve operational capacity on Metro-North's Harlem Line between Mott Haven Junction in the Bronx and North White Plains in Westchester County and improve pedestrian conditions at Fordham Station in the Bronx.

#### Metro-North Penn Station Access

Metro-North is conducting the Penn Station Environmental Assessment to examine alternatives for improving access between the Metro-North service area east of the Hudson River and Penn Station using existing infrastructure. The benefits would be to improve access to Manhattan's west side for Metro-North's current and future customers, improve regional rail connectivity, increase Metro-North ridership, improve Metro-North service flexibility, support regional economic development and improve quality of life in the region.



**Figure 45 Metro-North Penn Station Access Study**

<sup>15</sup> [www.accesstotheregionscore.com/FAQs.htm](http://www.accesstotheregionscore.com/FAQs.htm)

### Other Feasibility Studies

Outside of the New York metropolitan area, there are other possible opportunities for Commuter Rail in the State. The Capital District Transportation Authority, for example, will include in its Long Range Plan (CDTA New Visions 2030 Plan) an analysis on the feasibility of a commuter rail link between the City of Saratoga Springs and the City of Albany. CDTA runs express commuter bus service from the City of Saratoga Springs into the City of Albany on Interstate I-87. This service has recently expanded by 36 percent in 2008 and experienced an increase in ridership of 25.2 percent from 2007 to 2008. It appears that in the near term, those corridors being considered for possible commuter rail can be served by Commuter Bus.

### **Conclusion**

The Long Island Rail Road and the Metro-North Railroad both provide commuter rail service in the New York City metropolitan region. LIRR and MNR are subsidiary corporations of the Metropolitan Transportation Authority and have comprehensive investment plans for the future. For this State Rail Plan, the focus is on investments from those plans that interface with the rest of the state rail and passenger system.

The LIRR is the largest commuter railroad in North America, handling 86.1 million passengers in 2007. MNR is the second largest commuter railroad in North America, handling 80.1 million passengers in 2007. Ridership continued to increase on both the LIRR and MNR during the past three years. Also, MN's market share of weekday commuter trips to Manhattan went from 70 percent in 1991 to 81 percent in 2006, while LIRR's share has been relatively constant at 78 percent.

Many of the infrastructure improvements of the LIRR and MNR are generally in a state of good repair (SOG) as a result of the 5-Year Capital Programs begun in the early 1980s, supported by the ongoing preventive maintenance and normal maintenance programs. Largely as a result, on-time performance (OTP) for both railroads is excellent. In 2007, MNR reached a 98 percent OTP level and LIRR reached 95 percent OTP.

Several major studies and projects are under way that would dramatically improve the service provided to commuters throughout their service areas. LIRR projects include the \$7.2 billion East Side Access project that will connect the LIRR to a new terminal beneath Grand Central Terminal; the Moynihan Station Project to improve passenger circulation and passenger access at Penn Station in New York City; and the Main Line Corridor Improvement Project to add a 10-mile-long third track between Floral Park and Hicksville.

MNR elements include potential commuter rail service over a new Tappan Zee bridge; the West of Hudson Regional Transit Access initiative to address growing demand in MN's service area west of the Hudson River, including transit access to support the development of Stewart Airport; the Harlem Line Capacity Study to improve operational capacity between Mott Haven Junction and North White Plains Station; and the Penn Station Access initiative to allow MN's Hudson and New Haven Lines to access Penn Station. Also, the Access to the Region's Core initiative would allow New Jersey Transit (and its routes extending into New York State) to operate more trains into Penn Station.

## CHAPTER 7 – RAIL SAFETY AND SECURITY

A primary goal of this Plan is to provide a safe and secure rail transportation system that reflects the needs of New York State to address both personal safety and infrastructure security. Safety and security are paramount to rail transportation efficiency and success. Through sustained demands for added commuter rail transportation and increased freight movements, New York State's railroad system continues to have an exemplary safety record. The Rail Safety Improvement Act of 2008 provides for stronger rail safety measures affecting grade crossings, train operations, crews hours of service and calls for improving automatic train stop technologies

### **7.1 Rail Safety**

#### **Federal and State Roles**

Safety on the rail transportation system in New York State is addressed through a combination of federal and state laws and regulations. The primary federal role in rail safety lies with the Federal Railroad Administration (FRA). The FRA is responsible for prescribing appropriate rules, regulations and orders in all areas of rail safety as required by the Rail Safety Act of 1970. This act provides for a State Participation Program in which New York has participated since 1977. This program provides funding for NYSDOT staff to perform planned routine compliance inspections on rail freight and passenger facilities and locomotive power and equipment.

NYSDOT is the primary state agency responsible for rail safety activities in New York. Based on requirements in State Railroad Law and State Transportation Law, NYSDOT provides safety oversight for railroad freight carriers as well as intercity passenger rail (Amtrak) operations in New York State. NYSDOT also provides safety oversight and investigation activities for all rail commuter and transit operations in the New York metropolitan region as mandated by the Public Transportation Safety Board (PTSB) in State Transportation Law.

#### **Focus Areas**

NYSDOT addresses rail safety in three major focus areas: Grade Crossing Safety, Rail Safety Inspections and Public Transportation Safety Board (PTSB) Rail Safety Activities. NYSDOT's mission in these areas is to reduce the number, rate and severity of rail accidents and to help ensure the safety of users and employees of New York State's passenger and freight rail systems.

#### **Grade Crossing Safety**

At intersections of highway and rail modes of transportation, all at-grade crossings present vehicle movement conflicts that have safety issues. Although crossing accidents are fewer in number than vehicular accidents, the consequences of crossing accidents are typically more severe due to the weight and speed of rail equipment involved. Unlike vehicular intersections, trains cannot stop in a timely manner to avoid collisions. Crossing accidents put at risk vehicle occupants and may lead to train derailment, jeopardizing the passenger and train crew safety.

Pursuant to New York State Railroad Law and federal legislation, NYSDOT has responsibility and regulatory authority for grade crossing safety at all public highway-railroad grade crossings in the state and private crossings along intercity (Amtrak) and commuter railroad (Metro-North and LIRR) corridors. Recognizing the hazards associated with public grade crossings, Congress and the FHWA have long made federal funds available to states to assist in eliminating and/or mitigating those hazards, most notably through the Section 130 program of the Surface Transportation Program.

Historically, New York has been a leader in grade crossing safety. Efforts have focused on providing modern grade-crossing warning device systems at all public crossings as well as reducing the total number of crossings by closure or elimination. More than 2,000 (72 percent) of the 2,800-plus public crossings in New York State are equipped with warning devices (flashers, gates and highway traffic signals) and there are an estimated 400 projects being developed to modernize or improve existing installations. New York State has one of the lowest grade crossing accident rates in the country, ranking 13th nationwide.

### **Grade Crossing Closures and Grade Separations**

Pursuant to USDOT guidance, a lead objective of the NYSDOT Grade Crossing Program has been to eliminate and consolidate hazardous and/or redundant grade crossings wherever possible. This is accomplished via direct closure, consolidation through installation of connector roads or, in some instances, installation of grade-separated structures. In recent years, dozens of crossings have been safely and permanently closed under NYSDOT initiative.

In situations where there are no closure options, grade separation assures guaranteed and continual safe access for vehicles and pedestrians while also permitting unimpeded operation of trains. Priority proposals for grade separation on mainline railroads in New York include:

- Ripley, Chautauqua County (State Route 76) – would eliminate up to 10 redundant crossings on high-volume CSX/Amtrak and Norfolk Southern rail corridors that connect to the industrial Midwest.
- South Rensselaer Port Access – can eliminate two hazardous crossings on the CSX/Amtrak High Speed Hudson Line and provide improved commercial access to port area.
- Lower Flints Road, Canaan – would eliminate a crossing used by slow-moving heavy trucks and tandem trailers, including gasoline tankers over CSX/Amtrak Boston Line adjacent to Thruway Berkshire Spur.
- Stewart Avenue pedestrian overpass – would improve safety at the site of numerous commuter accidents on a crossing located between station and parking lots on LIRR Main Line in the Bethpage/Oyster Bay area.
- Flatbush Avenue (State Route 32) – would insure emergency access in City of Kingston during train operations in and out of local CSX yard; would allow for closure of at least two crossings.

As bridge structures, grade-separations are necessarily capital-intensive projects that will require funding from sources beyond NYSDOT's standard Section 130 grade crossing program (currently funded by FHWA at a rate of \$6.3 million annually).

**Safety Improvement on Existing Crossings**

For crossings that cannot be closed or consolidated, NYSDOT's primary focus is on improving safety at existing locations. Most often, this is accomplished through installation of updated warning devices, including standard signs and pavement markings; installation of new or replacement active warning devices (flashers and gates); and circuitry improvements and interconnections with highway traffic signals where warranted.

More recently, more emphasis is on crossing site physical improvement, such as mitigation of profile-deficient crossings. Some grade crossings have steep roadway approaches; low-clearance vehicles, such as large trucks and trailers attempting to traverse the crossing, may have their undercarriages caught or stuck on the crossing surface, creating a hazardous situation in the event of an approaching train.

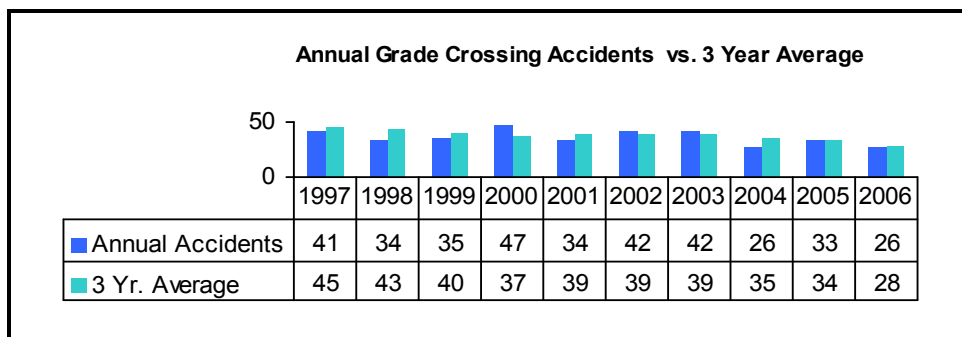
To reduce the hazards of such situations, NYSDOT has initiated an effort to identify profile-deficient sites and, where conditions allow, to work with involved municipalities and property owners to improve roadway approach grades. At a minimum, involved municipalities will be asked to install and maintain appropriate low-clearance advisory signage for roadway and crossing users.

Further crossing safety initiatives around the state will include an effort to have passive warning devices at lesser-used public grade crossings meet all updated MUTCD standards.

Finally, an area of future safety concern, increasingly recognized by the FHWA and FRA, is that of private grade crossings that traditionally have not been subject to public oversight or regulation nationally. New York, under recently enacted Sections 97 and 97a of the Railroad Law, has adopted some initial regulatory oversight of private crossings situated on Amtrak and MTA lines. However, to date, no routine funding source exists for improvement of this class of crossings at any location statewide.

**Grade Crossing Accident Data**

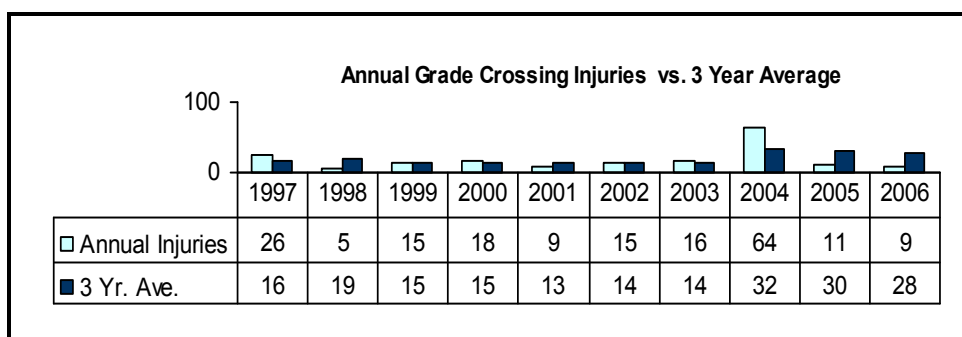
New York State has one of the lowest grade crossing accident rates in the country, ranking 13th nationally based on Federal Railroad Administration data. There were 360 grade crossing accidents recorded during the 10-year period (1997-2006) involving all railroads operating in New York State. These accidents resulted in 188 injuries and 61 fatalities; a high of 47 accidents occurred in year 2000. The lowest number of accidents, 26, occurred in both 2004 and 2006. The 10-year data reflects improvement in the moving three-year average through 2000 (see Figure 46 below). The moving average in 2006 was 38 percent lower than that of 1997. The incremental decrease in all three categories is a testament to the efforts by the railroads, PTSB and NYSDOT to continually reduce grade crossing accidents in New York State; this is done primarily through a high grade crossing improvement program and public awareness programs, such as *Operation Lifesaver* (discussed further in this section).



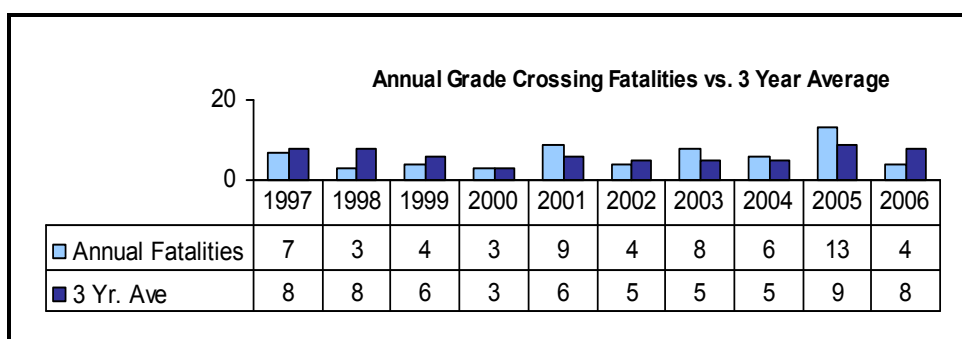
**Figure 46 Annual Grade Crossing Accidents vs. 3 Year Average**

The numbers of injuries and fatalities arising from grade crossing accidents have also declined over the same 10-year period (*Note that 56 of the total injuries reported in 2004 were the result of one accident and, as a result, will significantly influence the data*).

Figure 47 displays the trend for injuries over this period. Figure 48 similarly shows the trend for fatalities.



**Figure 47 Annual Grade Crossing Injuries vs. 3 Year Average**



**Figure 48 Annual Grade Crossing Fatalities vs. 3 Year Average**

## Rail Safety Inspections

The New York State Rail Safety Inspection Program provides safety oversight for railroad freight carriers and intercity passenger rail (Amtrak) operations within New York State. The area covered by this program is primarily upstate New York. The

New York City metropolitan area is covered by the PTSB activities referenced in the next section. Pursuant to this safety inspection program, NYSDOT conducts statewide rail equipment and track inspections, accident investigations and safety monitoring.

Freight, intercity and tourist railroads operating in New York State are required to provide immediate notification to NYSDOT if one of the following events occurs:

- All train and train service accidents involving a passenger train;
- All train and train service accidents that cause delays to passenger train movements of more than 30 minutes;
- All collisions, except those minor collisions that can be repaired without the need to move to a repair facility;
- All freight train derailments that occur on tracks where maximum authorized track speed exceeds 25 mph, that involve placarded hazardous materials cars or that derail at least five freight cars;
- Any release or spill of a hazardous material identified in 49 CFR Part 172;
- All bridge or other track opening failures;
- Any accident involving a steam-powered locomotive;
- All accidents at street or highway/rail grade crossings; or
- All train and train service accidents that result in death or an injury that requires immediate hospitalization.

The NYSDOT Rail Safety Bureau annually prepares a review of the reported accidents that occurred on New York State's freight, intercity passenger, commuter and transit railroads, as well as the equipment and track safety inspections and investigations performed by NYSDOT. These annual reports can be found at: <https://www.nysdot.gov/portal/page/portal/divisions/operating/osss/rail/inspection-system/annual-reports>

NYSDOT also supports and participates in *Operation Lifesaver*, a national railroad safety education program that is delivered to schools and localities throughout the state. The program educates the public about dangers associated with the railroads, especially safety concerns at grade crossings and along the railroad rights-of-way. NYSDOT staff participation includes approximately 24 workshops, information booths at fairs, train rides and presentations annually.

### **Public Transportation Safety Board Rail Safety Activities**

New York State's Public Transportation Safety Board was created in 1984 and is statutorily responsible by State Transportation Law for the safety oversight of all public transportation systems operating in New York State that receive State Transit Operating Assistance (STOA). Safety oversight required by the PTSB does not include Amtrak operations but includes the commuter railroads.

Since 1984, the Public Transportation Safety Board has been responsible for safety oversight of the six subway, commuter railroad or light rail public transportation systems in New York State. These systems include all commuter and transit operations of the Metropolitan Transportation Authority (Long Island Rail Road, Metro-North Railroad and New York City Transit including the Staten Island Railway), New Jersey Transit (New York State Operations) and Niagara Frontier Transit Authority. The inspection activities are performed in a cooperative partnership with

the Federal Railroad Administration and per Federal Transit Administration regulations (49CFR659).

Modeled after the National Transportation Safety Board, New York's PTSB was the first State Safety Oversight organization in the nation. The board is administratively housed within the New York State Department of Transportation, with staff support provided by NYSDOT. Historically, the PTSB's oversight program has been built around a requirement that each property develop a System Safety Program Plan (SSPP) that details the property's operating procedures for conducting business in a safe and efficient manner. The PTSB guidelines provide individual properties with the direction needed to ensure that their SSPP is developed in as thorough a manner as possible. In 1996, the guidelines were expanded to include sections on employee safety and security as required in the Federal Transit Administration oversight regulations.

