Strategic Business Plan

Building a Commercial Enterprise

FY01-05 Financial Plan Update

Investing in the Future of Passenger Rail

Long-Term Capital Plan

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Executive Summary

As we enter the 21st century, the nation's transportation system is at a crossroads. After building highway and aviation networks that are the envy of the world, increasing gridlock threatens to undermine the success of those investments and the economic growth they helped spur. The U.S. now has an opportunity to enhance mobility and travel choice by reinvesting in the third leg of its transportation system – rail. Demand for rail services has expanded dramatically in recent years, and a growing number of states have taken the lead in developing this underutilized mode.

The nation's passenger rail company – Amtrak – is positioned to respond to this new opportunity. Over the last several years, the company has been transforming itself into a commercial enterprise with an emphasis on market responsiveness, quality service, and effective partnerships. Fulfilling the company's dual congressional mandates – to be the provider of national passenger rail services while achieving operational self-sufficiency – is impossible without a national commitment to investment in intercity rail. Current state transportation efforts have established a foundation for such a national rail capital commitment. With a federal capital program, and a focus on operational and financial efficiency, Amtrak will succeed in meeting its mandates.

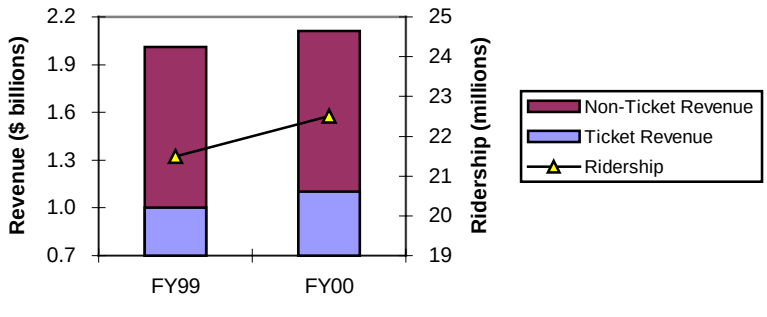
Building a Commercial Enterprise

In its FY99-02 Strategic Business Plan, Amtrak established a plan to become a more efficient, market-oriented, and customer-focused organization. The company has made tremendous strides in reaching its objectives, and remains on track to achieve and sustain operational self-sufficiency while creating a vibrant national passenger rail system – provided that it has a sufficient, long-term source of capital funds.

Achieving Operational Self-Sufficiency

FY00 was a record setting year for Amtrak. Passenger ridership grew to an all-time high of 22.5 million, ticket revenues grew by over 10 percent, and total revenues increased to a record $2.1 billion (see Figure I-1). Moreover, the company continued to position itself for future success by establishing a Customer Satisfaction Guarantee, commencing the first phase of its Network Growth Strategy, launching *Acela Regional* Service and initiating a transformation of its brand image.

Figure E-1. FY99-00 Revenue and Ridership



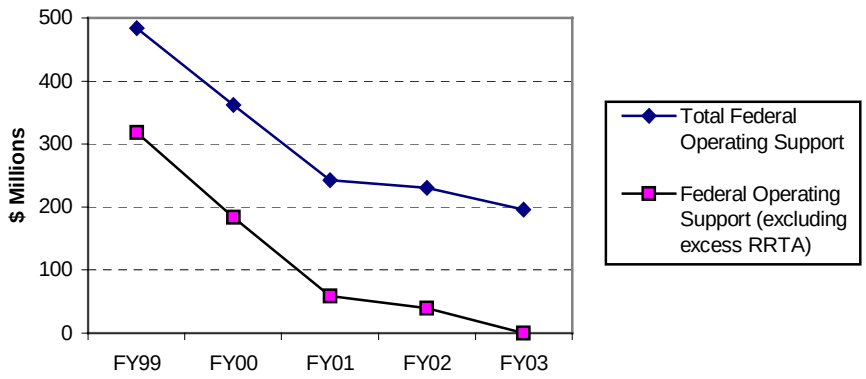
Note: Total revenue excludes interest income and includes capital payments.

Much of the company's recent success is due to capital investment funded by the 1997 Taxpayer Relief Act (TRA). TRA, which provided $2.2 billion for qualified capital projects, for the first time enabled Amtrak to plan capital investments beyond a one-year budget cycle. The result was significant investment in rolling stock and high-speed rail infrastructure improvements in the Northeast Corridor as well as corridor development projects in the Pacific Northwest, California, Midwest and elsewhere. These investments have begun to pay off in improved ridership and revenue performance.

FY01 is a critical year for Amtrak in its congressionally mandated path to operational self-sufficiency by FY03. The nation's first high-speed rail service – *Acela Express* – will be phased in over the course of the year, and its success will become the model for high-speed rail programs across the country. The company will continue to implement an expansion of the national passenger rail network and the mail & express business through new partnerships with freight railroads. These growth initiatives will be balanced with a cost management program that is focused on systems and process re-engineering, organizational restructuring and back-office cost reductions.

Since the formulation of the original Strategic Business Plan in 1998, Amtrak, as required, has steadily decreased reliance on federal operating support. As Figure E-2 displays, federal support for operations has declined from $484 million in FY99 to $362 million in FY00; reliance on federal support for operations will be further decreased to $242 million in FY01. Excluding excess Railroad Retirement (RRTA) payments, federal operating support will drop from $318 million in FY99 to $40 million in FY02.[1] By continuing to implement the established business strategies, Amtrak is proceeding on a glide path to achieve operational self-sufficiency by FY03.

Figure E-2. Federal Operating Support: FY99-03



Capital Funding Gap

Achieving and sustaining operational self-sufficiency while providing a national passenger rail network hinges on the establishment of a stable source of long-term capital funding. At the end of FY01, the last of the TRA dollars will have been invested in capital improvements such as the Northeast Corridor's electrification program, Intercity fleet upgrades, West Coast maintenance facilities and information technology –

[1] Excess RRTA is the annual amount Amtrak payroll taxes contribute into the industry retirement fund in excess of that paid out to Amtrak retirees; in accordance with the Administration and congressional intent, the test for operating self-sufficiency excludes excess RRTA.

all of which have benefited Amtrak's customers as well as the company's financial performance. Of the $521 million federal funding grant for FY01, only $279 million will be available for capital investment – barely enough to address minimal mandatory spending requirements.

If Amtrak's federal capital grant does not at least meet the authorized level in FY02, the company will be required to restructure the scope of its capital-intensive business. While Amtrak remains fully committed to achieving operational self-sufficiency, the company believes that inadequate capital funding would compromise its ability to sustain self-sufficiency and to deliver a quality national passenger rail system.

Shaping a New Transportation Vision

For over 200 years, the success of America's economy has been fueled by transportation investment and innovation. Throughout its history, the U.S. has led the world in developing transportation systems – maritime and rail in the 18th -19th centuries, and highways and aviation in the 20th – and this investment has helped spur unprecedented levels of economic growth.

The Nation's Transportation Dilemma

Today, the nation spends nearly $80 billion per year on its highway infrastructure and $19 billion on its aviation system.[2] Yet these systems are now unable to keep up with ever expanding travel demand. Since 1982, highway delays across the largest 68 metropolitan regions have nearly tripled;[3] and flight delays have grown by more than 33 percent in just the last five years.[4]

The conventional approach to building more highways and airports may no longer work since most of the "easy" highway and airport infrastructure has been built out. Remaining options for expanding that infrastructure – particularly where it is needed the most – are far more expensive to complete. The cost of the Los Angeles Century Freeway (State Route 105), for example, was over $125 million per mile, while Boston's 7.5-mile central artery or "big dig" will cost more than $1.5 billion per mile to complete. Similarly, the Denver International Airport cost $4.2 billion to build, while expanding St. Louis Lambert International Airport is estimated to cost $2.6 billion.

Where adding new highway and aviation capacity is now prohibitively expensive, modest but vital improvements in rail capacity can provide a viable alternative for intercity travelers who face rising congestion on existing highways. In fact, a dollar invested in new rail capacity can deliver 5 to 10 times as much capacity as a dollar invested in new highway capacity, depending on the location. A recent proposal for

[2] Includes federal, state and local spending. Bureau of Transportation Statistics, *Transportation Statistics Annual Report,* 1999.
[3] Texas Transportation Institute, *Urban Mobility Study,* 1999.
[4] Bureau of Transportation Statistics – data on late arrivals.

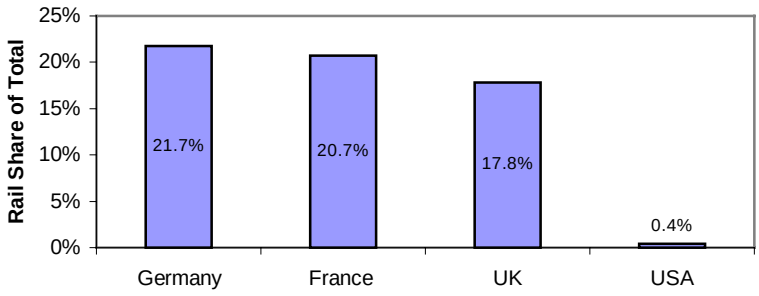
expanding I-95 in Connecticut, for example, estimated the cost of a new lane at about $50 million per lane-mile – the equivalent of about 45 passengers per hour for every $1 million invested.[5] A comparable mile of new high-speed (125 mph) track is estimated to cost about $8 million per track-mile – the equivalent of about 450 passengers per hour for every $1 million invested, or 10 times the capacity of the highway example.[6]

Rail Investment Gap

No passenger rail system in the world operates without public capital support. In Europe and Japan, major capital investment in rail systems have resulted in thriving high-speed rail services that have helped relieve strained highway and aviation networks and have spurred economic development. The Paris-Lyon TGV line, for example, was developed with $2 billion in infrastructure investment. This capital investment resulted in trip time reductions from 3:45 hours to 2:00 hours on the 462-kilometer corridor and ridership increases of 20 percent per year.

The U.S. has lagged drastically behind in rail investment – dedicating less than one percent of its transportation infrastructure spending to rail, versus more than 15 percent for its European counterparts (see Figure E-3). Over the last several decades, the nation's limited investment in passenger rail has resulted in a growing backlog of capital needs for infrastructure, stations and rolling stock. These under-capitalized rail assets now present a unique opportunity to address the nation's transportation dilemma.

Figure E-3. Rail Capital Spending as Share of Total Transportation Capital Spending



Source: European Conference of Ministers of Transport (ECMT), 1987-1995 data; and U.S. Congression Budget Office, 1985-1995 data

As the options for expanding capacity in the strained highway and aviation networks have narrowed, numerous states have begun to recognize that passenger rail offers an opportunity. Over 30 states have developed formal high-speed rail initiatives to help relieve some of their transportation and environmental pressures and improve access to economic centers. Several have begun to invest their own resources in upgraded corridors. These upgrades benefit not only passenger service, but provide trip time and capacity improvements for the freight and commuter railroads operating on the same

[5] Based on 1993 Connecticut DOT report on 47-mile I-95 widening; costs reflect engineering and construction costs without land acquisition – inflated to year 2000 dollars. The analysis assumes 1500 vehicles per hour per lane, at a vehicle occupancy of 1.5.

[6] Based on North End high-speed rail costs from Amtrak's Engineering Department; costs reflect engineering and construction costs without land acquisition. The analysis assumes 5-minute train headways, with a train capacity of 300 passengers.

lines. The result is a lower cost solution that benefits all rail operations while serving as an engine for economic expansion.

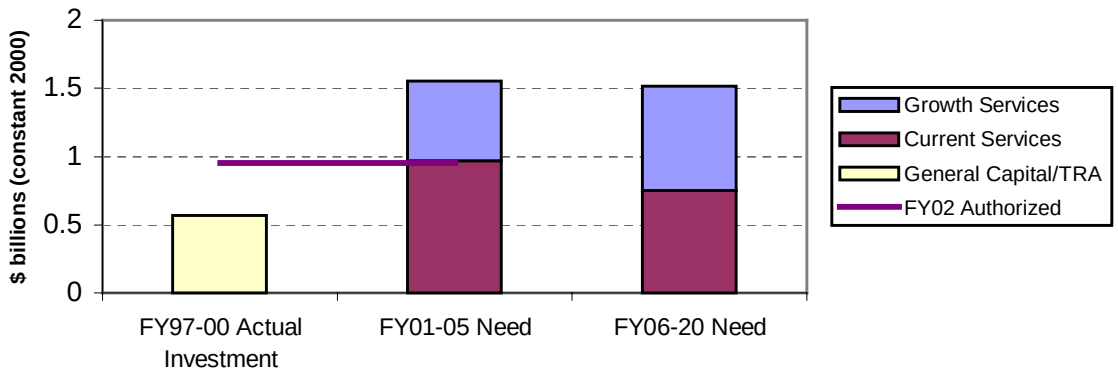
While states have begun to take the lead in passenger rail development, federal capital investment will be necessary in order for the U.S. to successfully develop corridors and maintain a national passenger rail system. With a dedicated funding source, the nation can once again maximize the value of its rail assets and enhance intercity transportation options available to Americans.

Capital Needs Assessment

In 2000, Amtrak undertook a long-term capital needs study, including an assessment of fleet and infrastructure needs. The study examined all U.S. intercity passenger rail needs – both corridor and long-distance services. The goal was to develop a needs assessment upon which a long-term capital program could be shaped.

The capital needs assessment concludes that with a modest investment of federal funds, the U.S. passenger rail system can fulfill its potential and provide the vital missing link in the nation's transportation system. The assessment indicates that annual federal investment in passenger rail of approximately $1.5 billion – only 2.5 percent of what the federal government spends on transportation[7] – combined with state and private investment, will modernize the current rail system, and advance high-speed rail corridor development throughout the United States. The conclusions are summarized in Figure E-4.

Figure E-4. Average Annual Federal Capital Investment Needs for Passenger Rail



The study finds that the minimal capital investment required to meet Current Service commitments is $973 million per year in the first five years and $750 million per year

[7] Based on current annual federal transportation spending of $58.8 billion in FY01.

thereafter.[8] The Current Service program ensures a quality national network for the provision of existing intercity passenger rail services along with services identified in Phase I of Amtrak's Network Growth Strategy. It addresses the state-of-good-repair needs for infrastructure, facilities and fleet, including requirements on the South End of the Northeast Corridor (NEC); addresses life/safety issues, including investments required in the New York tunnels; provides for a modernized fleet consistent with brand and service standards; and makes the required technological investments that will reduce operating costs and provide competitive services to customers. The product is a safe, modern and reliable national network.

It is important to note that the backlog in deferred infrastructure, station, and fleet investment requires additional funding in the first five years to bring the assets up to a state-of-good-repair. The plan eliminates that backlog within the first five years, and then maintains modern standards on an ongoing basis. This minimal investment is essential for a viable national passenger rail system and for Amtrak to achieve and sustain operational self-sufficiency.

The needs assessment also identifies capital investment necessary to expand the U.S. passenger rail system. The study recommends a federal capital down payment of $550-600 million per year during the first five years of the plan and $750-800 million during the subsequent fifteen years of the plan. Such a Growth program would provide essential seed money for expansion of the U.S. passenger rail system, including initial high-speed corridor development around the country as well as additional network expansion.[9]

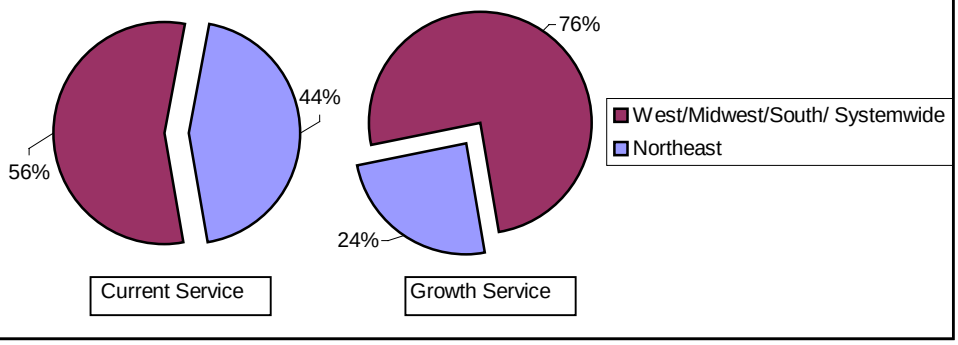
While a significant portion of Amtrak-owned assets are in the 13 Northeast Corridor states, and modernizing and maintaining these assets is a core responsibility of the company, the capital plan includes investment in infrastructure across the country and in fleet that could be deployed anywhere there is demand. In fact, as Figure E-5 shows, more than half (56 percent) of the federal Current Services investment is slated for non-Northeast Corridor assets – in spite of Amtrak's responsibility to make up for previous under-funding of those assets. As the figure indicates, more than three-quarters (76 percent) of the 20-year federal investment in Growth Services is outside the northeast.[10]

[8] Estimates of annual federal investment assume non-federal funding matches as described in Amtrak's long-term capital plan. Note that excess RRTA is excluded from this capital needs assessment (see FY01-05 Financial Plan Update for further discussion). Numbers are in constant year 2000 dollars.

[9] The capital plan proposes average annual federal investment of $584 million in FY01-05 and $770 million in FY06-20. Actual projects funded under the Growth scenario will need to show a positive financial operating contribution and would be prioritized based on a series of capital investment criteria (see Financial Plan Update for further details).

[10] Northeast includes all investment required in Amtrak's Northeast Corridor (NEC) Strategic Business Unit (infrastructure and fleet); West/Midwest/South/Systemwide includes all other infrastructure, fleet, stations/facilities, and other (debt, IT, program management) investment needs.

Figure E-5. Breakdown of Federal Capital Investment Needs for Current and Growth Services (2001-2020): Northeast Corridor vs. Other Regions (percent of total)



NEXT STEPS

The development of this long-term capital plan is an essential step in the process of reinvesting in our nation's passenger rail system. In order to realize the potential of this plan, Amtrak and its partners must move forward on several critical fronts. First and most importantly, the federal government must provide a stable, long-term source of capital funds sufficient to support the long-term capital plan. Second, Amtrak must continue to build partnerships with states, freight railroads and other entities. Third, Amtrak must fulfill its strategic business plan by continuing to deliver on its six business strategies, with an emphasis on financial and operational efficiency. Finally, Amtrak must continually work with its partners to meet growing demands, refine its approach, and update its long-term capital needs.

None of these steps are easy. But as congestion on the nation's other transportation modes mounts, the need to reinvest in our nation's rail system becomes even more urgent. Amtrak looks forward to working with its public and private partners to seize this opportunity and deliver world class passenger rail service in the 21st century.

I. Introduction

As Amtrak enters the third year of its Strategic Business Plan, the company continues to build on its mandate to create a modern national rail system and to make steady progress on the charge of reaching operational self-sufficiency. This section provides an overview of the FY01 Strategic Business Plan, and summarizes the business approach driving the company's five-year operating plan and long-term capital plan.

Amtrak continues to build on its mandate to create a more vibrant, modern national rail system while making steady progress on the charge of reaching operational self-sufficiency.

Overview of Plan

FY00 was a record-setting year for Amtrak. Passenger ridership grew to an all-time high of 22.5 million, ticket revenues grew by over 10 percent, and total revenues increased to a record $2.1 billion (see Figure I-1). Moreover, the company continued to position itself for future success by establishing a Customer Satisfaction Guarantee, commencing the first phase of its Network Growth Strategy, launching *Acela Regional* Service and initiating a transformation of its brand image.

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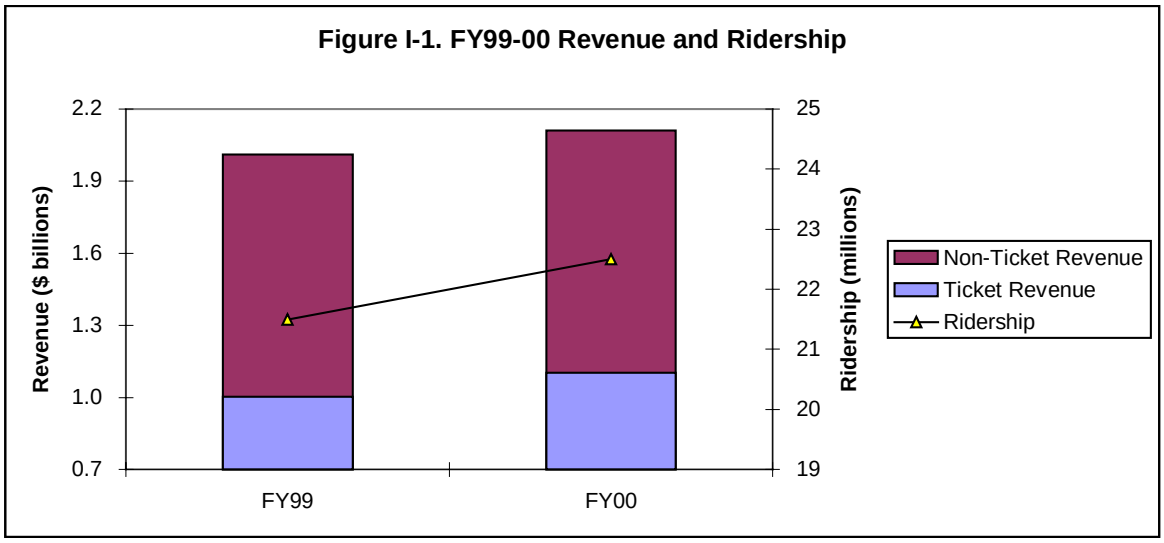

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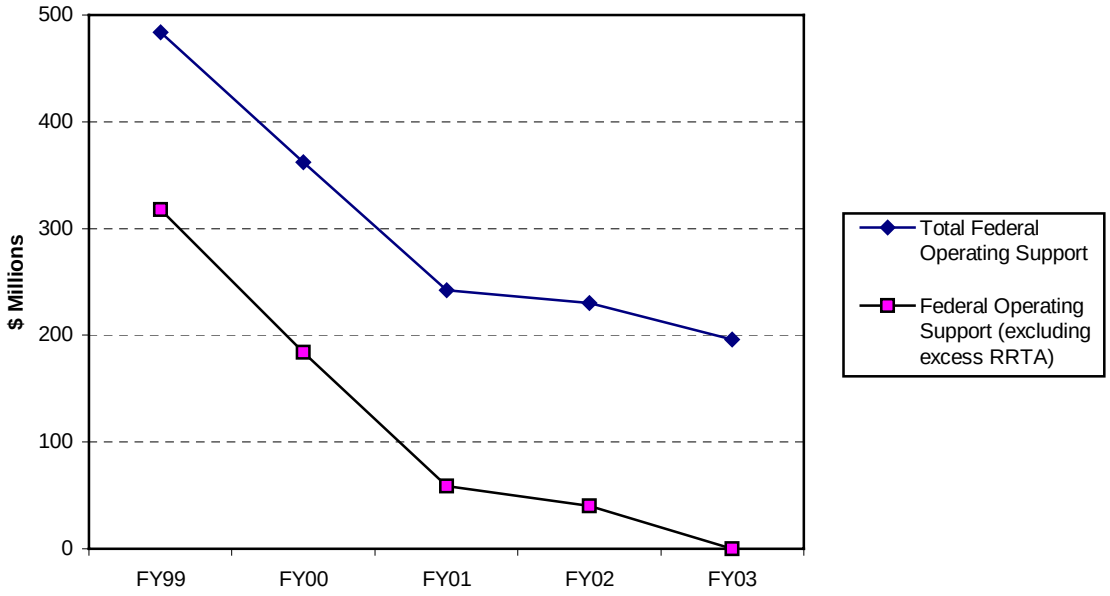

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capital funding. Development of a reliable fleet and infrastructure to deliver passenger rail's potential can only be accomplished with a dedicated source of capital funds. The need for the federal government to be a partner in supporting rail capital investment becomes even more critical as the traveling public looks for alternatives to the overburdened highway and aviation systems.

To that end, this business plan provides a long-term capital needs assessment for intercity passenger rail - including a 20-year fleet and infrastructure plan. The plan outlines not only the capital needs for meeting Current Service requirements, but also for expanding the national network and developing high-speed corridors around the country.

The Strategic Business Plan contains four sections and supporting appendices:

- Section I (this section) provides a summary of the business vision driving the operating, financial and capital plans;
- Section II updates the operating plan through FY05;
- Section III updates the financial plan through FY05; and
- Section IV is a long-term capital needs assessment and 20-year capital plan.

The Appendices provide further detail on the FY01-05 operating budget, FY01 capital budget, and 20-year capital plan.

Business Vision

The beginning of the 21st century brings with it tremendous opportunities for passenger rail in the U.S. – opportunities that Amtrak is well positioned to develop and advance. Changes in the economy and in development patterns have resulted in mounting congestion on our highways and in our aviation system. The search for new transportation solutions has renewed interest in rail. Over 30 states have initiated high-speed rail planning and development to improve access in congested corridors. Adequate capital investment in rail can provide a complement to the highway and aviation systems, resulting in a more effective national transportation system.

Amtrak's strategy emphasizes market responsiveness, quality service, and effective partnerships.

Amtrak's dual mandates – to be the provider of national passenger rail services while achieving operational self-sufficiency – are challenging. Amtrak's strategy emphasizes market responsiveness, quality service, and effective partnerships. With support from the company's partners, and continued focus on operational and financial efficiency, Amtrak can succeed in delivering on those mandates.

BACKGROUND

For over 200 years, the success of America's economy has been fueled by transportation investment and innovation. Throughout its history, the U.S. has led the world in developing transportation systems – maritime and rail in the 18th -19th centuries, and highways and aviation in the 20th – and this investment has helped spur unprecedented levels of economic growth.

Today, the nation spends nearly $80 billion per year on its highway infrastructure and $19 billion on its aviation system.[12] Yet these systems are now unable to keep up with ever expanding travel demand. Since 1982, highway delays across the largest 68 metropolitan regions have nearly tripled;[13] and flight delays have grown by more than 33 percent in just the last five years.[14]

This constraint on mobility threatens to severely undermine the economic health of many of our country's growing metropolitan areas. Already, highway and airport access to many downtown business centers is at capacity for four to six hours per day. Without the ability to attract new employers and new employees to these centers, commercial development will become severely constrained. The need for improved mobility between major cities within regions has become even more important as regional economies continue to shift to a service and technology industry focus.

The conventional approach to building more highways and airports will no longer work since most of the "easy" highway and airport infrastructure has been built out. Remaining options for expanding that infrastructure – particularly where it is needed the most – are far more expensive to complete. Land development constraints, environmental costs, and community concerns have significantly raised the cost of adding new highway and airport capacity. The cost of the Los Angeles Century Freeway (State Route 105), for example, was over $125 million per mile, while Boston's 7.5-mile central artery or "big dig" will cost more than $1.5 billion per mile to complete. Similarly, the Denver International Airport cost $4.2 billion to build, while expanding St. Louis Lambert International Airport is estimated to cost $2.6 billion.

A dollar invested in new rail capacity can deliver 5 to 10 times as much capacity as a dollar invested in new highway capacity.