The PTSB mission is to reduce the number, rate and severity of public transportation accidents. The PTSB consists of seven members chaired by the Commissioner of NYSDOT. The board's commitment to working proactively with New York's public transportation systems has led to fewer serious public transportation accidents and made New York a leader in rail safety.

Each public transportation system and/or public transportation service subject to the Safety Oversight Board that operates a commuter rail, light rail, rapid transit or subway system shall give the Safety Board staff immediate notice and written notice of the following accidents:

- All collisions and derailments, except those minor incidents resulting from shifting cars and making up trains in yards;
- All accidents at highway grade crossings;
- All fatal accidents and all injury accidents that result in injuries to two or more passengers; and
- All emergency evacuations of passengers to the roadbed or bench wall and then to the adjacent environment.

When an accident meets the above criteria, staff investigates. The resulting report is reviewed, finalized and submitted to the board for approval. The report is then transmitted to the chief executive of the appropriate railroad property.

### **System Safety**

Each public transportation operator receiving financial operating assistance from New York State is required by law to submit for the Commissioner of NYSDOT a System Safety Program Plan. The SSPP's primary purpose is to detail the provider's policies and internal operating procedures for conducting business in a safe and efficient manner. The PTSB advises the Commissioner on the feasibility and consistency of these plans.

### **System Safety: Monitoring and Lessons Learned**

Long-term safety success requires continual performance monitoring and the thorough documentation of accidents. It is important that railroad operators maintain comprehensive statistics, including minor occurrences, to evaluate patterns

and to take corrective actions. It is also important to investigate accidents to collect and analyze data to identify an accident's probable cause and contributing factors. This will allow for corrective action. Accident investigations by safety professionals are focused on *preventability*, not fault or liability. These investigations illuminate the providers' operating practices and adherence to stated policies and procedures. They provide the knowledge needed to modify or reinforce procedures. Aggregate investigation data can identify industrywide issues and trends.

### Accident Investigation Activities

Statistical data collected during 2006 reveals that the PTSB received a combined 315 reports of accidents/incidents that resulted in 60 injuries and 58 fatalities, a 12 percent and 13 percent reduction injuries and fatalities, respectively, to the previous year.

PTSB 2006 Accidents, Injuries and Fatalities by Type			
Criteria	Total Accidents	No. of Injuries	No. of Fatalities
Collision	6	2	2
Derailment	3	4	0
Evacuation	3	25	1
Grade Crossing	12	2	3
Multiple Injury	1	2	1
Passenger Fatality	2	0	1
Criteria Totals	27	35	8
Incident Collision	195	8	0
Incident/Accident	93	17	50
All Totals	315	60	58

**Figure 49 Accidents, Injuries and Fatalities by Type in 2006**

Twenty-seven of the 315 accident and incident reports received during the 2006 calendar year were reportable criteria accidents. The results of those accidents show fewer injuries and fatalities, compared to 2005 data while ridership continued to increase in the same period. Since 1984, the PTSB has investigated 998 reportable rail criteria accidents and issued numerous recommendations to rail properties.

When the PTSB investigates accidents, the facts, along with all other available evidence, are analyzed to determine the most probable cause of each accident. Recommendations, with respect to mitigating future occurrences, are issued if necessary. Recommendations may require the involved railroad operator and/or property owner to implement corrective actions, to develop new procedures and/or to adhere to the existing procedures contained in its SSPP.

### Trespassing

Accidents resulting from individuals trespassing on railroad property are a significant safety concern in New York State. Trespassing can be defined as actions prohibited

on railroad property, such as unauthorized entry to railroad right-of-way by walking on or around the tracks, sleeping on the tracks, driving or walking around downed gate crossings and intentionally jumping into the path of oncoming trains.

Each year, preventable railroad fatalities occur because of trespassing. NYSDOT and the railroad industry are committed to effective and intensive educational efforts directed at potential victims of trespassing incidents; aggressive enforcement of state and local laws concerning motorist responsibilities at crossings and access to railroad property; funding for physical improvements that reduce the likelihood of mishaps and productive research on technological solutions; and behavioral factors to help decrease trespassing activity. Additionally, NYSDOT should consider advocating for increased penalties for violation of rail safety laws.

## **7.2 Rail Security**

Passenger and freight rail services are important links in the state's transportation network. There are challenges that center on securing passenger and freight operations; improving the rail system; and fortifying rail security. Some challenges are common to both passenger and freight modes while others are unique to specific rail operations. Open access and high ridership of mass transit systems make them more difficult to secure than airports. Millions of tons of hazardous materials are shipped across the state as well. Numerous actions have been implemented since the attacks of September 11, 2001, and more are planned. Risk management and better coordination and communication can help enhance rail security.

### **Federal and State Roles**

The primary agencies responsible for security in the transportation sector and, thus, the rail transportation system are the U. S. Department of Homeland Security on the federal side and the New York State Office of Homeland Security (NYSOHS) on the state side. Security is addressed in the transportation sector mainly by identifying critical infrastructure assets and developing protection strategies for these. Other agencies, such as law enforcement and railroad operators, also play a significant role in addressing rail security needs.

New York State's Office of Homeland Security is by law, responsible for overseeing state resources applied to detection, prevention and, if necessary, response to attack. To date, the NYSOHS and the federal Transportation Safety Administration (TSA) have concentrated their security efforts on the high-volume, mass-transit rail operators in the greater New York metropolitan region. Most their resources have been used to install video surveillance cameras and motion sensors at high risk locations. In cooperation with the NYSOHS, the federal TSA is also conducting rail passenger baggage screening pilot programs in upstate New York. The intent of the pilot programs is to deter terrorist activities in and around New York's passenger rail systems.

A good example of security coordination was initiated by the Capital District Transportation Authority (CDTA) at its Albany-Rensselaer and Saratoga Springs rail-passenger stations. Joint training exercises were coordinated with first responders and the railroads to increase preparedness for a major security incident.

Other examples of completed security capital investment improvements include: radio communication systems; security cameras on board transit vehicles and in transit stations; controlling access to transit facilities and secure areas; intrusion alarms; automated vehicle locator systems; and fencing.

### **Amtrak**

As indicated on its Web site, [www.amtrak.com](http://www.amtrak.com), Amtrak has a range of security measures aimed at improving passenger rail security, some of which are conducted on an unpredictable or random basis. The following security measures may be conducted in stations or on board trains:

- Uniformed police officers or Mobile Security Teams
- Random passenger and carry-on baggage screening
- K-9 Units
- Checked baggage screening
- Onboard security checks
- Identification checks

Additionally, funding is provided to Amtrak by the U.S. Department of Homeland Security through its Transit Security Grant Program (TSGP) for security enhancements for Amtrak intercity rail operations among key, high-risk urban areas throughout the United States.

### **Commuter Rail**

The Metropolitan Transportation Authority has several security campaigns under way to address security on its buses, subways and railroads. MTA commuter railroads include Metro-North Railroad and the Long Island Railroad. In 2003, the MTA initiated the *"If You See Something, Say Something"* campaign. It exhorts travelers to:

- Be alert to unattended packages;
- Be wary of suspicious behavior;
- Take notice of people in bulky or inappropriate clothing;
- Report exposed wiring or other irregularities;
- Report anyone tampering with surveillance cameras or entering unauthorized areas; and
- Learn the basics of safe train evacuation.

The MTA has also contracted with Lockheed Martin for a state-of-the-art Integrated Electronic Security System/Command Communication and Control to enhance security throughout the New York transportation network. The program will provide enhanced monitoring, surveillance, access control, intrusion detection and response capabilities at key MTA locations and assets.

### **Freight Security**

Following the events of September 11, 2001, the American Association of Railroads established a Railroad Security Task Force. That task force produced the *"Terrorism Risk Analysis and Security Management Plan"* that was designed to enhance freight rail security. The plan remains in effect today. As a result, freight railroads enacted

more than 50 permanent security-enhancing countermeasures. For example, access to key rail facilities and information has been restricted and cyber-security procedures and techniques have been strengthened.

Communication among security officials, law enforcement and the railroads is critical to ensuring secure operations on New York's rail transportation system. Toward that end, in July 2007, CSX Transportation entered into an unprecedented rail security partnership with New York and New Jersey. This partnership formalizes and enhances CSXT's ongoing commitment to both states to share information, resources and strategies to better protect the communities in which CSXT operates.

The partnership provides New York security officials with access to CSXT's Network Operations Workstation (NOW) System. This secure, online system, developed and used by CSXT, allows New York security and law enforcement officials to independently track the location of CSXT trains and the contents of rail cars being hauled by CSXT in each state in a nearly real-time environment. This enhances New York's ability to protect citizens.

### **Vehicle and Cargo Inspection System (VACIS)**

VACIS scans shipments in a secure manner with minimal disruption and cost for rail companies, importers and shipping companies while enhancing security at border crossings. VACIS is used to inspect freight cars and rail containers. Cargo can be scanned as it passes by the machine at low speeds of approximately 7-10 km per hour. A one-mile-long train can be scanned in approximately 10 minutes. The system is designed to detect threats, contraband and items that deviate from the shipment manifest, including illegal drugs, illegal immigrants, smuggled goods, radiological materials, weapons and explosives. The Canadian Pacific Railroad (CPR) has funded this technology in New York at the Rouses Point international border crossing for use by the United States Customs and Border Protection staff.

Additionally, U.S. Customs and Border Protection staff operates a VACIS installation at the International Bridge between Fort Erie Ontario and Buffalo, the only operating freight rail crossing along the U.S./Canada border in western New York.

## **7.3 Rail Safety Issues**

### **Railroad Bridges and Undergrade Structures**

The rail industry's resurgence over the past 20-30 years is heavily straining a system that was originally constructed in the 1800s. In addition to the volume of rail traffic showing continued growth, the rail axle loadings have increased significantly from when structures were originally designed.

The major Class I railroads have invested in improvements to their track infrastructure. Under existing FRA regulations, railroads are required to self-inspect and self-certify the condition, adequacy and safety of their rail line structures/bridges. Additionally, pursuant to Section 236 of New York State Highway Law railroads are required to perform bridge inspections and provide certifications by a licensed professional engineer and report the inspection results to NYSDOT. If, as a result of an inspection, a bridge in the state is determined to be unsafe, the

railroad needs to notify the Commissioner of NYSDOT and take appropriate action to ensure that the structure is safe.

Under the Rail Safety Improvement Act of 2008, the Federal Railroad Administration must implement regulations requiring owners of track carried on one or more railroad bridges to adopt certain safety practices to prevent deterioration of railroad bridges and to improve bridge safety.

### **Inspection of Grade Crossing Warning Devices**

There has been significant progress over the past 30 years in upgrading the level of warning devices at the state's public grade crossings, but these systems need to be maintained. Maintenance and repair of highway-railroad grade crossing warning device equipment are the responsibility of the railroad owner. The Federal Railroad Administration has established minimum inspection requirements for railroad maintenance of the warning systems and is responsible for inspecting them. This will require additional resources to ensure that all active grade crossing warning devices are inspected on a three-year cycle.

The Rail Safety Improvement Act of 2008 requires the implementation of emergency notification of grade crossing problems. The act further directs the USDOT secretary to establish regulations clearing grade crossing obstructions; requires the USDOT secretary to develop model legislation for the states to use in enforcing criminal violation of grade crossing signals; and imposes civil penalties for the non-reporting of grade crossing accidents.

### **Crash Avoidance Technology**

A promising area for improving rail safety is crash avoidance at highway-rail crossings. Crash avoidance technologies include communication-based train control systems and technologies intended to improve grade crossing safety, such as motor vehicle intrusion detection systems, moveable highway barriers, median barriers and quad gates. The Rail Safety Improvement Act of 2008 calls for a new policy initiative to develop new technologies that can prevent loss of life and injuries at highway-rail grade crossings. NYSDOT is committed to working with municipalities and the railroad industry to install crash-avoidance technology where feasible.

### **Positive Train Control (PTC) and Existing Train Safety Technologies**

On several of New York's rail lines, both PTC and other forms of automatic train stop are already in operation. On Amtrak's high-speed corridor between Poughkeepsie and Hoffmans, west of Schenectady, which is owned by CSXT Transportation, locomotives have cab signals. In general, a cab signal notifies an engineer if a red signal is passed but it does not stop the train. Amtrak has implemented the Advanced Civil Speed Enforcement System (ACSES) on the Northeast Corridor (NEC) between Boston and Washington, D.C. ACSES supplements the existing cab signal/automatic train control system on the NEC, providing full PTC functionality in support of operations up to 150 mph. Originally designed as a transponder-based system, the system now has enhancements under development to replace the transponders with a Global Positioning Satellite (GPS) radio-based system. The cab system also displays the most recent signal on the locomotive's control panel to the engineer, in case the trackside light was missed. The Long Island Rail Road has automatic train stop on its system; this automatically stops a train if it passes a red

signal. Metro-North Commuter Railroad has cab signals similar to the system installed on the Empire Corridor, noted above.

With the enactment of the Rail Safety Improvement Act of 2008, all Class I railroads must submit to the USDOT Secretary for approval by end of 2015 plans to deploy a Positive Train Control system on their respective systems.

#### **7.4 Rail Security Issues**

The railroad system in New York State is vulnerable to trespassers and difficult to secure. The Railroad Security Task Force developed a plan in response to terrorist threats. New York State and the railroads should build upon the efforts of the Railroad Security Task Force and identify key railroad yards, interchange points and major structures that may need to be secured from open public access. Security strategies that could be examined to protect key assets include video monitoring for all major structures; upgrading fencing and installing fencing around the perimeter of major rail yards; securing vehicular access to rail right-of-ways at grade crossings; and securing assets, such as rail equipment and train control signals systems.

Improved communications among railroads and all security-cleared officials at the state, emergency responders and police agency level to track the location and contents of trains with any high-risk contents hauled throughout the state in real time would also enhance security for New York State's railroad system. Freight rail offers a safe and low-cost means to transport these materials. Railroads are experienced shippers and follow both the Federal Railroad Administration and the Environmental protection Agency (EPA) regulations in the handling, transporting and incident management during a security-related event.

#### **Conclusion**

Improving rail transportation safety requires ongoing dialogue and cooperation among transportation operators, the traveling public and state and federal agencies, with the goal of establishing a comprehensive safety program that reduces accidents on the state's rail system. NYSDOT is committed to this goal and will work with its railroad partners by adopting stronger rail safety measures as required under the Rail Safety Improvement Act of 2008, such as Positive Train Control systems, and new technologies that prevent loss of life and injuries at highway-rail grade crossings. The state's long-term safety needs will also require continual performance monitoring of our rail system to identify industrywide trends and issues; this, in turn, will assist NYSDOT in identifying system improvements and a further reduction of accidents.

Along with our safety efforts, rail security is a major issue that has faced this nation since the events of September 11, 2001. Improving communication among security officials, law enforcement and the railroads is critical to ensuring secure operations on New York's rail transportation system. Continued improvements in technology, such as VACIS, will also help to ensure the security of the state's rail freight infrastructure and incoming shipments. Comparable security initiatives at the commuter railroads and Amtrak will continue to be introduced, thus enhancing New York's ability to protect its citizens.

## CHAPTER 8 – ENERGY AND ENVIRONMENT

New York State has the most energy efficient transportation sector in the United States. The state's extensive support for public transportation and the unrivaled levels of transit ridership (including rail transit), coupled with the large walking population in New York City, contribute to the lowest per-capita energy consumption in the nation. Energy consumption for transportation purposes in New York is roughly two-thirds that of the national average. Despite this impressive record, New York State remains committed to substantial improvements in transportation's energy efficiency.

Currently, transportation produces about one-third of greenhouse gas emissions in New York. The transportation sector consumes more petroleum than any other sector and will need to play a significant role in attaining the state's aggressive energy and air quality goals. On this point, freight railroads already play a significant role through their fuel efficiency.

*Railroads, on average, are three or more times more fuel efficient than trucks (in terms of ton-miles per gallon), and because greenhouse gas emissions are directly related to fuel consumption, every ton-mile of freight moved by rail instead of truck reduces greenhouse gas emissions by two-thirds or more.<sup>16</sup>*

Energy efficiency and conservation and emission reduction are the most important environmental issues facing transportation operators. Nonetheless, the state faces additional challenges. The environment plays a fundamental role in determining quality of life and economic well-being for New Yorkers. Thus, the actions of governmental agencies must have a positive impact upon the environment. Federal and state laws require the transportation sector to mitigate adverse environmental impacts resulting from its projects. One such program under the national Clean Air Act is the Environmental Protection Agency (EPA) national program to reduce emissions from diesel engines, including railroad locomotives.

*Intercity passenger rail service uses 21 percent less energy per passenger miles traveled than automobiles and 17 percent less than airline travel.<sup>17</sup> Also, intercity passenger rail carbon emissions per passenger mile traveled are 40 percent less than automobile and 56 percent less than by air travel.<sup>18</sup>*

Further, the Environmental Justice Executive Order 12898 requires that states ensure fair treatment and meaningful involvement of all people with respect to implementation of transportation programs. Specifically, transportation planners and

<sup>16</sup> Association of American Railroads, "Freight Railroads & Greenhouse Gas Emissions", July 2007.

<sup>17</sup> United States Department of Energy, "Transportation Energy Data Book", Edition 26, May 2007

<sup>18</sup> Emissions factors based on calculations from the World Resource Institute and Carbonfund.org.

operators must focus on underserved communities and seek to address adverse impacts that fall disproportionately on minority and low-income populations. This could potentially involve the location of new or expanded rail passenger/freight transportation facilities, as project decision-makers must consider the community impact that these facilities may have on specific population groups.