Where adding new highway and aviation capacity is now prohibitively expensive, modest but vital improvements in rail capacity can provide a viable alternative for intercity travelers who face rising congestion on existing highways. In fact, a dollar invested in new rail capacity can deliver 5 to 10 times as much capacity as a dollar invested in new highway capacity, depending on the location. A recent proposal for expanding I-95 in Connecticut, for example, estimated the cost of a new lane at about $50 million per lane-mile – the

[12] Includes federal, state and local spending. Bureau of Transportation Statistics, *Transportation Statistics Annual Report,* 1999.
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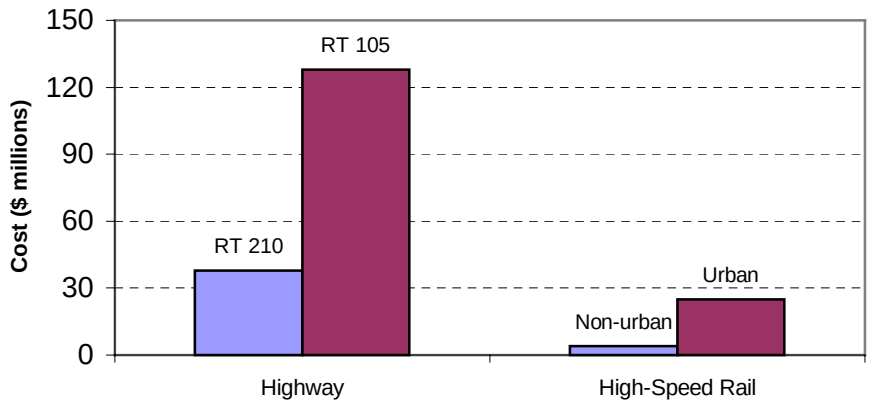
equivalent of about 45 passengers per hour for every $1 million invested.[15] A comparable mile of new high-speed track (125 mph) is estimated to cost about $8 million per track-mile – the equivalent of about 450 passengers per hour for every $1 million invested, or 10 times the capacity of the highway example.[16]

In California, current plans call for linking the state's regions together with frequent, modern corridor rail service operating at speeds of up to 125 mph. In a state where highway projects have run upwards of $100 million per mile, the projected cost of this corridor rail improvement program is $20 million per mile in urban segments and $4 million per mile in non-urban areas. As Figure I-3 shows, the costs associated with rail improvements are only a fraction of the cost of highway projects such as the replacement of State Route 210 or the Century Freeway project mentioned above.[17]

Figure I-3. California Transportation Projects (Capital Costs per Route-Mile)



EMERGING RAIL OPPORTUNITY

As the options for expanding capacity in the strained highway and aviation networks have narrowed, states have increasingly turned to passenger rail as the one transportation mode with significant capacity to expand. There is a growing recognition that intercity and commuter rail provide a new option for enhancing access to business centers and spurring new commercial development. City and regional planners, commercial developers, and local business associations are now focusing on ways to

[15] Based on 1993 Connecticut DOT report on 47-mile I-95 widening; costs reflect engineering and construction costs without land acquisition – inflated to year 2000 dollars. The analysis assumes 1500 vehicles per hour per lane, at a vehicle occupancy of 1.5.
[16] Based on North End high-speed rail costs from Amtrak's Engineering Department; costs reflect engineering and construction costs without land acquisition. The analysis assumes 5-minute train headways, with a train capacity of 300 passengers.
[17] Based on information from Caltrans and Amtrak West.

upgrade and build around existing rail lines to create new high-speed rail corridors connecting major commercial centers.

States are turning to rail as the as the one transportation mode with significant capacity to expand.

While rail alone cannot solve the transportation problems facing the U.S., it is clearly an essential element of a comprehensive solution. The inclusion of rail provides the opportunity to complement other modes of transportation. For example, in congested air corridors between nearby cities, development of higher speed rail using existing infrastructure can free up airport capacity for longer-distance air travel. Rail can thus provide the third leg of our intermodal system in an increasingly overburdened transportation network.

Formal high-speed rail initiatives involving over 30 states are underway to transform what is finally recognized as a precious resource into an economic engine for regional growth. In some cases, these efforts build off existing Amtrak corridor service; in other cases, they represent new comprehensive passenger rail initiatives that include both commuter operations and intercity high-speed rail connections. Figure I-4 displays today's national network of intercity passenger rail. With appropriate capital investment, the U.S. can develop high-speed corridors across the country – such as those that have been federally designated – and strengthen long-distance service with network growth opportunities. Figure I-5 displays a vision of such an intercity passenger rail network in 2020.

The rail network in 2020 would be comprised of an array of integrated transportation products. The design of the intermodal network will ultimately be the result of rigorous market research, financial analysis and joint planning between Amtrak, freight railroads, the federal government, states, commuter agencies, bus operators and airlines. High-speed corridor, long-distance leisure, and point-to-point services will provide a balanced passenger rail system.

AMTRAK'S STRATEGIC APPROACH

Amtrak has developed a strategic business approach that positions the company to take advantage of emerging passenger rail opportunities while delivering on its mandates. In its FY99-02 Strategic Business Plan (published in the fall of 1998), the company recognized that it needed to become a more efficient, customer-focused organization. Since then, the company has made steady progress in delivering on the business strategies articulated in the FY99-02 plan, and is on track to meet its goals.

Amtrak has developed a strategic business approach that positions the company to take advantage of emerging passenger rail opportunities while delivering on its mandates.

Figure I-4: Current National Passenger Rail Network

[Insert Amtrak's current route map]

Figure I-5: Potential 2020 Passenger Rail Network

[Insert map of current network, plus NGS I, plus federally-designated HSR corridors]
COLOR

Moreover, Amtrak has made improvements to its management structure over the past several years, including the establishment of four distinct strategic units. This corporate structure has enabled Amtrak to focus on the direct needs of its customers and on strengthening its state partnerships. Management's long-term vision for the corporation involves further restructuring to mine underutilized assets and to attract private capital investment. Planning work has begun to facilitate such changes in areas as diverse as information technology, equipment, real estate, mail and express and commuter/state services.

In order for the company to realize its potential, however, the federal government must affirm its commitment to an intermodal transportation system by establishing sufficient, reliable capital investment funds for the nation's passenger rail system. With such federal funding, Amtrak will be able to attract additional private and state capital investment, ensuring a thriving passenger rail system, including:

- Elimination of state-of-good-repair needs for fleet and infrastructure;
- Maintaining superior safety standards;
- Modernizing stations and facilities;
- Delivering reliable service for the existing national network and implementing the Network Growth Strategy;
- Taking advantage of changing technology to reduce costs and provide competitive services to customers; and
- Developing financially viable high-speed corridors across the country.

The result of this capital investment will be a stronger national transportation system and a financially stronger Amtrak. With a continued focus on its business strategies – including a market orientation, quality service, cost management, and partnerships – along with a stable source of capital, Amtrak is well positioned to achieve operational self-sufficiency while providing world class passenger rail service throughout the U.S.

II. FY01-05 Operating Plan Update: Building a Commercial Enterprise

Since the 1998 launch of its new strategic direction, Amtrak has taken significant steps in rising to the challenge of reducing its reliance on federal funds to support operations. Driving Amtrak's actions are the six key strategies:

- Building a market-based network;
- Delivering consistent quality;
- Revitalizing the Amtrak brand;
- Operating a cost-effective business;
- Leveraging public and private partnerships; and,
- Developing corridor services.

Achieving operating self-sufficiency, as well as sustaining profitable growth, hinges on a continuous, stable source of capital for investment.

While these strategies are vital to the company's success, achieving operational self-sufficiency and sustaining profitable growth also hinge on a continuous, stable source of capital for investment. A successful partnership with the federal government as well as with states and private investors to provide capital funding will enable Amtrak to build on its recent successes, and become an even more integral part of the nation's transportation system.

Key Business Strategies

The FY01-05 Operating Plan maintains the company's focus on the key business strategies developed in 1998, building on the success of the last several years. This section summarizes progress to date and plans for each strategy.

Build a Market-Based Network

In FY99, Amtrak initiated an extensive market-based network analysis (MBNA), the first comprehensive market assessment of Amtrak's route structure since its inception in 1971. The MBNA process uses state-of-the-art commercial tools and integrates market, operations and financial research and analysis. Two new demand models – forecasting ridership and revenue for corridor and long-distance passenger service, and a new variable cost model – were created for the MBNA. Combined with market research, demographic statistics and new methodologies for forecasting mail and express business potential, the MBNA identifies opportunities to improve customer service, reduce costs and increase revenues. Route alternatives can be tested and the net incremental financial contribution of a route, extension or alteration in service can be

forecasted. Amtrak's Network Growth Strategy was the product of this market-based network analysis.

Network Growth Strategy. In February 2000, based upon MBNA, Amtrak unveiled the first phase of its Network Growth Strategy – a new approach to strengthening the national network and improving the financial performance of Amtrak's core railroad operations. The result of the analysis, the Network Growth Strategy, is based on the premise that financial improvement can be achieved by maximizing the routes that positively contribute to the fixed cost base inherent in any passenger railroad operation. The analysis showed why earlier strategies aimed at cutting services failed to improve Amtrak's financial position and recognizes that the national rail system is a valuable asset as an integrated transportation network in its entirety and not merely as a sum of the component train routes. The Network Growth Strategy focuses on creating a system with enhanced reach and connectivity, resulting in better system-wide utilization of equipment, improved passenger choices and increased mail and express business opportunities. The first phase of the Network Growth Strategy will expand or improve train routes in twenty-one states and serve 975 new station pairs.

Deliver Consistent Quality Service

Over the last few years, Amtrak has administered monthly surveys on each of its product lines to track customer satisfaction and the service variables that affect it. The resulting Customer Satisfaction Index (CSI) has provided a basic tool for assessing product line performance and guiding service improvement efforts. Market research performed as part of the market-based network analysis and brand revitalization initiatives demonstrated the importance of consistent, quality service to address the financial opportunities generated from a customer-focused operation. As a result of this effort, the Service Standards initiative was established. The Service Standards program began with a "best practices" analysis of successful, customer-focused corporations. Program components include customer service training for all employees, standardization of equipment design, station planning and maintenance practices, service and amenity definitions, "right-and-ready" trains initiative and the unconditional service guarantee.

Service Guarantee. In July 2000, Amtrak announced an unconditional guarantee of customer satisfaction – the first such guarantee in the national travel and transportation industry – promising a safe, comfortable and enjoyable travel experience to all customers. If Amtrak employee's efforts are not sufficient in providing such an experience, the customer is entitled to receive a travel voucher good for future travel. The purpose of the service guarantee is to:

- Deliver high quality, consistent service as the new standard in the travel industry;
- Provide a mechanism that helps to identify and correct service shortcomings and reduce or eliminate recurring sources of guest dissatisfaction; and
- Increase passenger satisfaction and therefore increase ridership and revenue.

Since a one percent increase in guest retention provides an additional $13 million in annual revenues, the program's goal is to reach 999 satisfied customers per 1,000. Amtrak is well on its way to reaching the goal with better than 996 satisfied customers per 1,000 riders – or 99.6 percent satisfaction – as of December 2000.[18]

Right and Ready Trains. Achieving the goals of the service guarantee requires changes in the way Amtrak sets and implements its own standards of service. The goal of the Right and Ready Trains program is to have all trains enter and depart terminals properly equipped, properly staffed and ready to serve guests every time. Terminal teams were established to identify the requirements necessary to meet criteria identified as mission-central and incentives were instituted to ensure employees had ownership and recognition in the process.

Revitalize the Amtrak Brand

For consumers, brands serve as an important guide in choosing products and services for purchase. The familiar names and symbols on products represent the value that consumers trust they will receive. A great brand represents a promise defined with a keen understanding of what consumers desire. It delivers on that promise consistently and thereby, continually inspires choice and ultimately loyalty. It can also provide the company with an advantage over its competitors by creating an image that can inspire trust and communicate a particular message.

Since its start in 1971, the National Railroad Passenger Corporation has been represented in the marketplace by the name Amtrak, with its chevron logo. This brand identity was created to signal the formation of a national network for passenger rail. Like the route structure and customer service it has stood for, the Amtrak brand identity has changed very little over the years. As a result, the image the company projected was outdated and out of touch with today's consumer values.

Signaling the significance of the comprehensive changes being made at the company, Amtrak introduced a new corporate identity in July 2000. Based on extensive market research, the new brand identity will serve as a master brand and an endorsement for a family of services, including the new *Acela* brand for high-speed corridor services. Amtrak has begun implementing the new brand identity and logo, designed to reflect the positive attributes of train travel to consumers of transportation services. The changeover will proceed gradually over the next two years and will be incorporated into the scheduled upgrades of equipment and stations.

Operate a Cost-Effective Business

This year's Strategic Business highlights a key element of the company's vision by separately identifying as a business strategy the need to focus on cost-effectiveness. While this is not a new concept, recent investments in technology tools and financial systems now enable the company to more effectively focus on delivering its other

[18] Results for July-December 2000 are 996.4 satisfied guests per 1000.

business strategies in as cost-effective a manner as possible. This objective is particularly important as Amtrak enters the final years of its glidepath to operational self-sufficiency. The strategy is not intended to sacrifice customer service but, instead, to emphasize the obligation to deliver rail service and implement business strategies in a cost-effective manner.

Management has identified specific accounts, large functional areas, policies and processes, organizational structures and back-office costs that have potential for improved cost management. Amtrak will take advantage of economies of scale, technology, standardization, process re-engineering and the newly developed MBNA analytical tools; and learn from successful companies that have employed the "Six Sigma" approach to reducing costs without sacrificing quality.[19]

Moreover, the company is developing new accounting structures that track the profit and loss as well as balance sheets of its lines of business. The result will be the availability of comprehensive financial accounting of key lines of business and the impact of corporate strategies on their performance.

Leverage Public and Private Partnerships

Working with both public and private sector partners to provide passenger rail services is essential if Amtrak is to achieve its goal of operational self-sufficiency. For many years, states have contributed the financial support necessary to operate individual train routes; cities and towns have partnered with Amtrak to improve station facilities; and private entities have financed equipment purchases and entered into agreements to develop Amtrak's assets.

It is not enough, however, for Amtrak to merely manage existing partnerships and wait for others to come forward. In order to achieve its business vision, Amtrak must constantly seek new opportunities to develop mutually beneficial alliances with industry leaders and key public entities. Aggressive and innovative partnerships will be:

- Critical to the commercial strategy for long-distance trains as envisioned in the Network Growth Strategy;
- Fundamental to repositioning Amtrak's brand identity;
- Essential to securing a long-term capital funding stream and structuring the development of corridor services across the country; and
- Required in order to provide the set of cost-effective services that our customers demand.

[19] Six Sigma is a methodology employed by corporations such as General Electric that focuses on improving every process, product and service that touches the company's customers. The methodology consists of five basic activities – defining, measuring, analyzing, improving and controlling the quality in every one of the company's products, services, processes and transactions with the ultimate goal of virtually eliminating all defects.

Amtrak will develop commercial, service and investment partnerships to improve product offering and reduce the cost of operations.

Develop Corridor Services

Amtrak is committed to the development of high-speed and commuter corridors across the country and is actively working with states, local governments and railroads to jointly plan and implement emerging passenger rail services. While Amtrak has initially focused on those corridors that have been designated as high-speed rail corridors by Congress and the Department of Transportation, potential development of any rail corridor that is a positive contributor to Amtrak's bottom-line will be considered given the market-based network analysis process.