### 8.1 Energy

All forms of passenger rail transportation are more energy efficient than driving in a car or taking a plane. The latest available statistics show that domestic airlines on average consumed more than 20 percent more energy per passenger-mile than Amtrak; cars consumed more than 27 percent more energy than traveling by Amtrak. In other words, Amtrak consumes 17.0 percent and 21.4 percent less energy per passenger-mile than airlines and cars, respectively.<sup>19</sup> [Note: One passenger-mile is one passenger traveling one mile.]

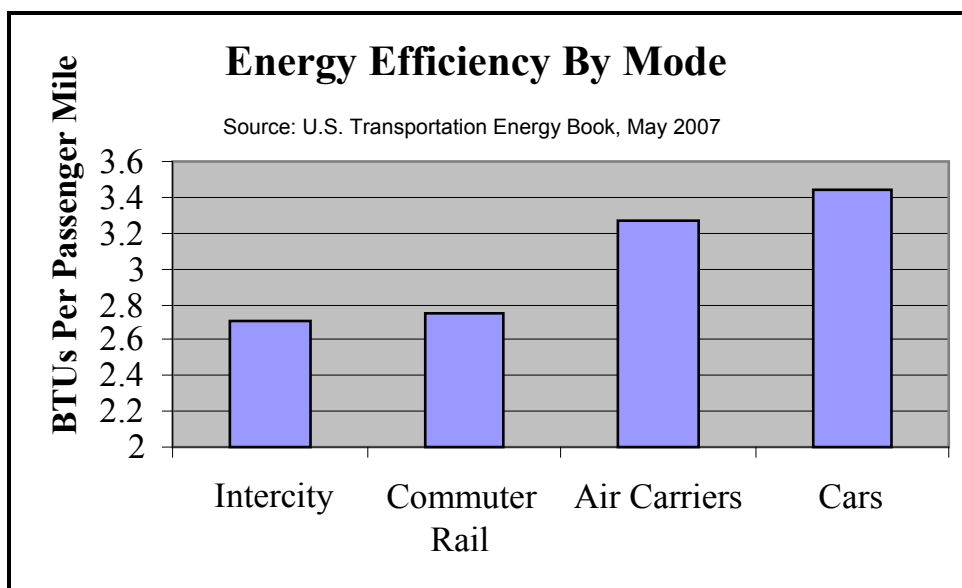


Figure 50 Energy Efficiency by Mode

Freight railroads are the most energy efficient choice for moving goods. Nationally, in 2007 one gallon of fuel moved one ton of freight by rail 436 miles – *roughly the distance from Buffalo to the South Bronx*. Moving more freight by rail is a straightforward way to meaningfully reduce both energy use and greenhouse gas emissions without harming our economy. Based on data from the American Association of State Highway and Transportation Officials (AASHTO), if, for each 1 percent of long-haul freight that currently moves by truck were moved by rail instead, fuel savings would be approximately 111 million gallons per year; annual greenhouse gas emissions would fall by 1.2 million tons.

Moving more freight by rail would also help cut highway congestion by taking trucks off the road, especially along key corridors. A single intermodal train can take up to 280 trucks off the highways. Depending on length and cargo, other trains can take up to 500 trucks off our highways. According to the latest American Association of

<sup>19</sup> United States Department of Energy, “Transportation Energy Data Book”, Edition 26, May 2007

Railroad (AAR) statistics, in 2005, there were more than 73.58 million tons of freight carried by railroads in New York; this translates to approximately 2.725 million truck loads (5.45 million truck trips) diverted from New York's highways. Railroads thus enhance mobility and reduce the costs of maintaining existing roads and the pressure to build costly new roads.

Railroads are curbing fuel consumption through the use of technology, training of personnel and changes in operating practices.<sup>20</sup> A summary of these initiatives is described below:

- Locomotives: Railroads, nationally, have spent billions of dollars on thousands of new environmentally friendly locomotives and have overhauled thousands of older locomotives to improve their environmental friendliness. For example, some new switching locomotives that are used to assemble and disassemble trains in rail yards are "GenSet" (generator set) switchers that sharply reduce fuel consumption and emissions. GenSets have two or three independent engines that cycle on and off, depending on need. Other new switching locomotives are hybrids with a small, fossil-fueled engine in addition to a large bank of rechargeable batteries. Hybrid switchers can save up to half the fuel of conventional switchers while releasing a fraction of smog-inducing emissions.
- Locomotive Monitoring Systems: Railroads use sophisticated onboard monitoring systems to gather and evaluate information on location, topography, track curvature, train length and weight; they provide engineers with real-time "coaching" on the optimum speed for that train from a fuel-savings and operational standpoint.
- Training: In many cases, railroad fuel efficiency is directly related to how well an engineer handles a train. In effect, railroads use the skills of their engineers to save fuel. For example, railroads commonly offer training programs through which engineers and simulators provide fuel-saving tips. On one railroad, the fuel consumption performance of participating engineers in the same territory is compared with awards given to the top "fuel masters."
- Information technology: Railroads use advanced computer software to improve their operational efficiency and, therefore, their fuel efficiency. For example, railroads use sophisticated modeling software to identify the best ways to sequence cars in a large classification yard. The result is more efficient yard operation.
- Innovative "trip planning" systems: Railroads also use trip planning systems that automatically analyze a mix of ever-changing variables (e.g., crew and locomotive availability, congestion in rail yards, the priority of different freight cars, track conditions, etc.) to optimize how and when freight cars are assembled to form trains and when those trains depart. The result is smoother traffic flow, better asset utilization and reduced fuel use.
- Reduced idling: Locomotives often have to idle when not in use for various reasons, such as preventing freezing of the coolant (most lack antifreeze),

<sup>20</sup> Association of American Railroads, "Freight Railroads & Greenhouse Gas Emissions", July 2007

charging batteries and air reservoirs and providing for crew comfort. However, some railroads are implementing "stop-start" idling-reduction technology that allows main engines to shut down when ambient conditions are favorable. One advantage of "GenSet" locomotives is that their smaller engines use antifreeze, thus allowing them to shut down in cold weather. Some railroads also use "auxiliary power units" that warm engines so that locomotives can be shut down in cold weather.

- **Components and Design:** Railroads use innovative freight car and locomotive components and designs to save fuel. For example, advanced top-of-rail lubrication techniques save fuel by reducing friction and wear. Improving the aerodynamic profile of trains saves fuel by reducing drag.

Many of these innovations and practices are being explored and/or practiced nationally and locally by railroads operating in New York State.

## 8.2 Air Quality

Nationally, freight railroads account for a small share of U.S. greenhouse gas (GHG) emissions. According to 2006 Environmental Protection Agency (EPA) data, as outlined in the following table, total U.S. greenhouse gas emissions were 7,054 teragrams of carbon dioxide equivalents, with transportation accounting for 28 percent. Most transportation-related greenhouse gas emissions are due to fossil fuel consumption. Of the transportation sector's GHG emissions, trucking accounted for 20.8 percent of GHG emissions, while freight railroads produced only 2.6 percent.

U.S. Greenhouse Gas Emissions By Economic Sector: 2006			U.S. Greenhouse Gas Emissions from Transportation: 2006		
Economic Sector	Tg CO2 Eq.	% of Total	Economic Sector	Tg CO2 Eq.	% of Total
Electr. generation	2,377.8	33.7%	Trucking	404.6	20.8%
Residential	344.8	4.9%	<b>Freight Railroads</b>	<b>51.5</b>	<b>2.6%</b>
Industry	1,371.5	19.4%	Waterborne Freight	30.2	1.5%
Agriculture	533.6	7.6%	Pipelines	32.4	1.7%
Transportation	1,969.5	27.9%	Aircraft	157.4	8.1%
Commercial	394.6	5.6%	Recreational Boats	17.4	0.9%
U.S. Territories	62.4	0.9%	Passenger Railroads	6.4	0.3%
Total	7,054.2	100.0%	Pass. Cars & Light Duty Trucks	1,236.9	63.5%
			Buses	12.5	0.6%
			Total	1,949.3	100.0%

Data are in teragrams of CO2 equivalents.

Source: EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*, Tables ES-7, A-100, and A-101.  
Totals for "transportation" in the two tables do not match exactly because of estimation issues.

**Figure 51 U.S. Greenhouse Gas Emissions by Economic Sector**

Although freight rail volume rose by 64 percent from 1990 to 2005, freight rail GHG emissions rose by only 29 percent.<sup>21</sup>

<sup>21</sup> AAR Policy and Economic Department, excerpts from *Freight Railroads and Greenhouse Gas Emissions*: Dated July 2007.

Intercity passenger rail contributes less carbon dioxide [CO<sub>2</sub>] to the atmosphere per passenger mile traveled than by automobile or commercial airline.

<b>Carbon Emissions</b> (per Passenger Mile Traveled)	
Passenger Rail	0.21 kg
Automobile	0.35 kg
Airline	0.48 kg
Emissions factors based on calculations from the World Resource Institute and Carbonfund.org	

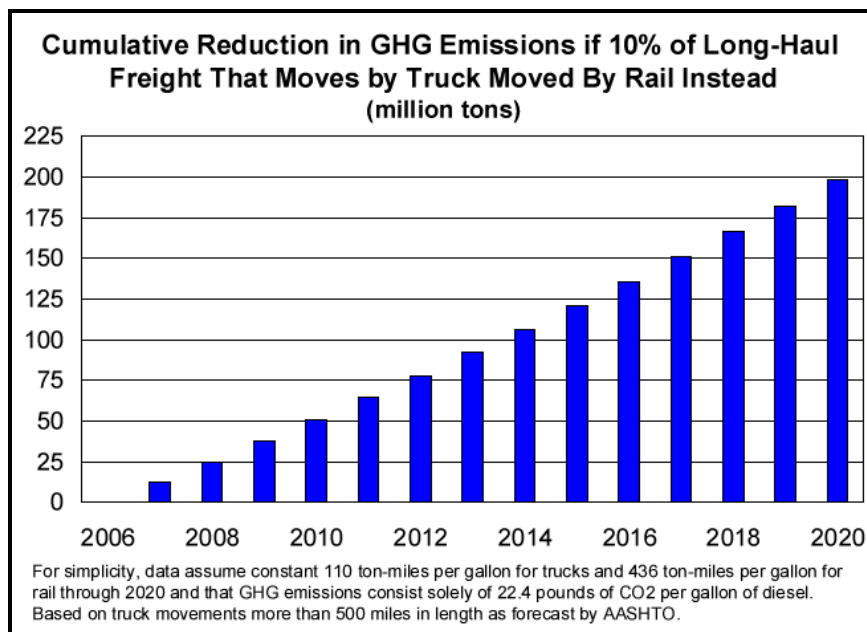
**Figure 52 Carbon Emissions**

More recently, freight railroads are reducing GHG emissions through the use of “Green Rail Yard” technology. A green rail yard is defined as any facility at a rail system node which has applied leading-edge technology to minimize environmental effects. Examples of this technology include the use of low- or no-emission mobile equipment, such as container lift cranes; on-site renewable energy generation equipment (solar, wind, etc.) to provide all or part of the yard’s power consumption; and the use of Gen-Set or hybrid locomotives.

In addition, Amtrak has committed to a 6 percent reduction in CO<sub>2</sub> emissions from diesel locomotives from 2003 to 2010 (from baseline years 1997 –2001) with its participation in the *Chicago Climate Exchange*.

While New York State has made significant strides in reducing air pollution, it still faces a major challenge to comply with emissions requirements in non-attainment areas defined under requirements of the Federal Clean Air Act Amendments of 1990. This challenge is especially great in the downstate region where pollution levels are highest. New York has shown some improvement but exceeding the maximum levels of pollutants continues to occur in New York City and Long Island, as well as Westchester, Rockland and Orange counties. More work remains to be done.

Because freight transportation demand is expected to rise sharply, future fuel savings and GHG reductions are expected to increase. For example, AASHTO projects that ton-miles for truck movements more than 500 miles long will increase from 1.40 trillion in 2000 to 2.13 trillion in 2020. If 10 percent of truck traffic went by rail — perhaps via efficient intermodal movements involving both railroads and trucks — cumulative estimated GHG reductions from 2007 to 2020 would be 210 million tons.



**Figure 53 Cumulative Reduction in GHG Emissions**

The New York State Energy Plan approved by the Governor in 2002 established ambitious reduction goals for greenhouse gas emissions and energy consumption during the first quarter of the 21<sup>st</sup> century. The state's response is comprehensive and aggressive, requiring contributions from all transportation operators. New York State's transportation operators also play an important role in the nation's efforts for clean air and energy efficiency. Greater use of alternative-fueled and low-emission vehicles, carpooling, walking, biking, transit, commuter rail options and long-distance railroad freight transportation likely would help reduce pollution. As this State Rail Plan is being finalized, the New York State Energy Plan is being updated with a June 2009 anticipated completion date. The New York State Energy Planning Board is overseeing the update; regarding transportation, it is charged with assessing the costs and benefits of traditional and alternative transportation measures and multimodal methods, including rail and transit, required to meet the future demands of the system and the state.

A recent Transportation Research Board study on Bicycles and Transit indicates that over the past decade there has been significant growth in bicycle and transit integration, including rail passenger service. Benefits of this trend likely are decreased automobile congestion, reduced air pollution (by reducing motor vehicle trips) and an improved public image of transit.<sup>22</sup>

In New York State, commuter rail has accommodated bicyclists by allowing bikes on the trains during weekends and off-peak periods. NYSDOT has supported this mode of transportation by installing bicycle lockers at 17 LIRR stations, part of a demonstration project started in 1999. Initially, this effort produced locker occupancy rates of only 35 percent; more recently, the usage has increased to 60 percent due to improved marketing and higher gas prices.

<sup>22</sup> TCRP Synthesis 62, Integration of Bicycles and Transit, A synthesis of Transit Practice, Transportation Research Board, Washington D.C., 2005

Amtrak has also taken steps to accommodate bicyclists. Unlike commuter railroad operations in larger urban areas, Amtrak provides a longer-haul intercity service. Previously, New York State, in conjunction with Amtrak, provided additional accommodations for bicycles but with minimal utilization. Amtrak has several options for transporting bicycles aboard Amtrak trains, one of which requires storing the bicycles as checked baggage in a box or other secure container. Another option allows customers to bring folding bicycles on board as carry-on baggage, although onboard bike space is limited and not available on all trains. As with other mobility initiatives, more services to accommodate bicycles on intercity rail service should be studied by Amtrak and the state with input from bicycle advocacy groups to ascertain true market potential and, if demonstrated to be worthy of capital investment, pursued at that point as equipment becomes available.

### **Locomotive Emissions**

The Environmental Protection Agency has adopted a comprehensive national program to reduce emissions from future non-road diesel engines, known as the Clean Air Non-Road Diesel Rule. This program includes railroad locomotives for local switching and road (long- distance) service by integrating engine and fuel controls as a system to gain the greatest emission reductions. To meet these emission standards, engine manufacturers are to produce new engines with advanced emission-control technologies similar to those already expected for highway trucks and buses.

The U.S. emission standards for railroad locomotives apply to newly manufactured and remanufactured railroad locomotives and locomotive engines. The standards have been adopted by the EPA in two regulatory actions:

a. Tier 0-2 standards

The first emission regulation for railroad locomotives was adopted on December 17, 1997. The rulemaking, which became effective in 2000, applies to locomotives originally manufactured from 1973, any time they are manufactured or remanufactured.

b. Tier 3-4 standards

A regulation signed on March 14, 2008, introduced more stringent emission requirements. Tier 3 standards, to be met by engine design methods, become effective from 2011/12. Tier 4 standards, which are expected to require exhaust gas after treatment technologies, become effective from 2015. The 2008 regulation also includes more stringent emission standards for remanufactured Tier 0-2 locomotives.

The EPA also finalized new idle reduction requirements for newly built and remanufactured locomotives and adopted provisions to encourage a new generation of clean switcher locomotives based on clean, non-road diesel engine standards. The rule is designed to cut emissions from all types of diesel locomotives including line-haul, switcher and passenger rail as well as from a range of marine sources.

Phasing in tighter long-term standards for PM and NO<sub>x</sub> will begin in 2014 for marine diesel engines and in 2015 for locomotive engines. Advanced after-treatment

technology will apply to both types of engines. The EPA estimates a 90 percent PM reductions and 80 percent NOx reductions from Tier 4 engines compared to engines meeting the current Tier 2 standards.



**Figure 54 Railpower's RP Series GenSet low-emission locomotive at Selkirk, NY**

By 2030, this program is designed to reduce annual emissions of NOx nationally by about 800,000 tons and PM emissions by 27,000 tons; those emission reductions are expected to continue to increase beyond 2030 as fleet turnover largely is completed.

### **8.3 Land Use and Community Impacts**

In New York State, land use planning authority fundamentally resides with local governments, while the state is charged with providing a transportation system that effectively serves all communities' transportation needs. The coordination of both land use planning and transportation will better link the two. Encouraging this coordination is paramount to the principles of "Smart Growth" that NYSDOT endorses by the Department through its planning and programming efforts.

New York State's focus upon sound planning is illustrated by:

- Technical assistance being provided to localities that are updating the transportation elements of their comprehensive plans. The Routes 202 and 303 sustainable development studies in the Hudson Valley are prime examples of applying new techniques to promote consensus community plans for the future.
- NYSDOT's "Smart Growth" initiative provides municipalities with direct support in their local planning efforts. As part of this initiative, the Department created a "Smart Planning" Web site that provides municipalities access to land use and transportation planning tools and programs supported by NYSDOT: <https://www.nysdot.gov/programs/smart-planning>.

- The Department is working closely with the Metropolitan Planning Organizations and other key partners on Transit Oriented Development (TODs) studies. These studies focus on mixed-use residential or commercial area development that is designed to maximize access to public transit and often incorporates features to encourage transit ridership. A TOD neighborhood usually has a center with a train station, metro station or bus stop surrounded by high-density development with progressively lower-density development spreading outward.
- Workshops and training seminars in context sensitive solutions principles have been conducted for NYSDOT staff and others. Context sensitive solution is a philosophy wherein safe transportation solutions, including rail transit, are designed in harmony with the community. Similarly, the Department provides training to its staff and to municipalities on integrated land use and transportation planning and related planning topics.

Land use is a critical factor in rail freight planning. In the downstate area, particularly within the New York metropolitan area, available land is scarce for any freight rail expansion. This poses a serious constraint to increasing rail freight downstate. Many existing yards and facilities are small, obsolete or located in remote or inaccessible locations. In addition, many formerly industrial-commercial neighborhoods in New York City (areas that once utilized rail service) have been rezoned to allow for residential development; Williamsburg and Green Point in Brooklyn are two of the most prominent neighborhoods. As a result, efforts to expand and even to maintain freight rail service in New York City and downstate New York will be difficult.

Upstate New York is also experiencing capacity issues, which in turn has led to numerous rail yard expansions. In the Buffalo area, Norfolk Southern rebuilt Bison Intermodal Yard and, similarly, CSX rebuilt Seneca Yard as a new intermodal terminal to allow for expansion. In the Capital District Region, Canadian Pacific is considering building a new intermodal yard as Kenwood Yard has reached capacity. The distinction in the upstate region, however, is that there is more available land for expansion and the railroads and industrial sites are not competing with residential development.

Finally, NYSDOT can affect land use patterns by encouraging communities to locate their business parks in areas where rail access is possible. This will encourage non-rail users to gain access to rail freight service, an option that is not available in many existing industrial parks. NYSDOT can accomplish this by working more closely with other state agencies, such as the Empire State Development Corporation, local IDAs and municipalities and Metropolitan Planning Organizations.

#### **8.4 Congestion Mitigation**

Transportation facilities of all types require the dedication of substantial acreage. The expansion of facilities to relieve congestion or accommodate increased volumes of freight can be extremely expensive, particularly for urban areas where property along major roads or rail tracks is fully utilized. In contrast, passenger rail service can often expand within existing rights-of-way or with minimal land acquisition. Rail is also less land-intensive than highways, airports and related facilities requiring less space to carry more passengers.

In many intercity corridors, highway demand is near capacity or beyond, and it is not financially or environmentally feasible to add capacity. Intercity rail passenger service currently provides congestion relief in corridors where capacity has already been exceeded, such as along the Northeast Corridor between Boston and Washington D.C. and the Empire Corridor between Albany and New York City. Intercity rail, thus, provides an alternative to building new highway capacity. Current investment in rail facilities and infrastructure will ensure rail capacity is protected to be available in the future to provide critical relief to highway and airway systems.

On the air transportation network, it is also environmentally and financially difficult to build additional airport capacity, especially in the New York metropolitan area. Intercity rail provides an alternative to short-haul air travel, such as in Amtrak's Northeast Corridor, relieving congestion at airports by eliminating the need for some short-distance flights.

### **Conclusion**

The railroads serving the State of New York provide an additional transportation option for moving people and goods and contribute to improved air quality through a decrease in highway vehicle miles traveled and vehicle emissions (both carbon and greenhouse gas). Rail service cuts fuel consumption, leading to less dependence on foreign petroleum. Greater reliance on passenger and freight rail reduces the need for highway construction; such construction often causes the loss of economically, environmentally and historically valuable land, which, in turn, can contribute to inefficient land use patterns. With an enhanced focus on "Smart Growth," the Department is committed to transportation choices that support efficient land use patterns. In addition, with the limited opportunity to expand the transportation system, the abandoned right-of-way represents an extremely valuable resource for future mobility and potential economic development initiatives in an energy-constrained environment.

As stewards of our environment, it is critical that we continue to promote energy efficient transportation choices, especially rail transportation. In fact, railroads are three or more times more fuel efficient than trucks, in ton-miles per gallon, thus lowering cost to the shippers and customers.

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## CHAPTER 9 – ECONOMIC DEVELOPMENT

### Overview

Railroads play a vital role in economic development initiatives that support, sustain and expand the state and national economies. They provide an additional transportation option and are a crucial factor in attracting new economic activities or retaining and expanding existing ones. New York's railroads serve as key cross border links, acting as international conduits for travel and commerce between New York and Canada, the state's most important trading partner. Cross-border travel and trade support the state's major economic activities that broaden and strengthen the state's overall economic base. More than 87.6 million tons of rail freight crossed the U.S.-Canada border in 2001 and forecasts indicate an increase to 153.5 million tons in 2020.<sup>23</sup>

New York railroads are a vital transportation option because they can relieve congestion on highways, reduce energy consumption, concentrate development patterns and contribute to New York's overall mobility and economic climate. Clearly, New York's railroads are important to the state's economy. The New York State Rail Plan is being developed in recognition of this role and in close conjunction with the Governor's statewide economic development capital plan.

### 9.1 Economic Development and Transportation

In general terms, "economic development" comes from a process where the level of economic activity in an area is enhanced on a continuing, rather than a temporary, basis. Transportation investment as a tool in economic development may work in one of two ways. Transportation can make an area more attractive to new business or it can improve the conditions for existing business.

Well-focused transportation improvements and initiatives, coordinated with other efforts, can form a catalyst for economic growth. For example, the introduction of a rail line or highway may induce businesses to expand or to relocate in a region that otherwise may not have been considered.

While transportation access is not the only factor in siting decisions, the condition of the transportation system can greatly affect business costs, markets and overall competitiveness for attracting business investments. A successful business in an area with a good transportation system may attract its suppliers to locate in close proximity.

Optimal transportation conditions can reduce business operating costs and/or increase business productivity. When transportation system investments that reduce business operating costs or expand market size are made, affected businesses can become more competitive and capture a greater share of the market. Good intermodal transportation investments can lead to increased reliability of deliveries and, thus, reduce business operating costs by lowering the likelihood of production interruptions.

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<sup>23</sup> Eastern Border Coalition Study - 2004

Investments in transportation can expand the available labor markets by allowing more people to easily access the facility. A larger labor pool allows a firm to grow, gaining access to employees with specialized skills. In addition, those same investments can increase business access to needed supplies, services and materials.

The quantity and quality of transportation infrastructure may attract new businesses and induce existing businesses in an area to stay or to expand. Transportation is a cost of doing business; locations that can effectively lower this cost may develop an advantage over regions unable to do the same.

In addition to the “big picture” impacts, transportation investments can save vehicle operation costs and travelers’ and carriers’ time, directly translating into business productivity and, consequently, into increased economic output. By decreasing congestion, increasing volume-to-capacity ratios and removing conditions that disrupt free flow of traffic, investment in transportation reduces transit time and increases reliability.

Transportation investment may help solidify an existing advantage or compensate for a disadvantage related to some other locational criteria, such as taxes or labor costs.<sup>24</sup>

It is important to note that for shippers and small railroads to participate in and remain competitive in the rail freight industry today, costly infrastructure investments, such as rail yard expansions and rail switch and siding improvements, are often necessary. These costs can present an entry barrier to shippers, railroads and other potential customers and, thus, are often a deterrent to the continued use and expansion of rail freight transportation in New York State.

## **9.2 Programs that Support Economic Development**

### **State Industrial Access Program (IAP)**

The State Industrial Access Program has provided funding for necessary transportation improvements, including rail as of 1998, that facilitate economic development and job creation or retention. Project awards are made on a 60 percent grant, 40 percent interest-free loan basis, generally up to a maximum of \$1 million. The loan portion must be paid back to the state within five years after the acceptance of the project. This program has not been funded in the last two fiscal years.

A representative IAP project example is the \$2.7 million in State IAP funds used to construct tracks, install switches and purchase rail equipment to support rail freight operations at the Railex terminal. The terminal is presently served by two, 55-refrigerator car trains a week originating from the West Coast.

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<sup>24</sup> NYS Economic Development Handbook, 2001



**Figure 55 Railex Produce Dist. Center (upper left), Rotterdam Industrial Park**

### **Last Mile Issues**

This is an opportune time to consider redirecting the focus of the former IAP program or to develop a new initiative with an emphasis on the “Last Mile” issue. This issue was recognized as early as 1991 at the federal level under the Intermodal Surface Transportation Efficiency Act of 1991; this stated that connections among modes need to be seamless if each mode is to maximize the efficiencies of the global supply chains.

As a result of ISTEA, critical National Highway System Intermodal Connectors were identified along with their associated issues. Three major issues were identified: 1) the need for direct rail service to the dock of major national ports, which to some degree has been addressed, but many containers are still trucked on local streets to rail yards miles away from the ports, multiplying the number of truck trips; 2) “last mile” highway connections to ports and rail yards are typically on a local congested city street with traffic signals, poor turning radii, inadequate overhead clearances and narrow bridges that restrict efficient movements; and 3) Interstate interchanges were developed away from ports and rail intermodal terminals, thus the local road network became the link among international ports, rail intermodal facilities and the Interstate system.



**Figure 56 “Last Mile”: Typical Industrial Siding, Bushwick Branch, Brooklyn**

In addition to the intermodal connector aspect of the “last mile” issue, there is also the problem of substandard access for local firms and industrial parks, resulting in poor rail and trucking service to those facilities. Rail and truck carriers encounter their highest cost in the delivery and pickup of goods. In New York, substandard industrial access decreases the efficiency of truck and rail carriers, reducing the quality of service to shippers. An outmoded and obsolete rail infrastructure frequently discourages many shippers from using direct rail service to their facilities. A new initiative could potentially be used to begin addressing these “last mile” industrial access issues within the state, especially in an energy-constrained environment.

### **Multi-Modal Program**

The State Multi-Modal Transportation Program provides reimbursements for authorized rail, port, airport, local highway and bridge projects. Eligible projects must have a public or freight transportation purpose and a minimum 10-year bondable service life.

The Multi-Modal program has funded transportation projects that facilitate economic development, such as the \$2.69 million rail improvement project at the Fort Drum U. S. Army base near Watertown completed in July 2006. The rail project helped to provide the Army with a more efficient way of deploying equipment. Under that project, 8,700 feet of track sidings were constructed. This allows approximately 100 additional rail cars to load, thus reducing loading time and increasing the deployment capability of the military base from three trains per week to five.

### **9.3 Rail Line Preservation, Revitalization and Strategic Enhancement**

In 1975, there were seven Class I railroads serving New York State. By 2000, that number had decreased to just two. In 1975, there were 5,215 route miles of track operated by Class I railroads; that decreased to 2,290 route miles by 1996. Over a span of 20 years, slightly more than half of New York’s Class I route mileage had been either abandoned or spun off to short lines. When a rail line is abandoned, it is critical that the integrity of the right-of-way be maintained. If an abandoned line ends up parceled off piece by piece, it would be extremely difficult, if not impossible, to reconstruct for a future transportation use. Given the limited opportunity to expand the highway system, an abandoned railroad right-of-way represents an extremely valuable resource for future mobility.

As a result of the decrease in route miles, many of the state’s communities no longer have access to rail service. To counter the trend, since the 1970s, New York has implemented rail line preservation initiatives for retaining rail service, supporting economic development initiatives.

New York State has many successes in retaining rail freight service on lines that were faced with the cessation of service. In the mid-1980s, the Utica and Syracuse branches, originating out of Binghamton, were faced with abandonment by Conrail. The successful “negotiated solution” involved the state, counties and the railroad. The Utica and Syracuse branch lines were turned over to the counties and the local rail freight service was leased to a short line operator -- the New York, Susquehanna

& Western Railway. This lease arrangement also includes a Payment In Lieu of Taxes (PILOT) to the respective counties.

Another example is the Geneva "Cluster," a group of rail lines owned by Conrail that radiated out of the City of Geneva and that serve numerous large and small rail shippers. Similar to the Utica and Syracuse branch "negotiated solution," the Geneva "cluster" of rail lines was turned over to the Industrial Development Agencies of the respective counties. The local rail freight service was leased to a short line, the Finger Lakes Railway Corp., by a consortium of county IDAs.

### **The Southern Tier Extension**

A notable success in rail line preservation and revitalization is the Southern Tier Extension, a 175-mile-long segment of the former Erie Railroad's main line that was acquired in 1999 by Norfolk Southern Railway Company after the Conrail breakup. Under Conrail, 95 miles of the 175 miles had been out of service since the 1980s and the rest had deferred maintenance for the prior 25 years. Conrail considered the line redundant and was prepared to abandon and salvage the Southern Tier Extension rail line by 1998.



**Figure 57 Regional Rail System: Southern Tier Extension (in Red)**

In the summer of 2000, New York State created a public authority to affect the sale/lease back and tax abatement of Norfolk Southern Railway Company's Southern Tier Extension Railroad. The counties of Chautauqua, Cattaraugus, Allegany and Steuben, along with the Seneca Nation, formed the Southern Tier Extension Railroad Authority (STERA). The sale/lease back arrangement saved Norfolk Southern \$ 1.2 million in taxes annually.

In February 2001, the Norfolk Southern Railroad transferred the Southern Tier Extension to STERA, which leased it back to Norfolk Southern. Norfolk Southern retained through train rights mostly for unit coal trains bypassing the congested Buffalo terminal and subleased the local freight operations to the Western New York and Pennsylvania Railroad. Gradually, the entire 175 miles of the Southern Tier Extension was reopened to rail traffic. Some sections of line reopened for service for the first time in more than 10 years with several local companies returning to shipping. In 2001, there were fewer than 75 carloads per year on only 50 miles of

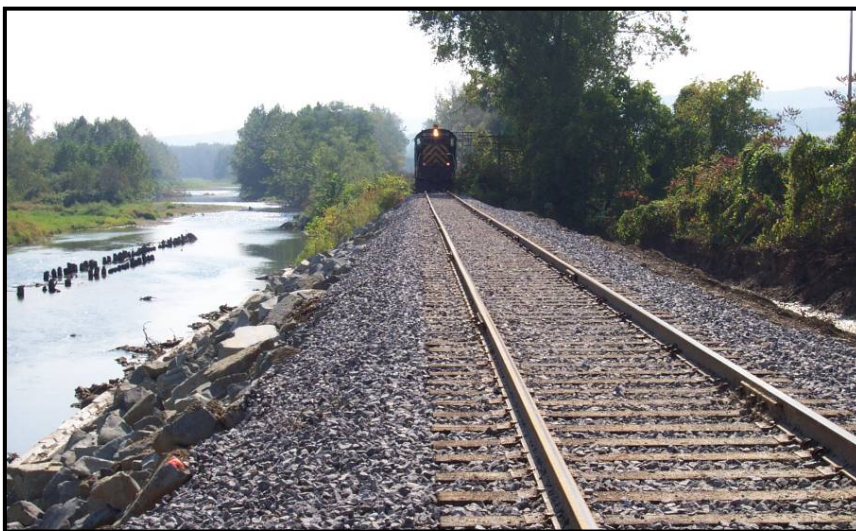
rail. By 2006, rail freight traffic had increased to 54,000 carloads annually on 175 miles of rail.

*In essence, the Southern Tier Extension had evolved from a rail line targeted to be abandoned by Conrail, to a highly functioning line serving numerous customers with significant economic development potential for the Southern Tier region.*

The federal government, two states, six counties, local economic development agencies and the railroads invested in excess of \$38 million in public and private funds to upgrade and rehabilitate the Southern Tier Extension Railroad in six phases, which is scheduled to be completed by the end of 2009. The project included replacement of 15 miles of welded rail, 15,000 ties and ballast replacements, grade crossing repair, signal repairs, bridge repair and track surfacing. In addition, there was flood damage repair and mitigation work.



**Figure 58 Southern Tier Extension Washout 2002**



**Figure 59 Southern Tier Extension - Restored 2002**

The Southern Tier Extension Railroad is essential to the economy of southwestern New York in assisting in retaining and attracting manufacturing by providing an additional transportation option to this rural region. The Western New York & Pennsylvania, the rail freight operator of the Southern Tier Extension, has approximately 12 major on-line shippers.

The Southern Tier Extension Railroad is an important example for making the case for preserving abandoned railroad right-of-way for possible future rail service. Preserved or banked rail lines have the potential for supporting future economic initiatives while providing New York State communities with another potential transportation option other than highway.

In addition to the current abandoned and out-of-service rail lines, New York also has a number of both major and minor rail lines that are at risk of being abandoned or sold and segmented at some future point. It is estimated that 61 percent of the existing track route miles within the state are at risk currently. The Class I railroads are under pressure by their investors to improve their financial performance, which places more pressure on the railroads to abandon or spin off their under-performing assets. In addition, the burden of the railroad local property taxes is also hastening the casting-off of under-performing rail lines by the railroads as taxes often exceed revenues and maintenance cost for many low-volume rail lines.

Given the limited opportunity to expand the highway system, an abandoned railroad right-of-way represents an extremely valuable resource for future mobility. Thus, rail options are increasingly being considered for their ability to relieve congestion, concentrate development patterns and contribute to the overall mobility and healthy economic climate in this state.

### **Scenic and Tourist Railroads**

There are about a dozen tourist and scenic railroads operating in New York State, mostly on a seasonal basis. Most of these small railroads operate over former abandoned rail lines that have been rehabilitated in the upstate region of the state. For many communities, these small railroads are important tourist attractions that provide local economic benefits in terms of jobs and other economic development objectives.