The current federally designated high-speed rail corridors pursuant to section 1103(c) of the Transportation Equity Act for the 21st Century (TEA-21) are:

- California Corridor: Sacramento, Bay Area, Los Angeles to San Diego
- Chicago Hub Corridor: Chicago to Milwaukee, Minneapolis, Detroit and St Louis connecting to Cleveland, Columbus and Cincinnati, Ohio
- Empire State Corridor: New York City, Albany to Buffalo
- Florida Corridor: Miami, Orlando, to Tampa
- Gulf Coast Corridor: Mobile, New Orleans to Houston with connections to Birmingham, Alabama
- Keystone Corridor: Philadelphia and Harrisburg and on to Pittsburgh
- Pacific Northwest Corridor: Eugene, Portland, Seattle, Vancouver
- Southeast Corridor: Washington DC, Richmond with connections to Newport News, Raleigh, Atlanta, and connecting to the Southeast / Gulf Coast Corridor.
- South / Central Corridor: San Antonio, Austin, Dallas to Oklahoma City and Little Rock
- Southeast / Gulf Coast Connection: Birmingham, Atlanta, Macon, and Savannah to Jacksonville
- Northern New England Corridor: Boston to Montreal through Maine, Vermont and New Hampshire

Amtrak's launch of *Acela* service along the Northeast Corridor is just the start of America's high-speed network.

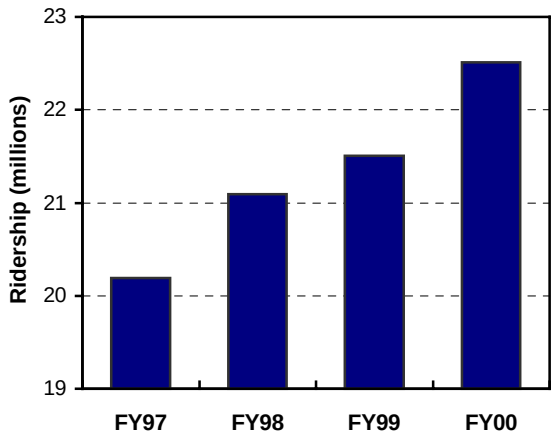
Achievements in FY00

Amtrak saw its strongest performance ever in FY00. The company's total revenue reached an all-time high of $2.1 billion, an increase of 12 percent over last year. Amtrak's commitment to the Network Growth Strategy, as well as improving and guaranteeing consistent, quality service led to the railroad's fourth consecutive annual increase in ridership. Ridership reached an all-time high of 22.5 million, up almost five percent from last year (see Figure II-1), which translated into a ten- percent growth in passenger-related revenues. The *Kentucky Cardinal*, *Texas Eagle*, *Cascades*, and *Capitols* all saw double-digit ridership growth.

Expanded Rail Services

The nation witnessed an expansion of passenger rail services which propelled the company to record-setting ridership, including:

Figure II-1. Amtrak Ridership



- Daily service between Chicago and San Antonio on the *Texas Eagle* that was saved from elimination through the support of state and local officials. After aggressive marketing efforts with the communities served by the train, ridership grew 31 percent for the year.
- Full implementation of the *Heartland Flyer* that connected Oklahoma City and Fort Worth by rail for the first time in twenty years.
- Inauguration of new train service on the *Lake Country Limited* between Chicago and Janesville, Wisconsin providing service to the Lake Geneva resort area.
- Extension of the *Kentucky Cardinal* route from Jeffersonville, Indiana to Louisville as well as introduction of daily coach service.
- Increase of service frequencies in the West by adding roundtrips on the *San Joaquins*, *Capitols* and *Cascades* services.

Acela Regional Service Launch

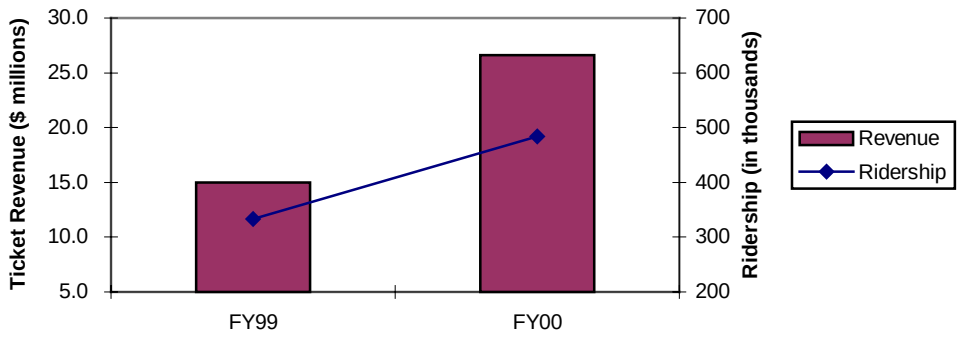
In January 2000, Amtrak launched the first two trainsets of the new *Acela Regional* service in the Northeast Corridor. Using upgraded Amfleet equipment and newly refurbished electric locomotives, the *Acela Regional* service provides passengers with reduced trip times between Boston, New York and Washington DC and a more

comfortable, attractive travel environment. In preparing for the start of service, Amtrak completed a number of major improvements including:

- *Electrification.* 15,000 catenary poles and foundations and over seven million feet of wire were installed to electrify the railroad between New Haven, Connecticut and Boston, Massachusetts.
- *Infrastructure Improvements.* 160 curve modifications, 48 bridge conversions, 22 overhead bridge removals or raisings and 500,000 concrete ties were installed to permit high-speed operations, improve ride quality and reduce travel times for all trains operating on the main line of the Northeast Corridor.
- *Facility Construction.* Three state-of-the-art maintenance facilities were constructed in Boston, New York City and Washington, DC to support high-speed trainset maintenance and overhaul needs. Additionally, a new high-speed training facility was built in Wilmington, Delaware, complete with a high-speed simulator.
- *Equipment Upgrades.* 32 Amfleet coaches, eight business class cars, and four AEM7 locomotives were refurbished for the initial *Acela Regional* trainsets.
- *Station Improvements.* Multiple stations benefited from the completion of upgrades including platform replacement, installation of variable-message train information signage, lighting, and new paint.

With just the first two trains in revenue service, ridership and revenue levels have far exceeded expectations. Between February and September of this year, the two *Acela Regional* trains generated $26.6 million in ticket revenue. Revenue forecasts had assumed that $17.7 million would be generated based on actual revenues of $14.9 million in the prior year. This represents a 45 percent growth in ridership and a 77 percent growth in ticket revenues (see Figure II-2).

Figure II-2. *Acela Regional* (FY00) vs. Northeast Direct (FY99): Revenue and Ridership

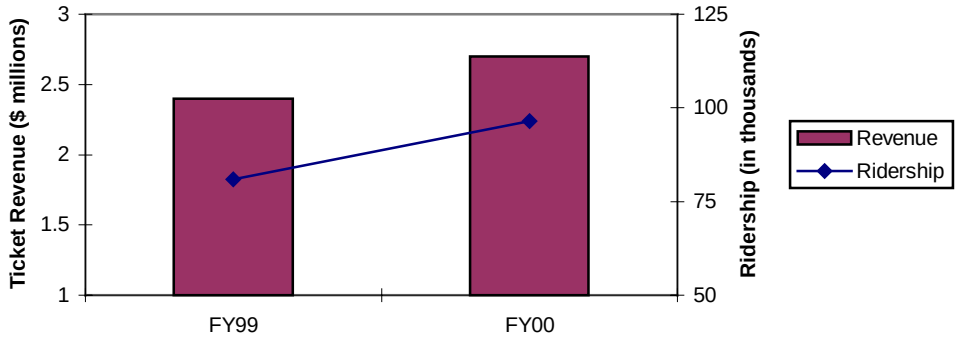


This trend is expected to continue into FY2001 as additional frequencies are introduced.

Corridor Service Development

In addition to the introduction of *Acela Regional* service in the Northeast Corridor, Amtrak also launched its new Pacific Surfliner service in the Los Angeles – San Diego corridor. In its first four months of operation (June-September 2000), the Pacific Surfliner service attracted 19 percent more riders and brought in 12 percent more revenue than the comparable period of San Diegan service in 1999 (see Figure II-3). With brand new equipment and state operating support, ridership and revenues are expected to grow by 15 percent and 18 percent respectively in FY01.

Figure II-3. Pacific Surfliner (June-Sept, 2000) vs. San Diegan (June-Sept 1999): Average Monthly Revenue and Ridership



High-speed rail projects have taken root through joint initiatives by Amtrak and the states. For example:

- *Midwest Regional Rail Initiative.* Amtrak, with the states of Wisconsin, Illinois and Michigan, has issued a Request for Proposals (RFP) to build a fleet of fossil fuel trains that will provide high-speed service in the Midwest. Important work is already underway, including the environmental impact analysis of the St. Louis-Chicago corridor, pre-engineering of the Madison-Milwaukee corridor, and signal system modernization in Michigan and Illinois.
- *Empire Corridor.* In New York State, the first of seven rebuilt Turboliners capable of 125-mph speeds between Albany and New York City recently rolled off the assembly line to begin testing.
- *Southeast Corridor.* Northern Virginia officials broke ground this summer on a $10 million infrastructure project hailed as the first step in creating a high-speed corridor between Washington and Richmond that ultimately would continue on to Charlotte and Atlanta. North Carolina and Virginia have appropriated $115 million for upgrades to the Southeast high-speed rail corridor.
- *California*. The state legislature approved over $250 million in funding for intercity rail projects as part of a five-year passenger rail improvement program. Amtrak and the state will complete development of a twenty-year high-speed rail plan in 2001.

- *Cascades Corridor.* Washington, Oregon, Amtrak and Burlington Northern Santa Fe Railroad are already engaged in a multi-year program to reduce travel times and increase service along the Eugene-Portland-Seattle-Vancouver line.
- *Keystone Corridor.* In a memorandum of understanding, Amtrak and the Commonwealth of Pennsylvania committed to invest a total of $140 million in infrastructure improvements to reduce travel time between Philadelphia and Harrisburg to ninety minutes – beating automobile trip time. The funds will also be used to build a new intermodal train station at the Harrisburg International Airport, make improvements at the Lancaster and Elizabethtown stations as well as refurbish and re-brand all of the trains traveling in the corridor.

Non-Passenger Revenue Growth

To supplement its core passenger-related revenue, Amtrak has successfully advanced partnerships to help achieve operational self-sufficiency, including:

- Growth of the mail & express business by $24 million or 25 percent over the last year (see discussion below);
- Operation of profitable commuter, commercial, and reimbursable businesses that contributed $94 million in support of core railroad operations; and

Improved Service Quality

Amtrak launched the first-ever Service Guarantee in the American travel/transportation industry - an unconditional satisfaction guarantee for every guest on every train every day. The purpose of the Service Guarantee is to build guest satisfaction and earn guests' loyalty. All 25,000 Amtrak employees participated in service quality training in support of the Service Guarantee program, learning about service recovery techniques and guest expectations. The goal of the program is to have 99.9 percent customer satisfaction, and at the end of 2000, less than 0.4 percent of Amtrak customers were requesting service guarantees. With continued focus, management believes that the 99.9 percent goal can be reached in the next fiscal year.

In addition to providing our customers with an attractive product, the service guarantee has provided Amtrak management with a new tool to monitor operations and focus on issues that are of recurring concern to customers. A service guarantee count by individual route is updated daily on Amtrak's internal Intranet which informs employees of the status of the program and dissects the root causes for the service guarantee provision. Senior management meets on a weekly basis to review these results in order to implement corrective action.

Technology Investments

As with its infrastructure and fleet, Amtrak's historical investment in information technology has not kept pace with need. Over the last two years, with the use of TRA funds, Amtrak has been able to make modest capital investments in information technology that have improved the product offerings to customers and reduced operating costs to the company. Examples of the technology investment include:

- Investment in Quick-Trak ticket machines at stations and in web technology, providing Amtrak customers a number of choices when making reservations and obtaining tickets for rail travel. On-line reservations (www.amtrak.com) have increased 116 percent in the last year and now account for seven percent of total ticket sales.
- Inauguration of the third state-of-the-art telephone reservations center (in Philadelphia), providing faster, more efficient service with reduced customer waiting times.
- Consolidation of various disparate Information Technology groups into one strong Amtrak Technologies Department, enabling a more focused approach toward technology investment and expense management. During the last year, through a partnership with IBM, capacity upgrades and efficiency improvements in reservation systems have allowed Amtrak to handle the largest reservation message peak load in our history and a ten-percent increase in ticket sales. Improvements to the Internet booking system have enabled a 116 percent increase in Internet bookings ($29.2 million to $63.1 million).
- Expansion and rebranding of the corporate Intranet, making it instrumental in providing information about the company to its employees. Daily metrics about the service guarantee program, showing employees how the program results compare to its goals, are available and have contributed to the program's success.
- Implementation of a new automated call quality monitoring and feedback system in the Amtrak call centers, helping reservation agents improve their customer service capabilities.
- Implementation of cost cutting measures to better align computing, data transmission, and telephone expenses with industry best practices.
- Launching of a "virtual private marketplace" in collaboration with Capital Stream, Inc., utilizing e-commerce for creating RFPs, profiling and matching bids on financing a major equipment lease. This online financing produced offers from pre-selected potential partners in a secure, paperless and time effective environment thus streamlining the process. The initial success of this program is seen as a model for using this technology in additional transactions.

New Commercial Partnerships

Amtrak continues to develop new partnerships with many of the key business leaders in and outside of the transportation industry. Within the past year, the company has developed several strategic partnerships with airlines, commuter agencies, car rental companies, and other transportation-related businesses that will generate growth and investment in intercity passenger services. Examples of such partnerships include:

- Hertz, the country's leading car rental agency, now has an active presence in over 50 stations where Amtrak can share in its revenue growth. Through a call transfer program, Amtrak receives a tipping fee and a percentage of all business resulting from customer calls referred by Amtrak's call centers to Hertz. Amtrak customers also benefit from this partnership, receiving preferential rental rates and reimbursement from Hertz for any transportation costs incurred between the train station and the car rental site.
- Continental Airlines has entered into a service recovery agreement with Amtrak that provides Continental with the option to re-route its passengers connecting at Newark International Airport directly to Amtrak service. Under the terms of this agreement, Continental reserves a certain number of Amtrak seats on days when weather conditions may disrupt air service. The partnership with Continental has significant potential for additional growth as the new train station at Newark International nears completion.
- Amtrak continues to provide services to various states and local transit agencies around the country. While most of these services are focused on either rail planning or service operations, Amtrak is assisting a newly created transit agency in Washington State, to procure and lease new commuter train sets. Amtrak, serving as a lease intermediary, is providing valuable financial expertise that will result in a net savings to the Puget Sound Regional Transportation Authority. A portion of these savings will be directed to specific capital investments, to benefit both the Authority and Amtrak.