The Adirondack Scenic Railroad is the most notable example of New York's scenic and tourist railroads in terms of its length (141 miles) and because of the significant state funding commitment. Beginning in 2000, the state initiated a \$7 million program that substantially improved rail service on the entire Remsen to Lake Placid Travel Corridor. This included a \$2.5 million project to rehabilitate 11 miles of the corridor between Lake Placid Station and Saranac Lake Station. This segment was upgraded to Federal Railroad Administration Class II standards to allow for safe and comfortable operations for new excursion services. Also, \$4.5 million was provided for structure improvements along 108 miles of the Remsen/Lake Placid Travel Corridor, including track stabilization and upgrades, bridge improvements and restoration of four major washout areas between Remsen and Saranac Lake Station. These improvements allow for the movement of locomotives and passenger cars between the existing southern service area (Remsen to Carter Station) and the northern service area (Saranac Lake Station to Lake Placid). The southern portion of

the Adirondack Scenic had been operating since 1992 by a nonprofit organization. The Adirondack Scenic Railroad attracts more than 50,000 tourists annually, greatly adding to the region's economic vitality.

For more information on New York State's tourist and scenic railroads go to NYS DOT's Web site at the following address:  
<https://www.nysdot.gov/divisions/operating/opdm/passenger-rail/passenger-rail-service/historic-tourist-railroads>

#### 9.4 Cross Border Trade

Over the past two decades, changes in international trade policy, and domestic and international changes in rail ownership structures, including restructuring of the rail system in the United States following deregulation, have generated changes in the nature of international rail transportation and shaped the issues confronting the Federal Rail Administration. Recent issues include implementation of the North American Free Trade Agreement (NAFTA), economic development and border rail transportation facilitation and safety issues along the United States/Mexico and United States/Canada borders. These changes and issues affect cross-border rail freight movements in New York State and underscore the importance for ongoing study and analysis of their impact on the state's economy.

##### Eastern Border Transportation Coalition Study

Cross-border rail freight movements were analyzed in the *Eastern Border Transportation Coalition (EBTC) Study in 2004*. The study found that cross-border rail freight movements in the EBTC region are significant. More than 87.6 million tons of rail freight crossed the U.S.-Canada border in 2001, approximately 62.5 percent of which originated, terminated or crossed the border within the EBTC region.



Figure 60 Eastern States Rail Border Crossing Points (EBTC Study 2004)

Forecasts indicate that more than 153.5 million tons of rail freight is projected to cross the entire U.S.–Canada border in 2020, approximately 65.1 percent of which is anticipated to originate, terminate or cross the border within the EBTC region. This increase is being driven by growth in the electronics, vehicles and precision goods industries, which are important sectors of the EBTC region’s economy.

While cross-border freight movements are currently dominated by trucks that handle approximately 75 percent of U.S.-Canada trade, cross-border movements by rail are, and will continue to be, an important component of the transportation system and economic vitality of the United States and Canada.

### **Conclusions**

A reliable, well-maintained rail transportation system is essential to having a competitive and sustainable economy for New York State, the region and nation. Rail transportation is increasingly being considered a preferred alternative due to its ability to relieve congestion, concentrate development patterns and, thus, offer a competitive advantage to its customers. However, in New York State, the substandard access to many freight facilities decreases the efficiency of truck and rail carriers, which reduces the quality of service to shippers. Initiatives to address the “last mile” access issue are essential to achieve the full benefits of rail service.

Preserving our railroad right-of-way, through efforts such as the now-thriving Southern Tier Extension, must continue to be a priority for New York State. Preservation of existing rail lines is important for future economic development initiatives, as well as providing our business communities with transportation options. Railroads are also important to our economy by supporting tourism, as well as essential rail freight service to rail dependent shippers. Clearly, our rail transportation system is an important factor in retaining economic competitiveness in this state.

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## CHAPTER 10 – PLAN DEVELOPMENT AND OUTREACH PROCESS

### 10.1 The 2009 New York State Rail Plan

The 2009 New York State Rail Plan is a policy document that establishes the state's vision, goals and objectives for improving freight and intercity passenger rail service. The 2009 Plan also includes a long range capital investment program which will guide our investment decisions over the next 20 years, thus ensuring an improved and expanded rail transportation system within New York State. The 2009 Plan replaces the previous plan that was adopted in 1986.

The Passenger Rail Investment and Improvement Act of 2008 requires a state rail plan that includes an "identification of rail infrastructure issues within the state that reflects consultation with all relevant stakeholders." In anticipation of this legislation, NYSDOT coordinated this consultative process with a diverse group of stakeholders. Involvement of these groups provides invaluable input and an important influence on decision-making in the planning process.

### 10.2 Alignment with Other Plans

To help describe the issues affecting rail transportation across the state and develop consistent goals and strategies in the plan, NYSDOT considered the findings from other key planning documents. For example, the State Rail Plan is consistent with the principles and overall vision of *Strategies for a New Age: New York State's Transportation Master Plan for 2030* that was released in November 2006. This plan provides a long-term, intermodal vision of the state's future transportation system and provides policy level guidance to achieve that vision.

A second influential document is the *Intermodal Transportation Program Submission (2009– 2014)*. This document outlines resources needed to support our transportation infrastructure in New York State. The program identifies accomplishment-focused goals, including enhancing service frequency and improving on-time performance on key passenger rail corridors, and extending the service life of essential rail facilities. These goals are also reflected in the State Rail Plan.

### 10.3 Developing the State Rail Plan: Outreach and Collaboration

Many resources were consulted during the development of the State Rail Plan, including members of the railroad industry, metropolitan planning organizations, rail advocacy groups, elected officials, county and state government officials and other stakeholders. The purpose of this outreach effort was to ensure that NYSDOT had an informed and involved public; this was accomplished by providing many opportunities for input. Such input early in the process leads to a more enhanced planning document and, eventually, to better decision-making and more effective use of limited resources.

The stakeholders attended outreach sessions that were held before and during development of the State Rail Plan. A summary of the outreach sessions is highlighted below:

- December 11, 2007 - "Kickoff Meeting" - The initial introduction of the rail plan concept was discussed at this meeting with attendees from the railroad industry and NYSDOT. The purpose was to initiate development of a comprehensive state rail plan through discussion and early identification of long term needs, rail goals, strategies to meet those goals and a proposed vision statement. The NYU Wagner Rudin Center for Transportation Policy and Management assisted NYSDOT with the kickoff meeting and helped in preparing an outline of the results, including issues to address, concerns, trends, public benefits, roles of the state and goals and strategies. The contributions from this session were used in developing the initial draft Rail Plan.
- April 28, 2008 - Rail Industry Partners Workshop - The participants from the December Kickoff meeting were invited to a follow-up workshop to further refine the needs and critical goal setting for the future rail system in New York State. NYSDOT sent excerpts of the working rail plan draft to participants prior to the meeting.
- April 29, 2008 - Transportation Planning Partners Workshop - A complementary workshop to the April 28 session was held by NYSDOT with participants from the 13 Metropolitan Planning Organizations, nine Regional Planning Council/Boards in the state, the 11 NYSDOT Regional Planning & Program Managers and representatives from other planning and economic development groups. Similarly, the purpose of this workshop was to refine the needs and critical goal setting for the future rail system in New York State.
- The June 13, 2008, release of the draft State Rail Plan was followed by four public informational workshops in Buffalo (two meetings), Binghamton and New York City. The workshops were conducted using an interactive format with the NYU Wagner Rudin Center assisting NYSDOT in running the sessions. A mailing of 1200 invitations went to elected officials, railroad industry representatives, the Transportation Planning Partners, Metropolitan Planning Organizations, and other interested persons. Also, there were several media advisories announcing the workshops and advertisements through industry and transportation media outlets. More than 160 people attended the four workshops; each attendee was given an opportunity to contribute during the breakout sessions.

The purpose of the four public workshops was to present NYSDOT's New State Rail Plan and to obtain public input and reaction to the vision, goals and objectives, as well as to the strategies proposed in the plan. This was accomplished by formatting the sessions into small group discussions after a presentation by NYSDOT staff. The presentations provided the necessary foundation and grounds for the interactive workshop.



**Figure 61 New York City Workshop participants discuss the Rail Plan**

Each breakout group was accompanied by a facilitator and recorder to guide the discussion and to record the group discussion. During the small group discussions, participants responded to specific goals, objectives and strategies and were also given an opportunity to ask questions. The recorders at each table documented the “group memory” and this information was then used to create summaries of each discussion for subsequent report-outs to all workshop attendees. These summaries included comments that elicited strong agreement, areas of disagreement, identification of missing items, new ideas and areas of great concern.

*The format of the sessions was highly constructive; as one participant noted, “My colleagues had a collective energy where ideas fostered more ideas. The process helped us keep the good ideas, and shelve the marginal ones.” (New York City workshop participant)*

Highlights of the four sessions are outlined below:

#### Rail Plan Workshops: Buffalo, June 18 and July 8, 2008

There were 54 attendees at these sessions representing various organizations, including the railroad industry, rail passenger association, bicycle/pedestrian advocacy groups, transit groups, local economic development agencies, consulting firms, members of the press, elected officials, local and state government officials and private citizens. NYSDOT employees served as recorders, facilitators, expert resources and presenters during this half-day session. Overall, the attendees reacted positively to the Rail Plan. There was strong agreement with the Rail Plan’s contention that rail is an important part of the state’s transportation infrastructure and should be supported by the public and private sectors.



**Figure 62 Buffalo Workshop participants listen to a Rail Plan presentation**



**Figure 63 NYSDOT Commissioner Glynn addresses the Buffalo Rail Plan Workshop**

A second workshop was held in Buffalo on July 8th, to accommodate those organizations and individuals unable to attend the first workshop. At that workshop, NYSDOT Commissioner Astrid C. Glynn spoke about the importance of a healthy and vibrant passenger and freight rail system to serve the state and the regional economy of western New York.

One major concern emerging from these sessions was the issue of funding, more specifically, the lack of resources to fund the implementation of this Rail Plan due to the state's current fiscal situation. On this point, there was strong support for long-term tax policies that create incentives or at least remove disincentives to capital investment of rail infrastructure.

Many new ideas were presented, including a suggestion to form an advisory-type board comprised of government and private industry representatives who would guide implementation of the plan in a collaborative and accountable way. It was

argued that the various components of the Rail Plan were complex and diverse and would benefit from an advisory committee approach.

Finally, the attendees were asked to identify missing items from the Rail Plan. Several points were made, including a suggestion that the Rail Plan lacked initiatives that would excite the public. For example, the Rail Plan should focus not only on current technology, but also on next-generation technology that is employed in other countries, such as Maglev and electronic train systems. Also identified as missing was adequate emphasis on the need for connectivity among intercity rail passenger service and local transit services, particularly in Buffalo and Rochester.

#### Rail Plan Workshop: Binghamton, June 24, 2008

There were 52 attendees at this workshop, with representatives from the railroad industry, government agencies, local officials, advocacy groups and many other organizations as well as private citizens. The workshop format was consistent with the Buffalo meeting, with presentations and small group discussions. The Binghamton attendees were enthusiastic about the Rail Plan and the sharing of ideas to improve it.

Improvement to rail passenger service was a common theme, especially to the unserved Southern Tier region and other areas west of Albany. It was pointed out that passenger rail must be price competitive with the alternative modes in order to succeed. Participants also stressed the need for proper, cost-effective security of rail facilities and increased grade crossing safety awareness.

During the small group discussions, there was some disagreement over public subsidies of the railroad industry. One view held that other countries subsidize the railroads and that their survival was dependent on government funding. A contrasting view argued that railroads could be more profitable if they had robust marketing programs and were more customer-friendly. A second area of discussion involved railroad taxation. The participants stressed the need for reform of railroad taxation policies but cautioned that tax reform should avoid reducing revenue to government.



**Figure 64 NYSDOT officials discuss workshop participants' comments and recommendations**

Areas that were perceived as missing from the Rail Plan included rail tourism and the need to integrate transit oriented development with tourism and other markets. Also suggested was an audit of public rail investments every 10 years to determine the level of return on taxpayers' investments.

Rail Plan Workshop: New York City, July 10, 2008

There were 62 attendees at the workshop, with representation from many groups, including those who attended previous workshops. There was general agreement that the Rail Plan was needed and that the timing was right. Many of the same issues were raised at the Manhattan workshop, including the need to more aggressively market rail service, both freight and passenger. Also, it was noted that NYSDOT needed to be effective in dealing with the public's "not in my back yard" position on rail projects.



**Figure 65 New York City Workshop participants consider Rail Plan information**



**Figure 66 New York City Workshop participants confer on the Rail Plan**

The attendees asserted that the Rail Plan should more clearly state the importance of railroads making a profit. This is paramount to the railroads. Further, for the railroads to survive and to keep up with demand, additional main lines were deemed essential. Again, the attendees raised the question of financing this expansion, and the related question of how NYSDOT could advance this effort with a public that is not entirely supportive of rail.

During the workshop, many other issues were raised, such as the need for green rail yards, the ongoing concerns about the sharing of tracks between passenger and freight service and the problems associated with property tax policies. Although the workshop did not necessarily address solutions to these concerns, it did provide a forum for discussion and the exchange of ideas.

#### **10.4 Public Comment Period**

An important part of the planning process for developing the State Rail Plan is the public comment period for the draft. The purpose is to include the public in the planning process by making the draft available and encouraging input. This was accomplished by posting the draft on the Department's Web site with an e-comment form; by direct mail outreach; by having a toll-free line for comments; and by the workshops held by NYSDOT. A 30-day public comment period was offered, although comments were accepted after that period.

There were many comments received, including suggestions to broaden and to modify the goals and vision; identification of funding sources to reach certain goals; more specifics on how the vision could be achieved; and many requests to include specific transportation projects in the Rail Plan. Each comment was considered and incorporated as appropriate given the intent of the Rail Plan. Comments that pertained to rail transportation matters outside of the Rail Plan's intent may be considered in other planning venues.

The Rail Plan is intended to be a living document. As is the case with all comprehensive planning documents, more refinements and updates will occur periodically to reflect a changing environment. This continuous process will involve all interested stakeholders to ensure that many issues and problems are identified as well as possible solutions. The State Rail Plan is no exception and it is anticipated that an update will occur as needed, but at a minimum of every five years.

#### **10.5 What's Next?**

This 2009 State Rail Plan is not just for the New York State Department of Transportation, but is to serve as a blueprint to guide planning and investment for the entire state rail system for the next 20 years. It will help NYSDOT make more informed decisions involving capital investments in the state's rail infrastructure. It will serve as a springboard for system planning by the state and railroads for improved and/or expanded freight and passenger rail services. The 2009 State Rail Plan will also help our efforts in developing energy policy and advocating for intercity passenger rail service and rail freight at the state, regional and national levels. Clearly, the Rail Plan is an important document that will guide current and future efforts involving the capital program, rail infrastructure planning, rail transportation advocacy efforts and will informing the state's economic development decisions.

The State Rail Plan will provide guidance in developing rail capital projects and activities related to the State's Transportation Improvement Program (STIP). Those projects selected for inclusion in the STIP must address issues and concerns that the Rail Plan indicates are important. In addition, the Rail Plan will fulfill federal requirements stemming from the Passenger Rail Investment and Improvement Act; it requires states to have a comprehensive state rail plan that includes a long range investment program for current and future freight and passenger infrastructure in the states.

Other areas that will be guided by the Rail Plan include rail project selection for the ongoing NYS Rail Service Preservation Program and the Rebuild and Renew New York Transportation Bond Act of 2005. Together, these two state-funded capital investment programs provide up to \$47 million per year for needed rail and port infrastructure improvements. The selection criteria of these two programs will need to be consistent with the approved 2009 State Rail Plan.

NYSDOT will continue to be involved in rail-focused studies that help address many of the issues raised in the Rail Plan and identify potential solutions. Some of the ongoing studies are the Mohawk-Erie Multimodal Transportation Corridor Study, a market study of intercity passenger service by all modes; the Empire Corridor West Railroad Transportation Plan Study, a computer simulation modeling of the rail network that will identify deficiencies and recommended infrastructure and rail operational changes; and the Binghamton Intercity Passenger Rail Study, a feasibility review by Amtrak for connecting the Binghamton area to the New York City market. These are just a few examples of studies that will examine issues and concerns that have been raised in the Rail Plan.

NYSDOT will continue to pursue increased use of Public-Private Partnerships for rail projects in New York State. An example is the privatization of the Long Island Rail Road freight operations by New York & Atlantic Railway in May 1997. The railway serves a diverse customer base and shares track with the densest passenger system in the United States.

*Public-Private Partnerships are not viewed as subsidies to railroads, but rather a mechanism that allows private entities to pay for private benefits and public entities to pay for the public benefits of a project.*  
(Association of American Railroads, June 2008)

To produce change at the national level, NYSDOT will continue to advocate for an increased federal government role in national rail policy and funding of intercity passenger and freight rail transportation improvements. At the state level, NYSDOT will support and participate in regional and state rail advocacy groups, such as the Empire Corridor Joint Users Working Group and the Railroads of New York, Inc. (RONY). All these efforts are critical to the continuation and revitalization of the rail system in New York State.

## **Conclusion**

The many transportation changes affecting the rail system that have occurred since the last State Rail Plan was adopted in 1987 point to the need for a new State Rail Plan. This new Plan establishes the state's vision, goals and objectives for improving freight and intercity passenger rail service, and in doing so, establishes the policy

framework to shape the state's rail system and to help NYSDOT make more informed investment decisions.

To support and to inform the development of this new Rail Plan, NYSDOT implemented a multifaceted public involvement, consultation and outreach process that identified rail issues and captured many ideas and concepts from a wide range of participants and stakeholders. During a process over several months, participants and stakeholders could confer with NYSDOT on rail vision, goals, issues and strategies, providing valuable contribution to the development of this Rail Plan. This input was carefully reviewed and incorporated as appropriate, resulting in a responsive, comprehensive plan that reflects the needs and views of the citizens of New York State.

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## CHAPTER 11 – RAIL FUNDING AND FINANCE OPTIONS

Investing in rail system improvements and expansion supports the critical role rail plays in the economy of the state and the nation. Unlike some other transportation modes, rail has not historically had a dedicated funding source at the federal level. At the state level, rail funding has been accomplished through small, ongoing programs and periodic public bond referendums. The constrained funding climate that exists at both the federal and state levels provides a significant challenge to finding adequate, stable and predicable investment sources for rail passenger and freight investments.

In addition, unique to intercity passenger and freight rail services is the mix of public-private operation that characterizes the mode: mostly private ownership of infrastructure and facilities with public use and benefits. The need to reauthorize surface transportation funding programs, on the heels of the recent Amtrak reauthorization, presents an opportunity to develop a national transportation policy for rail and to address the appropriate role of the federal government. It also provides an opportunity to address the related issues of how rail improvements should be funded, including innovative financing strategies and what roles the respective private and public sector entities, both federal and state, should play in financing rail system improvements.

### **11.1 New York State's Rail Capital Improvement Programs**

New York State has a long history of investing in both freight and passenger rail transportation starting with the Transportation Capital Facilities Bond Act of 1967 through the Rebuild and Renew New York Transportation bond Act of 2005. State investments in the early 1970s funded rail improvements that allowed high-speed rail passenger service from New York City to Albany, the first high-speed service outside the Northeast Corridor. The state also invested in key rail freight improvements both upstate and downstate where there was a public benefit. More recently, the investment strategy has targeted improvements in key trade and travel corridors to increase the use of rail services, enhance intermodal transportation options and improve the overall efficiency of the transportation system.

Section 14-d of the New York State Transportation Law authorizes the Commissioner of transportation to enter into contracts with private corporations, other state agencies, public authorities, political subdivisions of the state and other states, among others entities listed, for the purpose of maintaining and improving rail transportation services. The State of New York generally provides state funds for rail capital improvements through the following four programs:

#### Rail Service Preservation Program

The Rail Service Preservation Program is a multiyear freight and passenger rail funding program enacted by the State Legislature with funds appropriated annually. The current program is a \$100 million program over five years. Beginning in State FY 2005-06, \$20 million is available annually for rail passenger and freight capital projects. Funding from this program is also used for the annual subsidy that NYSDOT pays Amtrak for operation of Adirondack service between Albany and Montreal. There is no local match requirement for this program.

### Rebuild and Renew New York Transportation Bond Act of 2005

The \$2.9 billion Rebuild and Renew New York Transportation Bond Act of 2005 was passed by the voters of New York State in the November 2005 election. The Governor and the Legislature signed a Memorandum of Understanding that established the criteria for the use of these funds. The bond act allocates \$27 million each year for rail and port projects. The projects funded in the initial two years of the program were included in the MOU. For years three through five of the program, the MOU requires that NYSDOT develop formal procedures to solicit applications from eligible recipients, specifies application evaluation criteria and requires notification to the Governor and the Legislature of those projects which the Department proposes to fund. A 10 percent local match is required for projects funded by the bond program.

### Industrial Access Program

The Industrial Access Program was established by Chapter 54 of the Laws of 1985 for the purpose of providing state funding for necessary road and bridge improvements which facilitate economic development and result in the creation and/or retention of jobs. Under the Laws of 1998, projects that provide rail access were made eligible. The Industrial Access Program is a combination 60 percent grant and 40 percent loan program with a specified repayment period based on the project cost. No new funding has been appropriated since SFY 2006-07.

### Multi-Modal Program

The Multi-Modal Program is authorized by Section 14-k of NYS Transportation Law. This program provides funds for capital improvements to rail freight and passenger facilities, port facilities, aviation facilities, local roads and bridges and fixed ferry facilities. Projects funded from this program must be nominated by the Governor or members of the Legislature. NYSDOT evaluates nominated projects for compliance with the eligibility criteria but has no role in project selection. There is no requirement for a local match in this program.

## **11.2 Federal Funding Programs Available for Rail**

### **Passenger Rail Investment and Improvement Act of 2008**

The recently enacted Passenger Rail Investment and Improvement Act of 2008 authorizes a total of slightly more than \$13 billion over the next five years to Amtrak and it encourages the development of new and improved intercity rail passenger services. The act established a first-ever intercity passenger rail capital grant program for states. States are required to identify intercity passenger rail corridor improvement projects in their State Rail Plan to be eligible for the federal capital grant funding authorized by this act. The act authorizes \$1.9 billion for capital grants to states over five years, starting in 2009, for facilities and equipment necessary to provide new or improved intercity passenger rail. The act reserves \$2 million annually for states for small capital projects. Also under this act, \$325 million is authorized in "congestion grants" to be made available to Amtrak and states over the next five years, beginning in 2009, for high-priority rail corridors to increase capacity along certain lines to reduce congestion and facilitate ridership. The act establishes a

high speed rail corridor development program, with authorized funding of \$1.5 billion beginning in FY 2009. States and Amtrak can apply for grants for capital projects in high speed rail corridors.

The 2008 Act substantially increases the federal government's commitment to enhancing the nation's intercity rail passenger network. It is important to note that Congress must annually appropriate funding for these newly authorized programs.

The current federal surface transportation authorization, SAFETEA-LU, authorizes the federal surface transportation programs for highways, highway safety and transit through 2009. The following is a brief review of several programs available for rail investments contained in SAFETEA-LU as well as a description of the recently enacted tax credit for regional and short line railroads.

### **SAFETEA-LU Funding Programs**

SAFETEA-LU is the latest transportation authorization act that continues many of the policies and programs originating in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and the Transportation Equity Act for the 21st Century (TEA-21).

SAFETEA-LU continues to include the trademark of flexibility that has characterized the three authorization acts discussed above. This flexibility allows states and Metropolitan Planning Organizations to utilize federal funding from various sources for rail projects. Typically, federal funding for rail projects has come from Congestion Mitigation and Air Quality Improvement (CMAQ), Transportation Enhancements, Rail-Highway Crossing Program (the so-called Section 130 program), High Speed Rail Development and other programs. The following sections provide additional detail regarding these federal programs:

*a. Congestion Mitigation and Air Quality Improvement*

The Congestion Mitigation and Air Quality Improvement program funds projects that reduce traffic congestion and help meet federal Clean Air Act requirements. CMAQ funding may be used for freight and passenger rail projects that accomplish CMAQ goals. Funding is available for projects in areas that do not meet the National Ambient Air Quality Standards (e.g. non-attainment areas), in former non-attainment areas now in compliance (e.g. maintenance areas), and for projects outside air quality non-attainment areas where the air-quality benefits of the project accrue to the non-attainment area or maintenance area. The FFY 2008 dollar amount apportioned to New York State for this program is \$171 million.

*b. Transportation Enhancements Program (TEP)*

TEP funds support non-traditional, environmentally related transportation-related improvements, including rehabilitation and operation of historic transportation buildings, structures or facilities and preservation of abandoned railway corridors.

*c. Section 130 Highway-Rail Grade Crossing Program*

The Highway Safety Act of 1973 established the Rail-Highway Crossing Program, 23 USC 130. The goal of the Section 130 program is to provide federal support in efforts to reduce the incidence of accidents, injuries and

fatalities at public rail-highway crossings. States may utilize the Section 130 program, administered by the Federal Highway Administration, to improve railroad crossings using a variety of methods, including installation of warning devices, elimination of at-grade crossings by grade separation or by consolidation and closing of crossings.

A portion of the safety program funding is also eligible for elimination of crossing hazards should a state choose to use the funds for this purpose. Funds from other apportionment categories may also be used to improve crossing safety. For example, any repair, construction or reconstruction of roads and bridges affected by a project would be eligible under normal funding categories. A corridor approach to improving railroad crossing safety promotes greater efficiency in solving the problem and has been encouraged by FHWA.

SAFETEA-LU provided \$220 million nationwide per year FY 2005-2009 for Section 130 from the Highway Trust Fund. New York's apportionment for FFY 2008 is \$6.3 million.

d. *High Speed Rail Crossing Improvement Program*

FRA administers the High-Speed Rail Crossing Improvement Program, funded at \$50 million over the five-year period from FY 2005 to FY 2009. The program is intended to reduce or eliminate hazards at highway-rail grade crossings in designated high speed corridors. These funds are generally earmarked by Congress in the annual Transportation Appropriations bill.

e. *High Speed Rail Corridor Development*

SAFETEA-LU reauthorized the Swift Act and expanded eligible expenses from "planning" to "development" of high-speed rail corridors. The bill authorizes \$70 million annually for corridor development and \$30 million for high-speed rail technology improvements. These funds are generally earmarked by Congress in the annual Transportation Appropriations bill.

(Note: The Passenger Rail Investment and Improvement Act of 2008 changed the Swift Act back to "planning" and reduced the funding to \$30 million. It then recreated the High Speed Rail Corridor Development Program in a new section as an 80/20 state grant program funded at \$1.5 billion across the five years.)

f. *Capital Grants for Rail Line Relocation Projects*

SAFETEA-LU established this new grant program to provide financial assistance for rail line relocation or grade separation of track that is interfering with a community's motor vehicle traffic flow, its quality of life or its economic development. The program authorizes \$350 million for each of fiscal years 2006 through 2009. The rules established for this program were scheduled to be completed in October 2006, however, the rulemaking process has been delayed with no projected date of completion. Furthermore, Congress has yet to appropriate funds for this program.

g. *Credit Assistance Programs*

SAFETEA-LU authorizes two credit assistance (direct loans, loan guarantee) programs available for rail investments.

The Rail Rehabilitation and Improvement Financing (RRIF) program provides direct loans and loan guarantees to state and local governments, government sponsored authorities and corporations, railroads and joint ventures that include at least one railroad. Eligible projects include (1) acquisition, improvements or rehabilitation of intermodal or rail equipment or facilities (including tracks, components of tracks, bridges, yards, buildings and shops); (2) refinancing outstanding debt incurred for these purposes; or (3) development or establishment of new intermodal or railroad facilities. At the time of this writing, the future of the RRIF program is uncertain. Congress has failed to appropriate funds for this program.

The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides credit assistance on flexible terms directly to public-private sponsors of major surface transportation projects to assist them in gaining access to capital markets. TIFIA can provide direct loans, loan guarantees and lines of credit to support up to 33 percent of a project's cost. The eligibility of projects for TIFIA has been expanded in SAFETEA-LU to include not only highway and capital transit projects, intercity bus and rail projects, and publicly owned intermodal freight transfer facilities, but also private freight rail facilities that provide public benefit to highway users, intermodal freight transfer facilities and access to these facilities. TIFIA is restricted to projects costing at least \$50 million (\$15 million for ITS projects).

SAFETEA-LU also established a new financial assistance program that provides up to \$15 billion in Private Activity Bonds for transportation infrastructure projects. This program enables loans for specific projects at a lower interest rate since the bond purchaser is not required to pay federal taxes on the incomes they receive. The eligible projects include privately owned-or-operated highway projects and rail-truck transfer facilities. However, New York would require state legislation to be able to utilize the SAFETEA-LU private activity bond provision.

h. *New Starts Program*

Federal Transit Administration funding for major commuter rail projects may be available under FTA's New Starts program. SAFETEA-LU authorized more than \$8 billion for New Starts, in order to support transit "guideway" capital investments, including commuter rail. FTA evaluates projects based upon "New Starts criteria," assigning ratings based upon cost-effectiveness, local financial commitment and transit supported land use.

i. *Surface Transportation Program*

Surface Transportation Program (STP) funds are also available for railroad relocations and consolidations, intermodal terminals and the acquisition of abandoned railroad rights-of-way.

### **Economic Development Administration Programs**

The Economic Development Administration (EDA) of the Department of Commerce administers two project grants programs: Grants to Public Works and Economic Development Facilities and Economic Adjustment Assistance. They are intended, respectively, to promote long-term economic development in areas experiencing

substantial economic distress and to assist states and local interests with strategies to bring about a change in the economy focusing on areas under serious economic damage.

### **October 2004 Tax Credit**

In October 2004, President Bush signed into law the American Jobs Creation Act of 2004, which includes provisions to provide a tax credit to help regional and short line railroads fund their infrastructure projects. *"The tax credit will provide small roads 50 cents for every dollar of qualifying track maintenance expenditures, such as cost to improve track, bridges and signals."* The tax credit is for a three-year period starting in 2005 and is capped by the number of miles owned or leased (by a Class II or Class III railroad) multiplied by \$350,000 for each of the three years.

## **11.3 Rail Funding Programs in Other States**

### **Selected State Freight Programs**

#### *a. California*

In November 2006, California voters approved Proposition 1B that authorized \$19.925 billion of state general obligation bonds for 16 separate transportation programs. Of these, the Trade Corridor Improvement Fund (TCIF) provides \$2.0 billion for infrastructure improvements along federally designated "Trade Corridors of National Significance" or along other corridors with a high volume of freight movement.

In April 2008, the California Transportation Commission adopted a TCIF program of \$3.088 billion for 79 projects; this included \$643 million for 21 rail-related projects. These TCIF funds are expected to leverage another \$925 million in non-state funds to produce a total rail-related investment of about \$1.6 billion. The TCIF projects include main line rail track and clearance improvements, rail port and yard improvements and a rail over rail flyover.

#### *b. Ohio*

The Ohio Rail Development Commission (ORDC) was created in 1994 as an independent commission within the Ohio Department of Transportation. ORDC's mission is "to plan, promote and implement the improved movement of goods and people faster and safer on the rail transportation network connecting Ohio to the nation and the world". The mission is to be accomplished through a "coordinated freight and passenger rail system which is an integral part of a seamless, intermodal transportation network contributing to Ohio's quality of life and economic development."

ORDC uses SAFETEA-LU funds allocated by the Ohio Department of Transportation to fund various programs that support economic development related to both rail passenger and freight transportation.<sup>25</sup>

#### *c. Pennsylvania*

Pennsylvania Department of Transportation provides financial assistance for investment in rail freight infrastructure through the Rail Freight Assistance

<sup>25</sup> Ohio Rail Development Commission, [www.dot.state.oh.us/Ohiorail/OVerview1.htm](http://www.dot.state.oh.us/Ohiorail/OVerview1.htm), March 2008

Program. The intent of the program is to (1) preserve essential rail freight service where economically feasible and (2) preserve or stimulate economic development through the generation of new or expanded rail services.<sup>26</sup> In March 2008, Pennsylvania allocated \$10.2 million for investment in freight infrastructure for the purpose of creating and maintaining jobs at expanding businesses.

d. *Wisconsin*

The Wisconsin Department of Transportation has two freight rail assistance programs. The Freight Rail Infrastructure Improvement Program (FRIIP) provides up to 100 percent loans for rail projects that connect and industry to the national rail system; makes improvements that enhance safety and intermodal freight movements; and develops the economy. The Freight Rail Preservation Program (FRPP) provides grants up to 80 percent of the cost to purchase abandoned rail lines in an effort to continue freight service, or for preservation for the opportunity for future service; and to rehabilitate facilities, such as tracks or bridges, on publicly owned rail lines.<sup>27</sup>

e. *Michigan*

The Michigan Department of Transportation provides support to the freight industry through the Michigan Rail Loan Assistance Program (MiRLAP) and the Freight Economic Development Program. The MiRLAP is a loan program limited to \$1 million up to 90 percent of costs. The annual amount of loans is approximately \$3 million. The Economic Development Program offers financial assistance to transportation companies, private companies or local units of government in the development or expansion of facilities. The assistance is in the form of loans and/or grants up to 50 percent of the rail freight portion of the project.<sup>28</sup>

### **Selected State Passenger Rail Programs**

a. *California*

The California Department of Transportation supports three intercity Amtrak rail corridors: the *Pacific Surfliner* between San Diego, Los Angeles, Santa Barbara and San Luis Obispo; the *San Joaquin* between the Bay/Area/Sacramento, Fresno and Bakersfield; and the *Capitol Corridor* between San Jose, Oakland, Sacramento and Auburn. The state also supports a large network of state-supported connecting buses that are used to reach markets not directly served by these three rail corridors. In Amtrak during Fiscal Year 2007, these corridors handled 4,962,000 passengers, with state operating support totaling \$86.139 million.

Proposition 1B (noted above in Selected State Freight Programs) included the "Intercity Rail Improvement" program that provided \$400 million for intercity passenger rail improvement projects, of which \$125 million is reserved for acquisition of new rail cars. In February 2008, the California Transportation Commission adopted a \$400-million program of projects such as rail cars, and other high-priority track, signal, station and maintenance facility projects.

<sup>26</sup> Pennsylvania Department of Transportation, [www.dot.state.pa.us/internet/Burueas/pdBRF](http://www.dot.state.pa.us/internet/Burueas/pdBRF), March 2008

<sup>27</sup> Wisconsin Department of Transportation, [www.dot.sate.wi.us](http://www.dot.sate.wi.us), March 2008

<sup>28</sup> Michigan Department of Transportation, [www.michigan.gov](http://www.michigan.gov), April 2008

b. *Pennsylvania*

The Pennsylvania Department of Transportation contracts with Amtrak for rail passenger service in the Philadelphia to Harrisburg corridor to complement services provided within the Commonwealth by Amtrak as part of its national rail passenger service network. Capital improvements and operating costs are supported under the Transit Assistance Programs offered by PennDOT.

c. *Wisconsin*

The Wisconsin Department of Transportation provides funding to Amtrak to operate the Hiawatha services currently offering seven round trips per day and is studying increasing the service to 10 round trips per day. WisDOT pays Amtrak \$8.5 million annually for these services.