FY01 Initiatives

The effort to improve operating efficiency is key to Amtrak's future success.

The FY01-05 Strategic Business Plan builds on the company's successful strategic approach over the past three years. This year, the key strategies will include a focused effort to improve operating efficiency with an emphasis on rigorous cost management. This effort to improve operating efficiency is key to Amtrak's future success. Fundamental elements of the FY01 operating plan include the continued focus on service quality, revenue enhancement, mail and express growth, and cost management to drive business performance.

Service Quality

To ensure consistent, customer-focused service across all product lines and to spur ridership increases, Amtrak will continue to support the Service Standards initiative with a new Guest Advocacy Desk to assist employees with service recovery, a Guest Services Handbook and video to train on-board staff and managers on the service recovery process, and a new guest amenities program. Amtrak will continue to analyze the results of the Service Guarantee program, reported daily by route on the Intranet, to focus corrective action on recurring guest issues.

At the same time, quality and cost effective methods will be applied to the equipment maintenance shops. For example, Amtrak is implementing a comprehensive Work Management System, a computerized maintenance program, that provides an inclusive planning and assessment capability. The Work Management System will allow for $8 to $10 million in capital cost avoidance due to a direct reduction of unplanned maintenance activities across Amtrak's fleet. Equipment utilization rates and the overall quality of the fleet will also improve as the result of this investment.

Ticket Revenue Enhancement

Aggressive ridership and ticket revenue targets for FY01 have been set against a backdrop of significant service improvements required to deliver a market competitive product. Consistently delivered service improvements that are visible and tangible to the guests' entire Amtrak travel experience supported by targeted, efficient marketing investments will be critical to achieving FY01 financial targets.

- The outlook for FY01 is positive as Amtrak remains well-positioned to continue to benefit from key strategic initiatives either launched in FY00 or about to come on-line:
- The launch of *Acela Express* services in the Northeast Corridor and additional *Acela Regional* frequencies;
- The launch of a guest rewards (i.e., loyalty) program, providing reward exchanges for Amtrak travel and partner products and services;
- The growing contribution of the re-launched Amtrak parent brand and the Satisfaction Guarantee program;
- A focused program of freight railroad outreach initiatives to improve Amtrak on-time performance, particularly with long distance trains;
- Continued emphasis on field marketing at the local level, along with a heightened focus on direct marketing initiatives targeting specific consumer segments, e.g., Leisure brand;
- Aggressive revenue management strategies designed to increase trip yields resulting from the expanded Revenue and Capacity Management function;
- Better equipment utilization strategies linked to demand patterns;

- Additional service frequencies and service extensions on several Amtrak West routes; and
- Capitalizing on the growing appeal of and expanding the Amtrak website.

Mail and Express Growth

Amtrak's mail and express business is a thriving $122 million business, having just enjoyed a 25 percent growth in revenue over the prior fiscal year. In recognition of the fact that it is no longer a start-up operation, a new strategic business unit has been created that will focus on mail and express operations. Led by an experienced freight executive, the new business unit will develop the strategies necessary to grow the operations to a $400 million business over the next few years.

Key to its success will be the ability to grow the current capacity to support the customer demand that already exists today. With new equipment coming on line and partnerships with private transportation and delivery companies, Amtrak will first move to maximize the use of its 30-car allowance on each mid- and long-distance train and then successfully execute partnership agreements with national and regional freight railroads. Amtrak is intent on not competing with these railroads and has instead constructed a business plan that relies on business niches that are competitive with other delivery modes. Freight partnerships will be based on sharing the revenue potential that exists in such express markets.

A solid customer base, strong performance and a business plan focused on organization, equipment, facility and systems changes will support the company's effort to finance capital needs necessary to grow the business.

Cost Management

Amtrak will build on recent improvements in financial systems to improve cost management. Specific areas of focus include:

- Procurement generated savings from volume discounts, consolidation of contracts, standardization of contract terms and conditions, use and management of warranty provisions and renegotiation of contracts;
- Review of company-wide business processes, systems, and organization focusing on areas such as food and beverage operations and revenue accounting;
- Cash management initiatives focusing on areas such as inventory management and receivables;
- Continued use of technology to reduce corporate and business unit operating costs; and

- Changes in terminal and backshop operating procedures relevant to equipment quality and management such as improved turnaround servicing of trains and winterization of locomotives.

The Financial Plan section provides more examples of specific cost management program initiatives.

High-Speed Corridor Development

The demand from states across the country for high-speed corridor development has grown significantly, and Amtrak is poised to respond with high-speed service implementation. In order to develop such service, there is a need for congressional legislation that would provide Amtrak with a funding source for the purpose of investing in the development of high-speed service where such service would be financially prudent (see Financial Plan section).

Much work has begun on the part of Amtrak and its partner states:

- Amtrak's long-term capital program has been established;
- Partner states have begun and in some cases completed extensive research, planning and engineering work for the development of state and regional passenger rail initiatives;
- Amtrak and a number of its partner states have entered into joint investment agreements for fleet and infrastructure improvements associated with the development of new and/or improved passenger rail services;
- The market-based network analysis process is in place and will be used to determine the financial contribution of proposed high-speed investments – identifying those that would be viable;
- Selection criteria included in the pending legislation ensures that investment decisions will be made as the result of a strict process that incorporates factors including return on investment, trip time improvements, and safety improvements, all of which will improve Amtrak's financial performance (see Financial Plan section); and
- A Request-For-Proposal has been issued by Amtrak and the states of Wisconsin, Illinois and Michigan for the procurement of the high-speed fleet required for the initial stages of the Midwest Regional Rail Initiative, for service emanating out of Chicago.

In the upcoming year, Amtrak and its partner states will work with the commuter agencies and freight railroads that will participate in the development of such high-speed rail corridors.

III. FY01-05 Financial Plan Update

Amtrak has made significant progress on the original FY99 and most recently updated FY00 business plans, and is on track to meet its mandate of operational self-sufficiency in FY03. It is evident that achieving operational self-sufficiency and growing a thriving national passenger rail system will require continued dedication to the six key strategies and ongoing operating initiatives, as well as a stable source of capital funding.

This financial plan update supports the strategies of the overall business plan, reflects the financial progress that has been made and adjusts and extends the financial targets based on actual experience and changing assumptions. This section includes:

- Key assumptions underlying the operating, capital and cash management plans;
- Operating budget for FY01-05;
- Capital budget for FY01, and an overview of the long-term capital needs (discussed in detail in section IV); and
- Cash management plan.

Key Assumptions

The following key assumptions were incorporated in the construction of each element – operating, capital, and cash – of the FY01-05 financial plan update:

- Amtrak is allowed to use federal general capital grants for capital projects, consistent with legislative authority provided to the other modes, including the use of capital grants for maintenance-of-equipment and maintenance-of-way purposes;
- Operating self-sufficiency is achieved when the amount drawn from capital for qualified maintenance expenses is less than or equal to the value of excess RRTA payments[20];
- All outstanding TRA funds that have been borrowed will be repaid by the end of FY01;
- Interest costs are paid as operating expenses and principal payments on long-term debt are made from capital funds;
- Amtrak receives $521 million from a federal capital grant in FY01, and a federal capital appropriation in FY02 at or above Amtrak's authorized level of $955 million.[21]

[20] Excess RRTA is the annual amount Amtrak payroll taxes contribute into the industry retirement fund in excess of that paid out to Amtrak retirees. Specifically, it is the computed difference between: (1) the sum of the annual contributions for Tier II (employer and employee) plus the employer's supplemental tax payment; and (2) the sum of the annual Tier II benefits paid by the Railroad Retirement Board to individuals who have retired from Amtrak and their beneficiaries.

Operating Budget

This section includes:

- Overview of key FY01 operating issues, including challenges, cost management steps, and financial reporting approaches;
- Summary of FY01-05 operating budget.

FY01 OPERATING ISSUES

Amtrak continues to make progress with respect to its business plan goal of becoming operationally self-sufficient by FY03 as witnessed by a declining use of federal funds for operations since the original business plan was issued. Federal funds for operations have been reduced from $484 million in FY99 to $362 million in FY00 to a planned $242 million in the current fiscal year.

The FY01 business plan builds on this progress and the success of FY00 operations. Ridership grew by five percent, ticket revenues grew by ten percent, total revenue grew by 12 percent and the mail and express business grew by 25 percent. Internally generated funds of over $100 million provided additional opportunities for targeted capital investments. Combined, this forms the base of a strengthened corporation. In FY01, plans to expand service and provide a more comprehensive set of customer support programs and systems will be balanced with cost management initiatives to provide for effective and efficient service.

Challenges

While the corporation experienced significant business growth in FY00, it also dealt with the financial challenges associated with the delayed receipt of high-speed equipment. With no high-speed service implemented in FY00 and only two *Acela Regional* trains in operation beginning in January 2000, forecasted ticket revenues were negatively impacted by over $150 million in FY00. Through strong ticket revenue performance in the Northeast Corridor, reduced operating costs due to the delay and the short-term use of working capital, Amtrak was able to reach the glidepath goal of using only $362 million of federal funds for operating purposes.

Looking forward, the FY01 plan has been developed to overcome several challenges that were not assumed in the original FY99-02 Strategic Business Plan:

- *Dampened ticket revenue growth due to the delayed receipt of high-speed rail equipment.* Rather than seeing a full implementation of high-speed service beginning October 2000, as the original business plan contemplated, high-speed

[21] The long-term capital plan identifies an *average annual* need for FY01-05 of $973 million for "Current Service", and $550-600 million for "Growth Service" (see section IV); note that these capital needs do not include excess RRTA – estimated to range from $190 million in FY02 to $208 million in FY05.

service will begin in December 2000, be phased in throughout the fiscal year and be fully implemented by September 2001. This change in assumption will reduce ticket revenues by approximately $83 million in FY01 compared to the original plan.

- *Increased operating costs due to new equipment related regulations*. While new FRA regulations requiring the inspection and maintenance of equipment on a 120-day cycle will improve the safety and reliability of Amtrak's fleet, it will also increase operating costs by approximately $25 million annually. These incremental costs will be offset by cost savings initiatives instituted by the individual strategic business units.
- *More modest growth assessments for the Mail and Express business.* The original business plan envisioned a FY01 business volume of approximately $260 million based on the assumption that freight partnerships would be fully executed by October 2000. This business plan reassesses the timetable for completion of freight partnership agreements while maintaining the same approach to equipment and facility expansion. Business growth is still anticipated to be strong, growing from $122 million in FY00 to $181 million in FY01. A more conservative plan yields a reduction in the bottom-line contribution from mail and express of approximately $36 million compared to the original plan. If freight partnership agreements are executed in FY01, the financial contribution is expected to yield greater results.
- *Smaller capital program.* A 43 percent reduction in capital funding availability and program activity affects the operating budget in a number of ways. First, overhead costs that would otherwise be shared between the four operating business lines and the capital program, now require more financial support from operations. Second, a smaller capital program means that fewer investments can be made in projects that provide future operating savings or revenue generation. The negative operating impact of the reduced capital program will be offset by cost management initiatives in each of the company's business units.

The result of these challenges is a projected negative budget result for FY01 of $119 million – equal to the value of the high-speed delay and revised mail and express plan. Of course, Amtrak will meet its requirement to remain on the glidepath to operational self-sufficiency and use only $242 million of federal funds to support operations, as was originally planned in the FY99-02 plan. This will be accomplished through its cash management plan, where incremental lease income will provide sufficient cash to adhere to the glidepath target. This one-time income gain will be used to offset the one-time net revenue loss associated with high-speed rail and mail & express.

Cost Management Steps

To respond to these operating challenges and to address risks in meeting the plan, management has recalibrated the operating plan and constructed a series of new business plan actions. This plan reduces the $759 million of undefined actions to approximately $125 million for the five-year plan period, or approximately one percent of the annual operating budget.

Amtrak continues to identify specific accounts, large functional areas, policies and processes, organizational structures and back-office costs that have potential for improved cost management. Amtrak will take advantage of economies of scale, technology, standardization, process re-engineering, the newly developed MBNA analytical tools, and learn from successful companies that have employed the Six Sigma approach to reducing costs without reducing quality.

The cost management program will focus on areas such as:

- Inventory and receivables management;
- Mechanical and terminal efficiencies;
- Revenue accounting re-engineering;
- Fleet management;
- Technology improvements;
- Staffing and overtime;
- Procurement process; and
- Distribution systems management.

Financial Reporting Approach

As Amtrak moves toward its mandate of operating self-sufficiency and constructs a strategic plan to attract more private capital, new methods of analyzing operations and financial results are required.

Today, Amtrak's internal monthly and annual P&L or budget statements are prepared for the strategic business units, for the corporate/service center group and for the corporation as a whole. However, the monthly and annual balance sheet is only prepared on a consolidated basis for the corporation as a whole. In order to improve financial management, and to more closely analyze financial performance in each of the business units, balance sheets will be produced for the component units of the corporation later this fiscal year.

Current financial systems also provide information that can be sliced by business unit, by function, by account and by responsibility center. The Amtrak Reform Council has suggested that Amtrak analyze the financial results of its infrastructure and operations. Amtrak agrees that internal analysis can be improved by reviewing the financial results of these two components and is in the process of constructing new reports that will be added to its set of internal financial statements.

FY01-05 OPERATING BUDGET

The FY01-05 operating budget uses the same formulation methodology as in previous years. This section reviews that process, and then summarizes the resulting budget.

Budget Development Process

The first step in development of the budget is the establishment of a baseline forecast; then business plan actions are added; and finally, the budget result is determined.

Baseline Forecast

The FY00 year-end result provides Amtrak with a "baseline" or starting point to determine the expected budget for FY01. The baseline is intended to reflect a probable future financial outcome if the *status quo* is maintained. It does not include the impacts of any future business plan actions or changes in policy. Using year-to-date actual results through June 2000 plus a forecast of financial results for the remainder of the fiscal year, the FY00 baseline forecast is reached by removing any "one-time" actions that occurred during the year, and annualizing any recurring actions that began in mid-year. Higher costs expected in the new year due to mandatory and/or contractually obligated expenses are included as well as inflation/growth rates.