## 11.4 Other Finance Options for Rail System Improvements

The use of tax credit bonds for intercity passenger rail may be considered as a future funding mechanism. In addition, the use of Public-Private Partnerships may provide another source of funding for rail improvements.

### **Public-Private Partnerships**

“Public-Private Partnerships” (PPP) are contractual agreements formed between a public agency and private-sector entity that allow for greater private-sector participation in the delivery of transportation projects. Expanding the private-sector role allows the public agencies to tap private-sector technical, management and financial resources in new ways to achieve certain public agency objectives, such as greater cost and schedule certainty, supplementing in-house staff, innovative technology applications, specialized expertise or access to private capital.

To address future capacity issues from the growth in freight, the freight railroads have indicated an interest in participating in PPPs that provide tangible benefits for both the public and private sectors. As an example, CSXT has partnered on projects with Maryland and Virginia as well as New York State to the mutual benefit of all the parties. Some other examples of successful freight rail-related PPPs are:<sup>29</sup>

- Alameda Corridor – a \$2 billion, 20-mile rail expressway connecting the Ports of Los Angeles and Long Beach with rail yards near downtown Los Angeles.
- Chicago Region Environmental and Transportation Efficiency Program (CREATE) – a \$1.5 billion project to improve rail freight connections involving the State of Illinois, City of Chicago and major freight and passenger rail serving the region.
- Heartland Corridor – a \$200 million multistate partnership with Norfolk Southern to increase the flow of goods between the East Coast and Chicago.
- Reno Trench – a multimillion-dollar project that separates trains running through downtown Reno, Nev., from motor vehicle traffic.

Other successful rail passenger PPP projects completed by states since 2000 include:

- South Florida Commuter Rail Upgrades, Florida.

<sup>29</sup> Association of American Railroads, “Public-Private Partnerships for Freight Rail Infrastructure Projects”, February 2008

- Portland MAX Airport Extension, Oregon.
- BART Oakland Airport Connector, California.

**Conclusion**

There are existing funding programs at the federal and state level that provide some opportunity for funding intercity passenger and freight rail projects. However, these programs are relatively small or narrowly focused while there is a rapidly growing need to increase investment in rail transportation. The enactment of the Passenger Rail Investment and Improvement Act of 2008 provides the multiyear authority for Amtrak and creates new federal funding programs for intercity passenger rail service. The act authorizes a rail passenger funding program for states to use to improve and expand passenger rail service, similar to federally funded programs for other transportation modes. Annual appropriations from Congress are needed to fund these programs.

Additional investment from both public and private sources will be needed in the future to address existing rail infrastructure needs and allow for growth in rail passenger and freight systems to serve the economy.

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## CHAPTER 12 – STATEWIDE RAIL NEEDS AND INVESTMENT PROGRAM

### 12.1 Introduction

This chapter presents the results of the Department's comprehensive survey of the rail industry's capital needs for all railroads operating in New York State. It summarizes and describes the intercity passenger rail and freight rail capital needs over the next 20 years. This chapter also describes the proposed rail investment policy that will be used to address these intercity passenger and freight rail infrastructure needs in the future.

The earlier chapters of this report have outlined the importance of New York's rail passenger and freight system to the state's economy, mobility, energy savings and environmental quality. The state's rail network is also essential in supporting the regional and national transportation system and economy. New York is a bridge state, connecting New England to the rest of the nation, and provides connections for international trade and travel to/from Canada and the region's major seaport and airports.

Included in this chapter is the Long Range Service and Investment Program (LRSIP) required under the recently enacted Federal Passenger Rail Investment and Improvement Act of 2008. The LRSIP is a prerequisite for applying for new federal rail capital grant funding for improving passenger rail service that is authorized by the act.

Finally, a companion long range investment program for freight rail service in New York State is presented to guide the prioritization for the state's funding decisions for freight rail investments.

The combination of these recommended infrastructure investment programs address many of the goals, objectives and strategies for improving rail passenger and freight service in New York State that were presented in Chapter 1.

### 12.2 Summary of Rail Industry Needs

#### Introduction

To quantify the capital needs of the freight and intercity passenger rail industry in New York State, NYSDOT conducted a comprehensive Rail Needs Survey in 2008. The survey covered all railroads in the state, including freight and intercity passenger rail service. Rail Survey respondents were notified that inclusion of their capital needs that they identified as part of the survey did not constitute an endorsement or concurrence on the part of the New York State. Likewise, submission of rail needs would not in any manner obligate the respective railroad or rail service provider to undertake any specific project or improvement.

NYSDOT's survey effort did not include the capital plans of New York's two commuter railroads of the Metropolitan Transportation Authority. The Long Island Rail Road and Metro-North Commuter Railroad have exclusive capital programming responsibility for their respective rail system. The Department's Rail Needs Survey

identified those capital improvements deemed necessary to improve freight and intercity passenger rail services that may overlap with New York's commuter rail networks. Thus, certain commuter railroad projects that directly benefitted freight or intercity passenger rail services were included in the survey.

NYSDOT's rail needs survey asked the rail industry to categorize their capital projects into four basic programming categories:

- **Maintain Existing Conditions (Status Quo):** Capital investments required to maintain the existing condition level of a rail line into the future.
- **Develop State of Good Repair (SOGR):** Capital investments in this category are in addition to that estimated to maintain the Status Quo of the rail network. For the purposes of this rail needs assessment, a State of Good Repair means that rail system components and assets are:
  - In good condition for current and near-term anticipated rail traffic conditions;
  - Maintained to provide dependable and reliable operation; and
  - Replaced within the useable service life of that component.
- **System Enhancement:** Rail needs in this category include work to add, develop, increase or otherwise improve rail services and/or schedule reliability on the existing rail network without significantly altering the configuration of the rail network.
- **System Expansion:** Rail needs identified for this category would reconfigure the rail network to significantly improve capacity, service levels and/or access to customers.

The submissions to the 2008 NYSDOT Rail Needs Survey resulted in a wide range of planned and prospective capital investments for railroad infrastructure, facilities and expanded services across the state. A complete listing of individual rail needs submitted to the statewide survey is contained in Appendix A (separately bound). The following table summarizes these needs.

### **Summary of 20-year Rail Needs (2009 – 2028)**

The results of the Rail Needs Survey identified a total of nearly \$10.7 billion for rail network, facility and equipment improvements and/or replacements over the next 20 years or an annual average annual expenditure of approximately \$535 million.

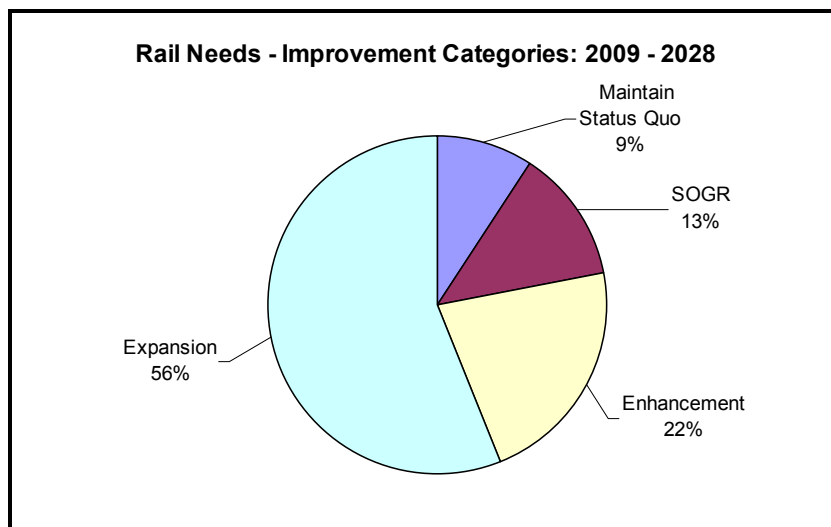
It should be noted that the rail needs survey includes a placeholder project to improve the movement of freight across New York Harbor, with a cost yet to be determined. The PANYNJ's Cross Harbor Freight Goods Movement Study will complete a Final Environmental Impact Study that will recommend a preferred alternative for improving freight movement across New York Harbor.

<b>2008 NYSDOT Rail Needs Survey</b>		
<b>Rail Need Category</b>	<b>20-year Needs 2009-2028 \$ million</b>	<b>5-year Needs 2009-2013 \$ million</b>
<b>Maintain Existing Conditions (Status Quo)</b>		
Short Line, Regional, and Terminal Railroads	265	85
Class I – Major Freight Railroads	590	142
Joint Freight – Intercity Passenger	112	31
Intercity Passenger (Commuter-Intercity)	0	0
<b>Status Quo – Subtotal</b>	<b>967</b>	<b>258</b>
<b>Develop State Of Good Repair (SOGR)</b>		
Short Line, Regional, and Terminal Railroads	409	258
Class I – Major Freight Railroads	730	301
Joint Freight – Intercity Passenger	193	76
Intercity Passenger (Commuter-Intercity)	50	20
<b>SOGR – Subtotal</b>	<b>1,382</b>	<b>656</b>
<b>Status Quo &amp; SOGR Total</b>	<b>2,349</b>	<b>914</b>
<b>System Enhancement</b>		
Short Line, Regional, and Terminal Railroads	612	282
Class I – Major Freight Railroads	917	163
Joint Freight – Intercity Passenger	258	201
Intercity Passenger (Commuter-Intercity)	569	383
<b>System Enhancement – Subtotal</b>	<b>2,356</b>	<b>1,029</b>
<b>System Expansion &amp; Economic Development</b>		
Short Line, Regional, and Terminal Railroads	426	227
Class I – Major Freight Railroads	414	221
Joint Freight – Intercity Passenger	1,034	264
Intercity Passenger (Commuter-Intercity)	4,120	2,180
<b>Expansion &amp; Economic Develop – Subtotal</b>	<b>5,994</b>	<b>2,892</b>
<b>Enhancement &amp; Expansion Total</b>	<b>8,350</b>	<b>3,921</b>
<b>Total by Railroad Class</b>		
Short Line, Regional, and Terminal Railroads	1,712	853
Class I – Major Freight Railroads	2,651	828
Joint Freight – Intercity Passenger	1,597	572
Intercity Passenger (Commuter-Intercity)	4,739	2,583
<b>Total</b>	<b>10,699</b>	<b>4,835</b>
<i>Note: Totals &amp; Subtotals Rounded to nearest \$ million.</i>		

**Figure 67 2008 NYSDOT Rail Needs Survey**

### 20-Year Rail Needs By Improvement Category

Approximately 9 percent (\$967 million) of the total 20-year rail needs were projects that would maintain existing conditions (Status Quo) of the railroad system in New York State. This work consists mostly of track and railroad bridge rehabilitation and intensive capital maintenance activities. The following chart displays the share of needs by improvement category.



**Figure 68 Rail Needs - Improvement Categories: 2009 - 2028**

Over the next two decades, an additional \$1.382 billion, or 13 percent of total rail needs, was estimated to bring the railroad system to a State Of Good Repair for dependable and reliable freight and passenger rail services across the state. This work typically consists of extensive rail line rehabilitation, railroad bridge reconstruction or repair and infrastructure replacement to support high axle load rail cars weighing up to 286,000 pounds.

Together, the need to maintain existing conditions and reach a State Of Good Repair represents 22 percent of the total rail needs over the next 20 years. Completion of this work would create a rail network that was fully integrated with the national rail network and allow the unrestricted movement of the majority of the North American rail car fleet through the New York State.

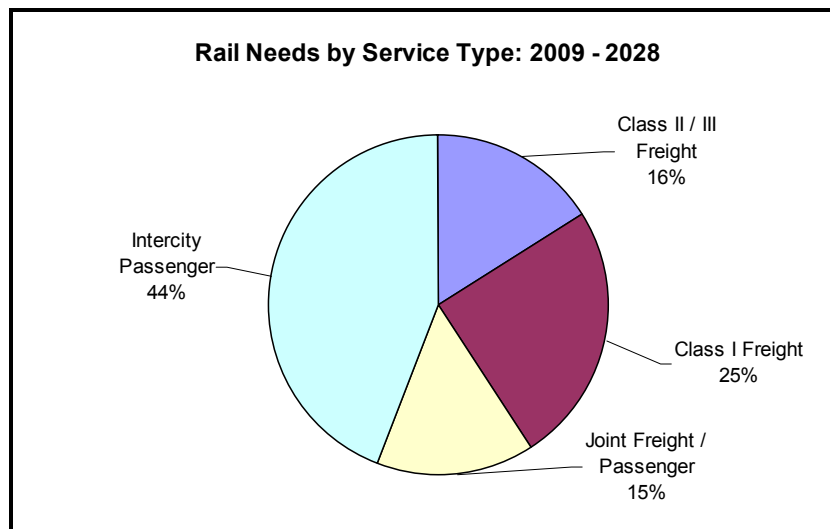
The vast majority (78 percent) of the 20-year rail needs were for rail system enhancements and expansions that would provide the state with new and/or expanded rail services for freight goods movement or intercity passenger travel. There were nearly \$8.4 billion in rail capital improvements identified to provide railroad system improvements necessary to support new and/or more efficient rail transportation services.

Rail system enhancement improvements would include removal of clearance obstructions to enable the safe movement of high and/or wide standards freight cars, such as auto racks for the national transport of newly manufactured motor vehicles and for double stack container cars for both domestic and international freight goods movement. System expansion and economic development capital

needs would include the construction of additional main line track, the removal of rail network bottlenecks, signal system traffic capacity improvements, and additional rolling stock equipment to address the significant increases in both freight and intercity passenger train volumes expected over the next 20-years.

### 20-Year Rail Needs By Railroad Type

Approximately 41 percent of the \$10.7 billion total rail needs over the next 20 years was identified for the exclusive benefit of freight goods movement along the regional, short line, and major Class I railroads operating in New York State. The following chart displays the share of needs by railroad type.



**Figure 69 Rail Needs by Service Type: 2009 - 2028**

In addition to freight rail improvements, the 20-year needs survey identified an additional \$1.6 billion in capital investments for the joint benefit of freight and intercity passenger rail services. This amount represents approximately 15 percent of the total future rail needs. These joint benefit projects would typically consist of rail infrastructure improvements that would benefit both freight and intercity passenger rail services operating over these lines.

The largest single category estimated at \$4.7 billion (44 percent of the 20-year rail needs) would be for the primary benefit of improving intercity passenger rail service in New York State. These projects include additional passenger train fleet equipment purchases, passenger station reconstructions, passenger information systems at stations, and rail infrastructure improvements, such as additional main line track and higher-speed passing sidings.

The rail needs survey also identified the need for passenger rail capital improvements to the Penn Station complex in New York City, which are expected to be part of the overall Moynihan Station project. The overall scale, scope, and specific improvements for the Moynihan Station project are currently in development, including those for the reuse of the Farley Post Office Building (Moynihan West). For the purposes of the 2008 Rail Needs Survey, cost estimates for near-term strategic passenger access improvements for the Moynihan Station

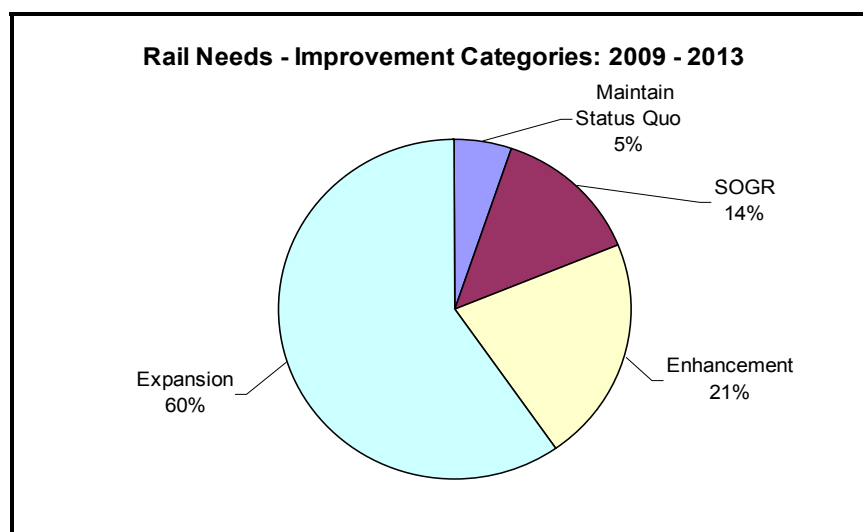
West project were included. The Needs Survey does not include the potential cost of the Moynihan Station East (existing Penn Station) project which is under development.

### **Near Term Rail Needs (2009–2013):**

The 2008 NYSDOT Rail Needs Survey was developed to segment the results into various five-year increments. Of particular interest is the initial five-year period (2009–2013); this includes a total of approximately \$4.8 billion of combined rail freight and intercity passenger needs, or about \$967 million annually. The 2009–2013 period represents 45 percent of the total rail needs identified over the next 20 years.

### **Five-Year Rail Needs By Improvement Category**

Approximately 5 percent (\$258 million) of the total 2009–2013 rail needs were projects that would maintain existing conditions (Status Quo) of the railroad system in New York State. This work consists mostly of track and railroad bridge rehabilitation and intensive capital maintenance activities.



**Figure 70 Rail Needs - Improvement Categories: 2009 - 2013**

An additional \$656 million, or 14 percent of the total five-year rail needs, was estimated to address the most critical deficiencies of railroad system to begin to produce a State Of Good Repair for dependable and reliable freight and passenger rail services across the state. This work typically consists of extensive rail line rehabilitation, railroad bridge reconstruction or repair and infrastructure replacement to support high axle load rail cars weighing up to 286,000 pounds.

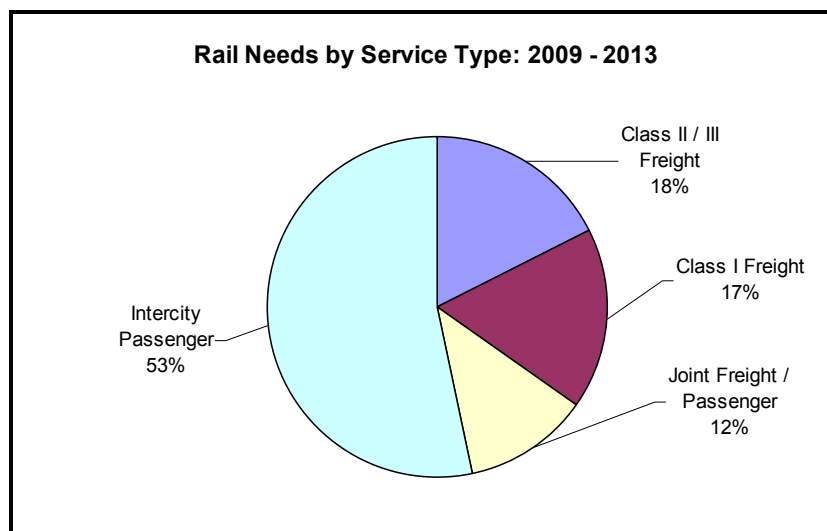
Together, rail needs to maintain the Status Quo and develop a State Of Good Repair represents 22 percent of the rail needs estimated for the 2009–2013 period. Completion of this work (\$914 million) in the next five years would begin to create a rail network in New York State that was fully integrated with the national rail network and allow the unrestricted movement of the majority of the North American rail car fleet through New York State.

The vast majority (78 percent) of the five-year rail needs were for rail system enhancements and expansions to provide new and/or expanded rail services for freight goods movement or intercity passenger travel. There were \$3.9 billion in rail capital improvements identified to provide railroad system improvements necessary to support new and/or more efficient rail transportation services.

Rail system enhancement improvements would include removal of clearance obstructions to enable the safe movement of high and/or wide standards freight cars, such as auto racks and for double stack container cars for both domestic and international freight goods movement. System expansion and economic development capital rail needs would include the construction of additional main line track, the removal of rail network bottlenecks, signal system traffic capacity improvements and additional rolling stock equipment to address the significant increases in both freight and intercity passenger train volumes expected over the next five years.

### Five-Year Rail Needs By Railroad Type

For the near term period of 2009–2013, approximately 35 percent (\$1.7 billion) of the rail needs were for the exclusive benefit of freight goods movement along the regional, short line, and major railroads operating in New York State. An additional 12 percent (\$572 million) in capital improvements were identified for the joint benefit of freight and intercity passenger rail services. When combined, 47 percent (\$2.252 billion) of the five-year rail needs would benefit freight railroads either exclusively or with joint benefits shared by intercity passenger rail services.



**Figure 71 Rail Needs by Service Type: 2009 - 2013**

By comparison, a nearly equal share of capital rail needs over the next five years period (\$2.583 billion, 53 percent), were identified for projects that primarily benefit the improvement of intercity passenger rail service in New York State. This work primarily includes efforts to replace the more than 30-year-old passenger train fleet equipment and provide strategic main line capacity improvements, such as additional passing sidings, modification of yard approach tracks, additional track crossovers,

and signal modifications. These near-term intercity passenger rail capital improvements are targeted to contribute to reduced train trip duration and improved on-time performance schedule reliability. Additional rail needs identified for intercity passenger rail services in the period 2009–2013 included station facility improvements at a number of locations in upstate New York.

### **12.3 Investment Policy for Funding Future Rail Needs**

#### **Recap of NYS Funding for Rail**

New York State has a long history of providing public funding for rail infrastructure. Starting with the Rail Preservation Bond Act of 1974, the state has invested in maintaining its vital passenger and freight rail services. Through additional bond acts and state appropriations, New York provided essential funding to maintain, improve and expand rail services throughout the state. Significant state funding is also provided to support the capital and operating needs of the commuter rail services operated by the Metropolitan Transportation Authority.

Beginning in 2000, the state has annually provided funding for rail investments from the State Dedicated Fund, and also provided additional resources from the Rebuild and Renew New York Transportation Bond Act of 2005. But the additional rail funding from the 2005 Bond Act will end in 2010. State investment has resulted in rail improvements well above the level funded from just state aid. The ability of the state to strategically invest in rail passenger and freight infrastructure has often leveraged additional private investment and resulted in increased public benefits.

In addition to traditional transportation funding resources, new revenues generated from climate change policies provide an opportunity to implement rail projects that reduce energy use and green house gas emission and should be made available to improve rail passenger and freight services that have energy and emissions benefits.

#### **Investment Policy**

For the state rail system to serve the many previously described state and national roles, it must be maintained in a state of good repair and expanded where necessary. As the past has shown, leaving this funding responsibility to the private railroads alone may not result in the high-quality passenger and freight system, intermodal connectivity and public benefits that are needed for the state and nation to grow and compete in the 21<sup>st</sup> century global economy. The responsibility for funding the necessary investments for the rail system to serve both state and interstate commerce should be shared where appropriate among the private railroads that own much of the rail infrastructure and the various levels of government.

There needs to be a stable, predictable funding partnership consisting of the railroads, the federal government (including Amtrak) and state government to invest in rail transportation, just as there are similar partnerships for shared infrastructure investments in other modes of transportation such as highways, transit and aviation. New York State's investment policy supports a sharing of project funding among the partners in relation to benefits received. The share of funding for specific investments attributable to each of these partners will differ based on the specific type of investment and the weighting of project benefits between the public and the

railroad. The following section describing the Long Range Rail Service and Investment Program presents the recommended cost-sharing responsibilities for future passenger rail investments.

The enactment of the Federal Passenger Rail Investment and Improvement Act of 2008 is the beginning of an expanded federal role in this partnership, providing authorizations for a major infusion of federal funding for rail investments that benefit and improve passenger rail services. Consideration should be given to expanding federal investment in the future to freight rail improvements that benefit interstate commerce, the environment and the public. Funding infrastructure projects, such as the removal of network bottlenecks that impede interstate commerce, last mile access to ports of entry and constructing rail-truck intermodal transfer facilities, have these interstate commerce and public benefits.

Funding from government should be dedicated and predicable so that rail investments can be adequately included in transportation plans and programs. New federal funding programs contained in the Federal Passenger Rail Investment and Improvement Act is dependent upon annual appropriations from Congress. The expiration of the 2005 Rebuild and Renew New York Bond Act will leave state resources for rail also totally dependent only upon annual state appropriations. A dedicated, predicable funding source for future rail investments is needed at both the federal and state level. Continuing and supplementing state dedicated funding for rail will provide an advantage to New York in leveraging future federal aid as well as leveraging longer-term commitments from the private railroads.

### **Funding Future Investment Programs**

The next sections in this chapter present the state's proposed long range investment programs separately for passenger rail service and freight rail transportation. The passenger rail investment program is intended to meet the requirements of the Federal Passenger Rail Investment and Improvement Act of 2008 and contains the information required for this investment program as specified in the act in Appendix B to this report. The Department has also developed a companion investment program for freight rail that is intended to describe, at a broad level, the state's investment priorities to maintain and to improve the state's freight rail system.

The current dependency on annual appropriations from government makes funding for longer-term rail investments difficult to predict. In addition, similar to capital program development for other modes, rail projects start as proposals and require planning and engineering during the early project development process in order to result in a specific project with detailed cost and schedule. Because of these factors, the following long range investment program for rail passenger service has greater funding specificity for the nearer-term projects than for those projects that are later in the funding period. Projects that are expected to be ready for construction in the near term and whose details are better known have greater funding specificity than projects that are less well defined in later years of the investment program.

The long range passenger and freight investment programs will be regularly updated as the state's investment priorities are refined, as project costs and schedules are better known and as funding commitments become more certain. State rail passenger and freight investment projects will continue to be selected through existing annual rail program processes.

In addition, the near-term projects in the investment program will be discussed with the appropriate Metropolitan Planning Organizations, the agencies responsible for planning and programming federal transportation funding in urbanized areas, as well as local officials outside metropolitan areas, and merged into the MPOs' federally required Transportation Improvement Program and State Transportation Improvement Program as appropriate.

### **Funding for Rail Passenger Operations**

Funding for the operations of rail passenger service in New York and nationally has traditionally been the responsibility of Amtrak (which has been the sole provider of intercity passenger services in the state) through federal appropriations. This has included the Northeast Corridor, New York's Empire Service and long-distance trains traveling through New York State that have been part of Amtrak's basic core system. The one new service begun by the state, Adirondack service to Montreal, is the exception, with the state responsible for operating losses for this service. Vermont also subsidizes the Ethan Allen service, a portion of which serves New York.

This rail plan assumes that the tradition of Amtrak funding responsibility for operating costs continues for all existing services. The policy for new passenger rail service beyond existing may require a sharing of operating cost responsibility in the future. New York State's transportation entities will work with the federal government and Amtrak to further develop and implement any new cost sharing policy.

In light of increased federal funding for Amtrak and states in the Federal Passenger Rail Investment and Improvement Act, this rail plan anticipates that this new federal funding will result in the addition of quality passenger service to New York State's rail corridors. Should the outcome of Amtrak's consultative process require New York to fund, for the first time, some or all of the current operating shortfall for the Empire Corridor, the state would begin the development of any new services with a \$30 million to \$60 million deficit. This plan assumes some restructuring of current financial arrangements with Amtrak that meet the intent of the Act to improve the national and state rail network.

Beyond services operated by Amtrak, there are several tourist railroads operating in New York State. Funding the cost of operations of these rail services is the sole responsibility of the rail operating authority.

### **12.4 Long Range Service and Investment Program for Passenger Rail**

This section describes the Long Range Service and Investment Program (LRSIP) required by the Federal Passenger Rail Investment and Improvement Act of 2008. These are the projects that the state expects to undertake or support, in whole or in part, to improve intercity passenger rail service in the future. The ultimate decisions on costs and funding of these projects is subject to future discussions with the involved rail partners. This investment program was developed from the comprehensive inventory of rail system needs described earlier in this report, specifically those projects that improve intercity rail passenger service.

The list of projects contained in the LRSIP is contained in Appendix B (separately bound). They include projects that primarily benefit intercity passenger rail service, as well as projects that benefit and/or improve rail infrastructure of the owning railroads, which can be either commuter railroads or freight railroads. The LRSIP projects will improve rail infrastructure including track, train control signals, and passenger stations to improve intercity passenger rail service across the state. These passenger rail investments address critical capacity and bottleneck constraints that will promote operational improvements that will increase the fluidity of the multipurpose rail network in New York State. The combination of these varied LRSIP projects will reduce delays and improve reliability, both expected to produce increased market demand for passenger rail service.

The detailed information required by federal law is presented for each near-term project, including:

- Project location, description and estimated cost;
- A description of public and private benefits; and
- A proposed project funding plan.

Anticipated future LRSIP projects are also shown, but without the project and funding detail. These details will be added to projects as they move closer to implementation.

The projects presented in the LRSIP often have many benefits, not only to the users and the public, but also to the owning railroad. Following are the initial cost-sharing assumptions used for the projects contained in the passenger rail investment program:

Projects that exclusively benefit intercity passenger rail service:

- Federal: 80 percent
- State/Amtrak or alternative intercity service provider: 20 percent

Projects that improve intercity passenger rail service and also benefit the host railroad:

- Host railroad: 50 percent
- Federal: 40 percent, (80 percent of government share)
- State: 10 percent, (20 percent of government share)

Projects that improve intercity passenger rail and also benefit higher-volume commuter rail service, with the cost-sharing based on share of facility usage:

- Commuter railroad: up to 75 percent
- Federal: 20 percent, (80 percent of non-commuter railroad share)
- State: 5 percent, (20 percent of non-commuter railroad share)

Passenger train rolling stock:

- Equipment replacement: Amtrak 100 percent
- Equipment expansion: Amtrak or alternative intercity service provider: 50 percent; Federal: 40 percent; State: 10 percent

The LRSIP should be considered a program of projects, in which the timing and allocation of state resources for individual projects may be revised from time to time in order to use available private and public funding efficiently and to implement critical projects as quickly as possible. Adjustments to the plan may be made in the

future based on the results of on-going planning studies including the Empire Corridor West Railroad Transportation Planning Study and the Binghamton Rail Passenger Service Study. In addition to these and other planning studies, decisions on future project needs and implementation should result from a cooperative information and data-sharing process between the state and its railroad partners.

The LRSIP is contained in Appendix B (separately bound) to the State Rail Plan in order to facilitate revision. The LRSIP is also slightly over-programmed in terms of state and federal funding, similar to long range investment programs for other modes. This is done given traditional capital program uncertainties and in order to have sufficient projects identified to utilize available funding in case certain projects are delayed.

The LRSIP in Appendix B presents project descriptions, benefits, and recommended funding allocations. Appendix B also includes a project location map depicting each proposed rail investment contained in the initial plan. A cost summary table of the LRSIP initiatives is included on the project location map.

### **12.5 Long Range Investment Program for Freight Rail**

This plan contains the results of the survey of the rail industry's 20-year needs for freight-related infrastructure improvements and presents NYSDOT's rail investment strategy for freight rail infrastructure improvements. This investment strategy is intended as a guide for NYSDOT in selecting future freight projects.

Freight rail investments identified in the rail needs survey total more than \$4.3 billion over the next 20 years, not including many of the joint investments on freight lines that benefit both freight and passenger service. A significant portion of these freight needs, nearly \$2.0 billion, are for projects to achieve a state of good repair of the existing rail infrastructure, both for Short Line railroads and for the large Class I railroads. In addition to SOGR needs, many freight investments are presented, totaling approximately \$2.4 billion that would enhance or expand the existing rail infrastructure or construct new intermodal facilities. It should be noted that the cost for the Cross Harbor Freight Improvement project is not yet included in this freight investment program, pending completion of the Environmental Impact Statement by the Port Authority of New York and New Jersey and selection of a preferred alternative.

Traditionally, the state has assisted the freight railroads in improving their infrastructure where there was a clear public benefit. Projects that improve the railroads ability to divert truck traffic from overburdened highways, including removing vertical clearance restrictions, increasing the weight carrying ability of the railroads to increase efficiency, constructing rail/truck intermodal facilities, other projects that reduce vehicle emissions from highway traffic and increasing safety at rail-highway crossings all have public benefits. Further, many rail investments, such as sidings to serve a business or a port facility, have significant benefits to economic development. While many projects have public benefits, a portion of the freight investments will continue to primarily benefit the railroad and their stockholders and thus should be funded by the railroads alone.

This rail plan recommends that the state continue to support freight rail infrastructure improvements that have significant public benefits. Future federal

funding programs to increase investment in freight service should also be implemented.

Following are the general categories of freight rail infrastructure investments that have been identified and should be considered for funding through a partnership of the railroads and government over the next five years. These levels of investment, totaling \$520 million, should be considered as an initial guide for NYSDOT to use in the future, which would be adjusted based on a continuing review of specific rail system needs. NYSDOT supports increased state funding to help address these needs. This level of proposed investment, if achieved, would be double the level of state funding provided in the 2005-2010 multimodal capital program. These investments will help address many of the rail plan goals, objectives and strategies described in Chapter 1 of this report.

Short Line Railroad SOGR and Capacity Improvements – \$200 million. Track and bridge upgrades to accommodate 286,000-pound or heavier rail cars; clearance improvements for larger rail cars; track, tie and other infrastructure improvements to reach a state of good repair on these rail lines, improve last mile connections.

Class I Railroad SOGR and Capacity Improvements -- \$200 million. Removal of clearance and weight restrictions to accommodate larger and/or heavier rail cars; upgrade signal systems; passing sidings and other improvements to increase system efficiency; and address critical bottlenecks.

Construct Rail/Truck Intermodal Facilities – \$50 million. Construct at least three new intermodal facilities in the state.

Improve Rail-Highway Crossings – \$20 million. Upgrade safety equipment at rail-highway crossings across the state.

Conversion to Green Locomotive Fleet -- \$10 million. Assist in the purchase environmentally friendly locomotives for the state's Short Line railroads.

Economic Development/Market Expansion -- \$40 million. Construct new rail sidings and improve existing sidings to serve business and expand opportunities for rail freight use; improve last mile access to facilities and shippers.

Criteria to review potential freight rail investments:

- Improves efficiency, reliability and reduced energy use
- Increases capacity that increases freight usage and modal share
- Reduces highway congestion
- Increases intermodal options
- Increases competition
- Meets identified market demand
- Improves environmental conditions
- Increases safety

State rail freight investment projects will continue to be selected through existing annual rail programming processes. State investment in freight rail infrastructure improvements must have identified public benefits and should leverage additional investment by private railroads. Meeting these freight rail needs will require new or

expanded rail investment programs at the state and federal levels, as well as increased investment by the railroads.

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## APPENDIX

(separately bound)

APPENDIX A: 2008 Rail Needs Survey

APPENDIX B: Long Range Service and Investment Program for Passenger Rail

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