This forecast defines the five-year baseline outlook and is designed to reflect all known mandatory expenses, all legally binding obligations of the corporation, and underlying revenue and expense trends as they have been occurring in the most recent reporting periods. The future operating impacts expected from prior year capital investments, from FY2001 capital investments and from known long-term investments are also included as part of the baseline. The result is a detailed financial forecast by major account, responsibility center, and line of business for each business unit and corporate department that is then merged to produce a consolidated Corporate forecast.

Business Plan Actions

Amtrak's business plan calls for a number of operational and financial activities to support its six corporate strategies. These broad programs can cover anything from a single action to hundreds of specific actions taken on the part of multiple players. All business plan actions are quantified in terms of their operating impact each year and are listed in the FY01-05 plan accordingly. The Appendices provide a detailed list of the business plan actions identified by business units and corporate departments. All actions have been recorded at the major account and department level to ensure accountability. Plan actions will be refined, added to, and subtracted from during the fiscal year based on changing economic conditions, customer demand, and policies. The plan actions for FY01 produce a net $208.6 million of bottom line improvement to

the baseline forecast for FY01. Over the five-year plan period the value of business plan actions total $1.7 billion.

Budget Result

Many business plan actions have multi-year impacts. Thus, a plan action begun in FY01 may have an operating impact in each of the years FY01-FY05. Since Amtrak develops business plan actions each year, the total operating impact in any one year is comprised of the impacts from new business plan actions plus the ongoing impacts from previous years' actions. The following section summarizes the results for FY01-05.

FY01-05 PLAN

Figure III-1 shows the budget result for the corporation as a whole over the planning period.[22] The Appendices contain details by strategic business unit and for the corporate departments. A discussion of Amtrak's use of capital for eligible maintenance expenses is provided under the Cash Management Plan below.

Figure III-1. Consolidated Net Budget Result – FY01-05

$ Millions	FY01	FY02	FY03	FY04	FY05
Revenues	2,414	2,615	2,849	2,930	3,008
Expenses	3,305	3,466	3,665	3,798	3,929
Operating Profit (Loss)	(891)	(851)	(816)	(868)	(921)
Capital Contribution to Operating	50	51	52	54	55
Operating Contribution to Capital	(5)	-	-	-	-
Depreciation/Noncash	485	570	568	612	658
Net Operating Profit (Loss)	(361)	(230)	(196)	(202)	(208)
Capital For Maintenance	242	230	196	202	208
Budget Result	(119)	-	-	-	-

Summary

Total revenue is anticipated to grow approximately $968 million between FY00 and FY05. The principal components of revenue growth are increased passenger ticket revenue of approximately $579 million and mail & express revenues of approximately $306 million. From FY00 through FY05, Amtrak assumes passenger ticket revenue, excluding high-speed rail passenger ticket revenue and other new train services, to grow by approximately $368 million.

During FY01, Amtrak intends to expand is current level of passenger service with the introduction of high-speed *Acela Express* service. The high-speed trainsets for the *Acela Express* service are expected to be accepted from the manufacturer at an

[22] For purposes of this financial plan (and associated appendices), revenues include interest income (except from TRA investments) and exclude capital payments, and expenses include interest expense.

average rate of two per month commencing in November 2000, with full service implemented by the fall of 2001. Based on market studies and travel demand surveys *Acela Express* Service will contribute approximately 33 percent of the assumed growth in passenger ticket revenue over the five-year period.

The second major component of revenue growth is expanded mail & express business. During FY00, the mail & express business grew by approximately 25 percent, resulting in a revenue increase over FY99 of approximately $24 million. The operating plan assumes continued growth in the mail & express business with an increase in revenue by FY03 (as compared with FY00) of approximately $280 million.

Amtrak supplements its core passenger-related and mail & express revenue with revenue from commuter, commercial and reimbursable businesses. These businesses contributed over $462 million in revenue in FY00. Amtrak expects this level of revenue to continue through FY05.

The operating plan assumes that expenses will grow over the five-year period from $2.983 billion in FY00 to approximately $3.929 billion in FY05, an approximate increase of 32 percent total or approximately 5.7 percent annually. This growth in expenses includes costs associated with expanded passenger rail services and expanded mail & express business. Total wages, salaries, overtime and fringe benefits constitute approximately 51 percent of all Amtrak expenses. The operating plan assumes that annual growth over the next five years will be less than the growth of such expenses in FY95 to FY00.

Expenses attributable to train operations (excluding labor costs) constitute approximately 15 percent of all expenses. The operating plan assumes that such expenses will grow at an average annual rate of about 8.9 percent, primarily due to additional frequencies of high-speed service in the Northeast Corridor, implementation of the Network Growth Strategy and costs associated with the expansion of the mail & express business. The plan also assumes that depreciation, also representing approximately 12 percent of all expenses, will grow due to the acquisition of new fleet at an average annual rate of approximately 11.8 percent. Other costs, including advertising and financial transactions, which account for all remaining expenses, will grow at a rate of about 5.5 percent.

Achieving Operational Self-Sufficiency

The Amtrak Reform and Accountability Act of 1997 mandates that as a step toward long-term economic viability, Amtrak's use of federal funds for operating purposes must be no greater than the value of mandatory excess RRTA beginning in FY2003. This is the definition of operational self-sufficiency. As Figure III-2 (below) summarizes, Amtrak's FY01-05 business plan forecasts that Amtrak will reach operational self-sufficiency in FY03 as required.

Figure III-2. Test for Operating Self-Sufficiency[23]

$ Millions	FY01	FY02	FY03	FY04	FY05
Revenues	2,414	2,615	2,849	2,930	3,008
Expenses	3,305	3,466	3,665	3,798	3,929
Operating Profit (Loss)	(891)	(851)	(816)	(868)	(921)
Capital Contribution to Operating	50	51	52	54	55
Operating Contribution to Capital	(5)	-	-	-	-
Depreciation/Noncash	485	570	568	612	658
Net Operating Profit (Loss)	(361)	(230)	(196)	(202)	(208)
Excess Mandatory RRTA	183	190	196	202	208
Test for Self Sufficiency	(178)	(40)	0	0	0

Previous business plans have shown Amtrak reaching operational self-sufficiency in FY02, one year ahead of the legal mandate. In recognition of the delayed implementation of high-speed service in the Northeast Corridor, this business plan acknowledges that operational self-sufficiency will be achieved in FY03.

Capital Budget

In November 1997, $2.2 billion for capital investment authorized under the Taxpayer Relief Act of 1997 (TRA) was made available to Amtrak, with the understanding that the additional funds needed for capital investment during the period would come from annual general capital appropriations. While federal sources of capital do not constitute Amtrak's only source of investment funds, they are the critical element.

This section summarizes the FY01 capital program and budget, and gives an overview of the long-term capital needs (detailed in section IV of this plan).

FY01 CAPITAL PROGRAM AND BUDGET

In FY01, Amtrak's federal authorized funding level was $989 million, of which Amtrak received only $521 million in federal appropriations. Of the $521 million funds appropriated, $242 million is required for qualified maintenance of equipment and facility operating costs leaving $279 million available for capital investment. The remaining federal funds, when combined with available TRA dollars comprise the heart of the capital program. Financing and state sources also fund fleet purchases and additional infrastructure projects.

[23] In accordance with the Administration and Congressional intent, the test for operating self-sufficiency excludes the following: (a) mandatory excess Railroad Retirement Tax Act (RRTA) payments that Amtrak is required to make to cover the costs of the Railroad Retirement program for non-Amtrak employees; and (b) capital for progressive overhauls (assumed to be funded through federal capital investment), depreciation, and other noncash items. The FY01 test for self-sufficiency is -$178 million, which includes a budget deficit of $119, and federal operating support (above and beyond excess RRTA) of $59 million.

Total available funds for capital investment from federal and TRA sources are $464 million in FY01 – a *37 percent* reduction from the $738 million available in FY00. Amtrak's chronic lack of sufficient capital has led to a large backlog of capital investment needs and has forced the company to seek private financing to support major equipment purchases. The principal due annually on funds borrowed privately will require $65 million of funding from the FY01 capital program, leaving only $399 million in capital funds available for all corporate-wide capital needs (not including new investments that can be financed).

The reduced level of available capital this year has forced a minimum needs program – a program essentially limited to supporting debt service, mandatory and life safety projects, along with minimum operational reliability and equipment overhaul programs.

Selection Process

The criteria used to evaluate capital projects for FY01 capital funding included both financial and non-financial measures:

- Net present value;
- Contribution to protecting the basic business;
- Effect on customer satisfaction;
- Impact on employee and customer safety; and
- Extent to which the project leverages other public and private funds.

The manner in which these criteria were applied to a specific project was dependent upon the type of project being considered. There were seven different types of projects, each utilizing a distinct weighting of the criteria: new business development; life safety; operational reliability; overhauls and fleet acquisitions; yards, shops and stations; mandatory investments; and new corridor development. The evaluation process required that the operating impact of all capital projects be included in the operating plan to ensure accountability.

Projects Funded

Figure III-3 summarizes the resulting FY01 capital program by funding source as well as investment category.

Because of the limitations on federal funding in FY01, all fleet procurement, e-commerce and mail and express projects will be funded through private financing. Corridor development projects and operational reliability projects for infrastructure are funded at minimal levels, and virtually no station, facility or yard projects are funded. A limited equipment overhaul program is funded in order to meet capacity requirements.

Figure III-3. FY01 Capital Investment by Category and Funding Source

	Funding Source ($ millions)							
Investment Category	TRA	General Capital	Internally Generated Funds	State/Local	Financing	Other Partnerships	Total	
Corridor Development	$12.7	$0.0	$4.6	$3.0	$35.5	$0.0	$55.8	6%
Life Safety	21.0	0.0	0.0	0.0	0.0	0.0	$21.0	2%
Mandatory	34.4	64.7	1.8	0.0	0.0	19.9	$120.8	14%
New Business Development	36.5	0.0	0.0	0.0	261.6	0.0	$298.1	34%
Operational Reliability	128.8	3.8	4.8	43.0	0.4	0.0	$180.7	21%
Overhauls/Refleeting	126.2	22.3	0.0	0.0	39.5	0.0	$188.0	21%
Yards, Shops & Stations	13.4	0.0	1.1	1.9	0.0	0.0	16.3	2%
Total	**$373.0**	**$90.8**	**$12.3**	**$47.9**	**$337.0**	**$19.9**	**$880.7**	100%
	43%	10%	1%	5%	39%	2%	100%	

LONG-TERM CAPITAL NEEDS

Amtrak is at a capital funding crossroads. At the end of FY01, the last of the TRA dollars will have been invested in capital improvements such as the Northeast Corridor's electrification program, Intercity fleet upgrades, West Coast maintenance facilities and information technology, all of which have benefited Amtrak's customers as well as the company's financial performance.

Capital Funding Gap

The capital appropriation provided by the federal government is currently used for both traditional capital projects and qualified maintenance of equipment and facility operating expenses. Therefore, of the $521 million in federal capital funding received for FY01, only $279 million can be used for capital investment. And, of the $279 million, approximately $65 million must be used for debt service purposes. The remaining funds would not be sufficient to support the capital requirements of many local or regional commuter railroads, much less the nation's intercity passenger railroad.

If Amtrak's federal capital grant does not at least meet the authorized level in FY02, Amtrak will be required to restructure the scope of its capital-intensive business.

If Amtrak's federal capital grant does not at least meet the authorized level in FY02, the company will be required to restructure the scope of its capital-intensive business. While Amtrak remains fully committed to achieving operational self-sufficiency, the company believes that inadequate capital funding would compromise its ability to sustain self-sufficiency and to deliver a quality national passenger rail system.

As long as adequate capital funding is provided, however, both goals – operational self-sufficiency and a thriving national system – can be achieved and sustained. Amtrak's long-term capital plan envisions federal capital funding of $1.5 billion annually to support Current Service needs – including modern, reliable fleet and infrastructure – along with a down-payment on Growth Service needs – including an expanded national network and the development of high-speed corridors. [24] This $1.5 billion would be supplemented with state and private investment, including the continuation of Amtrak's financing program. Figure III-4 summarizes the 20-year plan requirements for average annual federal support (see the Long-Term Capital Plan section (IV) for more detail):

Figure III-4. U.S. Intercity Passenger Rail Needs: Average Annual Federal Capital Investment (in millions of 2000 dollars)

Federal Capital Investment Needs	FY01-05	FY06-20
Current Services	973	750
Growth Services	584	770
Total (average annual)	**1,557**	**1,520**

Funding for Current Services

The requirement to meet the daunting challenge of operational self-sufficiency and still deliver national passenger rail services was clearly premised on Amtrak's receipt of sufficient capital funds. From FY98 to FY01, the cumulative authorized level of capital funding for Amtrak totaled $4.2 billion. Over the same period, actual appropriations totaled $2.3 billion – a rail investment gap of $1.9 billion.[25] This reduction of funding combined with the historically low levels of capital investment since Amtrak's inception has resulted in a state-of-good-repair capital investment need.

The long-term capital plan addresses this deferred investment by increasing the amount of required capital investment in the first five years of the plan for the current system of services. In fact, the incremental investment need in the first five years of the capital plan of $1.1 billion is less than the rail investment gap of $1.9 billion over the four-year period from FY98 to FY01.

This long-term capital plan and resulting funding requirements represent the pure capital investment need. It does not include the funding requirements associated with mandatory excess railroad retirement costs (RRTA), which is estimated to be approximately $200 million per year over the life of the plan (see the Cash Management section below for discussion of excess RRTA).

[24] Note that this federal capital need includes debt service (principal payments); it does not include excess RRTA, estimated to average approximately $200 million over the 20-year plan period. The federal capital need estimate assumes capital funding support from states and other sources.
[25] Includes $250 million in Northeast Corridor Improvement Program funding.

Funding for Growth in Services

Amtrak is intent on making the most prudent financial investment decisions. In no case will Amtrak invest in a Growth Service project that results in a negative financial operating contribution. Investments in projects that yield positive contributions will be prioritized based on the following selection criteria:

- *Return on investment:* (1) the positive incremental financial contribution to Amtrak, including all system-wide impacts and (2) the value of the net cash flow to Amtrak produced over the life of the program, discounted to current dollars. Such net cash flow should take into consideration operating efficiencies produced as a result of the total capital investment as well as incremental passenger-related, mail and express, state and other revenue generated as a result of the total capital investment.
- *Leveraging of funds:* (1) the amount of public and private match provided for the program, (2) the percentage of public and private match provided for the program relative to Amtrak's contribution and (3) the stability or reliability of state and local capital and operating support.
- *Cost Effectiveness:* the incremental cost to Amtrak per incremental passenger or the incremental cost to Amtrak per incremental revenue generated as a result of the capital investment.
- *Safety Improvement:* (1) the prevention or reduction of customer or third party injuries and (2) the prevention or reduction of employee injuries.
- *Mobility Improvement:* travel-time savings.
- *Feasibility:* (1) timing of program implementation, (2) technical feasibility and (3) likelihood of public and private participation.

Any capital funding source for Growth Service would only be invested in projects that generate a positive incremental contribution to the company's bottom-line. The market-based network analysis (MBNA) process would be used to determine the value of the financial contribution.

Cash Management Plan

The cash position of a corporation is determined by the inflow and outflow of funds. For Amtrak, the results of operations, the results of the capital program, external contributions, borrowing and changes in working capital all impact the cash position and form the basis of the company's cash management plan. This section highlights the key components, assumptions and issues of Amtrak's cash management plan.

USE OF FEDERAL GRANT FOR OPERATIONS AND EXCESS RRTA

Since FY99, Amtrak has received a single appropriation for capital, operating and excess RRTA purposes. Labeled as a capital appropriation, Amtrak is legally permitted

to use a portion of such appropriation for qualified capital maintenance of equipment and facility expenses, similar to Federal Transit Administration (FTA) provisions for commuter railroads.

Amtrak's original FY99-02 Strategic Business Plan set forth an "operating glidepath" projecting the annual decline in the use of federal grant funds for operating/RRTA purposes. Operating self-sufficiency is reached when Amtrak's use of federal funds for operations totals no more than the value of excess RRTA. Amtrak has adhered to that original Business Plan, reducing the use of federal funds for operations from $484 in FY99 to $362 million in FY00.

As summarized in Key Assumptions above, the Financial Plan assumes that Amtrak will receive a $521 million federal grant in FY01, and at least the authorized level of funding of $955 million in FY02.

Use of Federal Grant for Capital

Amtrak's capital budget assumes a $521 million appropriation in FY01, with $242 million used for qualified maintenance expenses (operations) and $279 million used for capital expenditures. As described in the Key Assumptions section above, the operating and cash plans assume receipt of an amount at or above the FY02 authorized level of funding, plus an additional contribution for excess RRTA.

State, Local and Private Investment

Today, Amtrak's intercity passenger rail services are supported by state, local and private funds. With respect to operations, it is anticipated that approximately $117 million in state funds will be received for state-supported service in California, Pennsylvania, New York, Illinois, Michigan, Missouri, North Carolina, Oklahoma, Oregon, Vermont, Washington and Wisconsin. Additionally, $67.8 million of capital investment by state, local governments and private entities will be made in Amtrak assets and third-party assets used in support of Amtrak service in FY01.

Taxpayer Relief Act Funds

The original FY99-02 Strategic Business Plan acknowledged the need to temporarily borrow TRA funds for qualified maintenance expenses – necessary given the federal decision to change the timing of distribution of funds.[26] Amtrak has adhered to the borrowing and repayment plan incorporated in the original business plan. The final repayment of all outstanding TRA borrowings will be made in FY01. Forecasts show all remaining TRA funds spent by the end of FY01.

[26] Amtrak now receives its annual appropriation over a two-year period, with only 40 percent received in the first year.

Internally Generated Funds

For the first time in the company's history, Amtrak contributed to its capital program in FY00 by generating income from asset related financing transactions. Over $100 million of additional capital investment was supported through this effort. In FY01, similar financing transactions are anticipated to offset the projected cash loss of $119 million in operations, resulting from the delay in high-speed service and the slower ramp-up of mail and express. By following generally accepted accounting principles, the full value of the cash generated by these equipment and infrastructure leases will be immediately recorded on Amtrak's balance sheet and over time recorded as operating income on its Profit and Loss Statement.

Short- and Long-Term Debt

As with most other corporations, Amtrak has a short-term credit facility with a consortium of banks that permits it to borrow funds on a short-term basis to manage the timing of its cashflow. In FY00, Amtrak borrowed $50 million from its short-term credit line and repaid that sum at the start of FY01. It is anticipated that a $100 million draw on its short-term credit line will be required in FY01 to manage the cash results from the delayed implementation of high-speed service.

Due to the lack of sufficient capital funding, Amtrak has incurred long-term debt by financing virtually all of its fleet and selected infrastructure purchases. Total debt outstanding at the beginning of FY01 – excluding borrowings under the short-term credit facility was $2.877 billion, with principal and interest payments anticipated to total $185.4 million for the fiscal year.

Amtrak has historically paid its debt service principal obligations from its capital budget and its debt service interest obligations from its operating budget. Given a number of recent equipment acquisitions, such as the high-speed trainsets, West Coast Surfliners and long-distance P42 locomotives, capital program impacts for principal payments are expected to increase from $65 million today to $105 million in FY03. This increasing obligation has been incorporated in the long-term capital plan on a present-value basis.

Working Capital

Working capital changes are impacted by a number of factors. Key for Amtrak, are the two factors of receivables and inventory. While these areas may not generate changes to the budget or P&L, they have the ability to positively impact the cash results of the corporation. It is for this reason that they have been identified as components of the Cost Management strategy. Goals for improvement in receivables and inventory have been constructed for business units and, in the case of inventory, for specific locations. As noted earlier, management is introducing component balance sheets (reports for each of its strategic business units) to concentrate financial management efforts on areas not directly reflected on its standard budget reports or profit and loss statements. Receivables and inventory are two such areas.

IV. Long-Term Capital Plan: Investing in the Future of Passenger Rail

Overview

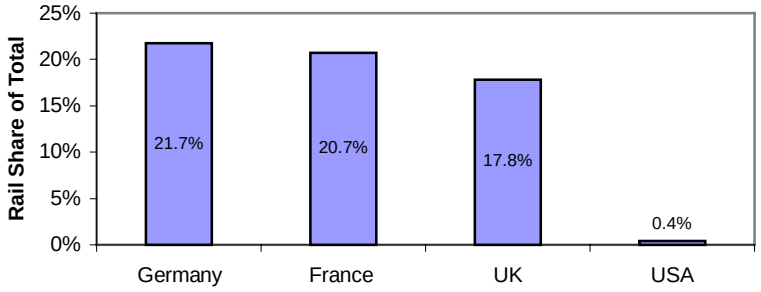
The foundation of any capital-intensive business – particularly one with broad public responsibility for the nation's passenger rail system – is a sufficient, stable, long-term source of capital funding. In this chapter, Amtrak provides the long-term capital investment needs for intercity passenger rail. Specifically, the long-term capital plan contains:

- *Overview*. Includes background on the opportunity to enhance our transportation system by addressing the U.S. rail investment gap; summary of the approach used to develop the plan – the methodology and investment scenarios; and summary of plan conclusions.
- *Fleet capital needs*. Assesses fleet needs based on modernized, quality rolling stock for current needs and expanded national and corridor services.
- *Non-fleet capital needs*. Includes infrastructure, stations and facilities, and other capital needs to deliver current and expanded services.
- *Capital plan.* The company's 20-year capital plan to deliver national and corridor passenger rail services based on a stable source of federal capital funds.

U.S. RAIL INVESTMENT GAP

No passenger rail system in the world operates without public capital support. In Europe and Japan, major capital investment in rail systems have resulted in thriving high-speed rail services that have helped relieve strained highway and aviation networks and have spurred economic development. The Paris-Lyon TGV line, for example, was developed with $2 billion in infrastructure investment. This capital investment resulted in trip time reductions from 3:45 hours to 2:00 hours on the 462-kilometer corridor and ridership increases of 20 percent per year.

Figure IV-1. Rail Capital Spending as Share of Total Transportation Capital Spending



Source: European Conference of Ministers of Transport (ECMT), 1987-1995 data; and U.S. Congression Budget Office, 1985-1995 data

The U.S. has lagged behind in rail investment – dedicating less than one percent of its transportation infrastructure spending to rail, versus more than 15 percent for its

European counterparts (see Figure IV-1 above). The United States currently spends nearly $80 billion per year on its highway infrastructure and $19 billion on its aviation system.[27] Yet these systems are now unable to keep up with ever expanding travel demand. Moreover, land development constraints, environmental costs, and community concerns have significantly raised the cost of adding new highway and airport capacity.

Over the last several decades, the nation's rail investment gap has resulted in a growing backlog of capital needs for infrastructure, stations and rolling stock. These under-capitalized rail assets now present a unique opportunity to address the nation's transportation dilemma.

As the options for expanding capacity in the strained highway and aviation networks have narrowed, numerous states have begun to recognize that passenger rail offers an opportunity. Over 30 states have developed formal high-speed rail initiatives to help relieve some of their transportation and environmental pressures and improve access to economic centers. Several have begun to invest their own resources in corridor development.

Corridor development plans in the U.S. involve incremental improvements to existing infrastructure, rather than building dedicated new lines as the French, Germans and Japanese have done. The U.S. approach can yield significant travel-time savings with a relatively smaller investment. Many urban business centers around the nation already are served by existing freight and passenger lines and these lines can be upgraded without the environmental and acquisition costs associated with new rail line construction. Moreover, these upgrades benefit not only passenger service, but provide trip time and capacity improvements for the freight and commuter railroads operating on the same lines. The result is a lower cost solution that benefits all rail operations while serving as an engine for economic expansion.

While states have begun to take the lead in passenger rail development, federal capital investment will be necessary in order for the U.S. to successfully develop corridors and maintain a national passenger rail system. With a dedicated funding source, the nation can once again maximize the value of its rail assets and enhance intercity transportation options available to Americans.

CAPITAL NEEDS APPROACH

In 2000, Amtrak undertook a long-term capital needs study, including an assessment of fleet and infrastructure needs. The study examined all U.S. intercity passenger rail needs – both corridor and long-distance services. The goal was to develop an unconstrained needs assessment upon which a long-term capital program could be shaped.

[27] Includes federal, state and local spending. Bureau of Transportation Statistics, *Transportation Statistics Annual Report,* 1999.

Methodology

The capital needs study identified long-term passenger rail investment requirements under two scenarios: (i) sustained Current services, and (ii) Growth in services. The analysis covered a 20-year period and, for each scenario, inventoried six categories of investment needs:

- *Infrastructure.* Amtrak-owned assets, and shared benefit investment on infrastructure owned by other entities (freight railroads, commuter agencies, etc.), including track, communications and signals, power, structures, interlockings and grade crossings;
- *Fleet*. Passenger fleet, locomotives, work equipment, and related mail & express;
- *Stations/facilities.* Including stations under Amtrak and other ownership, yards, and facilities related to transportation, maintenance-of-way and maintenance-of-equipment functions;
- *Debt Service*. Principal payments for Amtrak financed fleet and infrastructure;
- *Information Technology*. Including infrastructure, hardware, software and communications; and
- *Program Management*. Capital planning, capital accounting, network analysis, and construction management services.

The study approach involved five tasks:

- Define alternative investment scenarios (Current and Growth);
- Inventory passenger rail needs based on: (i) internal analysis of investment requirements, such as those contained in the South End Transportation Plan, and (ii) studies of expanded passenger rail services conducted by states or other entities, such as the Midwest Regional Rail Initiative (MWRRI);
- Develop 20-year needs assessment by investment scenario based on a synthesis of the inventory findings;
- Assess potential funding sources by type of project;
- Develop 20-year capital plan for Amtrak's share of capital requirements.

Investment Scenarios

The capital needs assessment is based on two investment scenarios, summarized in Figure IV-2:

- *Current Service*. This scenario represents the minimal investment needed to support Amtrak's current services. It includes all existing services and all current service commitments.

- *Growth Service*. This scenario includes all passenger rail services under study and/or development by Amtrak. It contains high-speed corridor projects and some long-distance and point-to-point service.

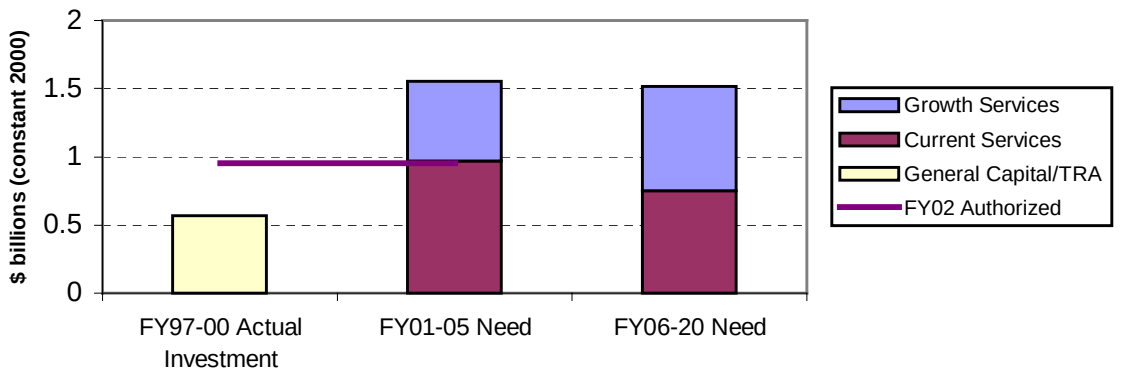
Figure IV-2. Capital Needs Investment Scenarios

Capital Needs Scenario	Description	Projects Included
Current Service Quality national network with updated and reliable equipment and infrastructure	Continuation of all services in current operation or approved for implementation – including existing commitments to states and those needed to achieve and sustain operational self-sufficiency.	**Infrastructure** • Life safety/fire/tunnels, state-of-good-repair, operational reliability, environmental compliance **National Network** • Network Growth Strategy (NGS) Phase I; Mail & Express three-year fleet and facilities plan **State Agreements** • Pennsylvania Keystone Service: 5-year program • New York Empire Service: 5-year program • North Carolina: 2-year program • California: specific projects • Pacific Northwest: specific projects **Fleet** • Progressive and heavy overhaul cycles; replacement of aged fleet; fulfillment brand requirements for Corridor, Leisure, Point-to-Point, and Mail & Express **Stations/Facilities** • State of good repair, upgrades to meet minimum brand and ADA standards **Other** • Debt service (principal) • Information technology • Program management
Growth Service Expanded high-speed corridors and national network services	Services in *planning or development* to improve travel times, frequencies, or quality and to expand network beyond levels currently provided and committed.	**National Network** • Network Growth Strategy Phase II **Corridors** • Northeast Corridor main line (improved travel times and 25% growth in frequencies) • Northeast Corridor other lines (Springfield, Maine, Vermont) • Empire (NY) • Keystone (PA) • Southeast (Wash-Richmond-Raleigh-Charlotte-Atlanta-Jacksonville) • Florida (Orlando to Jacksonville/ Tampa/ Miami, other segments) • Midwest (Chicago to St. Louis/ Detroit/ Milwaukee-Minneapolis St. Paul/ Quincy/ Carbondale/ Cincinnati/ Cleveland, Kalamazoo to Holland/ Port Huron, Milwaukee to Green Bay, Wyanet to Omaha, St. Louis to Kansas City) • Gulf Coast (New Orleans to Baton Rouge-Houston/ Mobile/ Meridian-Birmingham-Atlanta) • Texas (Dallas-Houston-San Antonio-Austin-Fort Worth) • Oklahoma (Oklahoma City to Dallas/Ft. Worth/ Tulsa) • Ohio (Cleveland-Columbus-Cincinnati) • California (Capitol, San Joaquin, LA-San Diego) • Pacific Northwest (Eugene-Portland-Seattle-Vancouver) • Other (Kansas, Arizona, Palm Springs-LA)

SUMMARY OF CAPITAL PLAN CONCLUSIONS

The capital needs assessment concludes that with a modest investment of federal funds, the U.S. passenger rail system can fulfill its potential and provide the vital missing link in the nation's transportation system. The assessment indicates that annual federal investment in passenger rail of approximately $1.5 billion – only 2.5 percent of what the federal government spends on transportation[28] – combined with state and private investment, will modernize the current rail system, and advance high-speed rail corridor development throughout the United States. The conclusions are summarized in Figure IV-3.

Figure IV-3. Average Annual Federal Capital Investment Needs for Passenger Rail



The study finds that the minimal capital investment required to meet Current Service commitments is $973 million per year in the first five years and $750 million per year thereafter.[29] The Current Service program ensures a quality national network for the provision of existing intercity passenger rail services along with services identified in Phase I of Amtrak's Network Growth Strategy. It addresses the state-of-good-repair needs for infrastructure, facilities and fleet, including requirements on the South End of the Northeast Corridor (NEC); addresses life/safety issues, including investments required in the New York tunnels; provides for a modernized fleet consistent with brand and service standards; and makes the required technological investments that will reduce operating costs and provide competitive services to customers. The product is a safe, reliable national network.

It is important to note that the backlog in deferred infrastructure, station, and fleet investment requires additional funding in the first five years to bring the assets up to a

[28] Based on current annual federal transportation spending of $58.8 billion in FY01.
[29] Estimates of annual federal investment assume non-federal funding matches as described in later sections of this document. Note that excess RRTA is excluded from this capital needs assessment (see Financial Plan section above for further discussion). Numbers are in constant year 2000 dollars.

state-of-good-repair. The plan eliminates that backlog within the first five years, and then maintains modern standards on an ongoing basis. This minimal investment is essential for a viable national passenger rail system and for Amtrak to achieve and sustain operational self-sufficiency.

The needs assessment also identified capital investment necessary to expand the U.S. passenger rail system. The study recommends a federal capital down payment of $550-600 million per year during the first five years of the plan and $750-800 million during the subsequent fifteen years of the plan. Such a Growth program would provide essential seed money for expansion of the U.S. passenger rail system, including initial high-speed corridor development around the country as well as additional network expansion. Corridor development would provide improved travel times, additional frequencies, increased capacity and greater reliability on existing routes as well as new rail services to be added.

Actual projects funded under the Growth scenario will need to show a positive financial operating contribution – whether it is from net passenger revenues, net mail & express revenues and/or state contributions. Positive contribution projects would be prioritized based on a series of capital investment criteria such as return on investment, state and private investment leverage, safety improvements, and trip time reductions (see Financial Plan section for further details). . The market-based network analysis process will be used to determine the value of the incremental contribution.

The combined Current and Growth needs require approximately $1.5 billion per year in federal support over the 20-year plan period (as shown in Figure IV-3). Both scenarios assume that investments made by the federal government and Amtrak would be leveraged with capital contributions from states and other sources. The Current Services scenario assumes a higher share of federal/Amtrak responsibility since it includes investment in basic reliability, safety and modernization needs as well as elimination of the backlog from previous under-investment. Growth Services reflect new and expanded rail services – most of which will be initiated by states – and thus assumes a larger share of investment from non-federal sources. The ultimate level and share of non-federal investment in Growth Services will depend on the specific corridor projects that are advanced.

Fleet Capital Needs

The capital needs assessment included a detailed analysis of Amtrak's fleet requirements under the two investment scenarios – Current Service and Growth Service. The resulting 20-year fleet plan identifies the capital required to develop and maintain a quality passenger fleet – along with supporting locomotives, work equipment and mail & express equipment.

This section summarizes Amtrak's fleet needs, including:

- Strategy governing the development of the fleet plan;
- Inventory of the current fleet;
- Assessment of 20-year Current Service fleet needs; and
- Assessment of 20-year Growth Service fleet needs.

FLEET STRATEGY

Amtrak's strategic business plan calls for development of a modernized, quality fleet that meets the company's mandates to provide national passenger service and sustain operational self-sufficiency. The fleet strategy seeks to accomplish this goal by retiring fleet when the useful life has been reached, upgrading fleet to meet quality and brand standards, and procuring new fleet to meet the future needs of expanded service. Future procurement focuses on a limited number of equipment types, allowing standardization of fleet over the life of the plan. In addition, the quality of the fleet will be strengthened by a maintenance philosophy that will bring the fleet up to desired standards over the next five years and keep it there over the remaining life of the equipment.

Fleet Categories

The fleet plan is organized around four categories of rolling stock – passenger, mail & express, locomotives, and work equipment. These categories each have unique requirements, including useful life of equipment, maintenance needs, and standardization options, as well as different cost profiles.

As part of Amtrak's service quality and brand revitalization strategies, the company is currently defining a series of passenger sub-brands – each targeted at different markets. The passenger fleet analysis is organized around each of these categories, based on assumptions about existing route assignments and train consist requirements:[30]

[30] Since some of the brands are still under development, the fleet plan will be revised to reflect final route and train consist decisions. The impact on capital requirements, however, should be minimal since the fleet plan strategies (standardization, regular overhaul cycles, etc.) are the primary cost drivers.

- *Corridor*. Frequent, time competitive service on short- and medium-haul trips, aimed primarily at the business market. The minimal train consist includes business and first class coaches and a café/bistro car.
- *Leisure*. Full leisure rail travel experience on long-distance trips, aimed primarily at the vacation market. The minimal train consist includes coaches, lounges with entertainment amenities and food service, first class diners, sleepers (if overnight), and a baggage car.
- *Point-to-point*. Basic transportation on short-, medium-, and long-distance trips, aimed at the value-minded traveler. The minimal train consist includes coaches, café/bistro, economy sleepers (if overnight), and possibly a baggage car.

Objectives

The company has established five broad objectives and associated policies for fleet planning. These objectives and policies drive the capital overhaul program and procurement process, and are the foundation for determining capital needs. Some resulting actions can only be implemented once sufficient capital becomes available. The fleet objectives are to:

- *Upgrade existing fleet* to a state-of-good-repair and to the quality standards established for each brand, including technology, amenities, and design standards necessary to meet service expectations.[31] Fleet upgrades and enhancements are to be completed within five years in most cases.
- *Standardize fleet types* within sub-brands and fleet categories over time, striving where possible for uniformity of equipment types within sub-brand/category as rolling stock is replaced and procured. See Figure IV-4 for a summary of proposed fleet standards.

Figure IV-4: Proposed Fleet Standards by Sub-Brand

Sub-Brand	Type	Standard
Corridor	Tier 1 single-level (diesel, low platform)	Selected in MWRRI procurement
	Tier 1 bi-level (diesel, low platform)	Surfliner-type
	Tier 2 (electric and/or diesel, high platform)	Acela Express-type
Leisure	Single-level	Viewliner (shell)
	Bi-level	Superliner III (rebuilt)
Pt-to-Pt	Single and bi-level	Excess from Leisure
Locomotives	Diesel, short-haul	F59-type
	Diesel, long-haul	P42-type
	Electric	High-horsepower (HHP)

- *Sustain regular schedule of maintenance*, including progressive and heavy overhauls. Preventive maintenance is to be conducted on a 120-day cycle, with heavier overhauls every four years, and interior enhancements as needed.
- *Ensure adequate quantity of fleet* to meet the business needs of each investment scenario (Current and Growth). The number of units needed is determined by the

[31] In cases where equipment is remanufactured, it would be upgraded to meet Americans with Disability Act (ADA) standards for accessibility.

specific service requirements, with an adequate margin for repair, overhaul and protect included.

- *Drive down cost* of capital overhaul program and procurement through predictable, longer-term schedules, economies of scale and improved operational efficiency. These cost measures are expected to reduce both capital overhauls and procurement by 20 percent on a per-unit basis from historical levels.

CURRENT INVENTORY

Amtrak's current fleet includes a wide range of equipment types, even within sub-brand categories, with many of these types nearing or beyond their presumed useful life. For purposes here, fleet is considered current if: (1) it was available for active service as of October 1, 2000; (2) it is on order for delivery during FY01; or (3) it is expected to be placed back into active service during FY01. Additional detail is available in Appendix III-A. The company's remaining inventory – those items not in revenue service or about to be placed in revenue service – represents equipment that is either leased to third parties or inactive (in storage). Some are considered to be in wreck status and are awaiting sufficient capital funding for overhaul work to enable the equipment to return to revenue service.

Passenger

Amtrak's passenger fleet is divided by sub-brand service: Corridor, Leisure, and Point-to-Point.

Corridor

Amtrak's corridor fleet is made up of 670 passenger cars and 26 trainsets. The passenger cars include:

- Two types of bi-level equipment (California cars and Pacific Surfliner cars);
- Three types of single-level equipment (Amfleet I, Horizon, and Heritage equipment); and
- Three types of trainsets (*Acela Express*, Turboliners, and Talgo).

This equipment is used primarily on the Northeast Corridor, on the West Coast, and in the Midwest. The single-level equipment is almost all at least 20 years old, with some close to 40 years old. The remaining fleet has been acquired or rebuilt recently.

Leisure

Amtrak's leisure fleet is made up of 743 passenger cars, baggage cars, and auto carriers. The passenger cars include:

- Three types of bi-level equipment (Superliner I, Superliner II and Heritage cars); and
- Three types of single-level equipment (Amfleet II, Viewliner, and Heritage equipment).

Leisure equipment is used almost entirely in Amtrak Intercity and Amtrak West operations. With the exception of the Superliner II and Viewliner cars (acquired in the 1990s), the majority of the fleet is more than 20 years old.

Point-to-Point

Amtrak's point-to-point fleet is made up of 155 passenger, cab and baggage cars. The passenger cars include:

- Three types of bi-level equipment (Superliner I, Superliner II and Heritage cars); and
- Four types of Single-level equipment (Amfleet II, Viewliner, Horizon, and Heritage equipment).

Point-to-point equipment is used almost entirely in Amtrak Intercity. With the exception of the Superliner II, Horizon and Viewliner cars (acquired in the late 1980s and 1990s), the majority of the fleet is more than 20 years old.

Mail and Express

Amtrak's mail & express fleet consists of 1,141 cars and RoadRailer vans, plus associated bogies and couplermates. The fleet has largely been acquired over the last five years, with the exception of the baggage cars used in mail service and the material handling cars delivered in the late 1980s. Four distinct categories of equipment exist for the mail & express fleet:

- Box Cars (50 and 60 foot);
- Baggage Cars (various designs);
- Material Handling Cars; and
- RoadRailer vans (mail, express, and refrigerated, plus associated bogies and couplermates).

Locomotives

Amtrak's locomotive fleet is made up of 78 electric locomotives and 359 diesel locomotives. The locomotives include:

- Three types of electric locomotives (AEM7s, E60s and High-Horsepower Locomotives); and

- Six types of diesel locomotives (P32s, P32 Dual Modes, P40s, P42s, F40s and F59s).

The electric locomotives are used on both NEC and Intercity trains that operate in the Northeast, while the diesel locomotives are used throughout the country. Approximately half of the locomotive fleet is less than ten years old, although the F40s, AEM7s and E60s are significantly older.

Work Equipment

Amtrak's remaining fleet consists of a variety of work equipment and switch engines. The switch engines are distributed throughout the company, while most of the work equipment is located in the Northeast Corridor and other locations where Amtrak owns infrastructure. Much of this equipment is old and in need of replacement.

Summary of Current Fleet

Figure IV-5 summarizes Amtrak's inventory of fleet available in FY01.

Figure IV-5. Current Amtrak Fleet Inventory (Excluding Work Equipment) Available during FY01

Equipment Type	Corridor	Leisure	Pt-to-Pt	Other	Total
Passenger Cars					
Single-level	564*	220	77		861
Bi-level	106*	412	46		564
Baggage Cars		47	22		69
Cab Cars			10		10
Auto Carriers		64			64
Subtotal, Passenger Cars	**670**	**743**	**155**		**1,568**
Trainsets					
Turboliner	2				2
Tier I Tilt/Talgo	4*				4
Tier II/Acela Express	20				20
Subtotal, Trainsets	**26**				**26**
Mail & Express					
Box Cars				252	252
Baggage Cars				66	66
Material Handling Cars				160	160
RoadRailers				663	663
Subtotal, M&E				**1,141**	**1,141**
Locomotives					
Electric				78	78
Diesel				359	359
Subtotal, Locomotive				**437**	**437**

* Includes state-owned equipment operated by Amtrak

20-YEAR CURRENT SERVICE NEEDS

To meet the demands of the current national network, significant fleet investment is required. Amtrak's current fleet is aging and includes multiple fleet types for the same function. These characteristics result in a fleet that is expensive to maintain and insufficient to meet service standard goals. With near-term investment to bring the existing fleet up to a state-of-good-repair and lower average age, as well as longer-term replacement to standardize fleet types, the company will be able to reduce operating costs while delivering higher-quality service.

This needs assessment identifies the key requirements to meet Current Service commitments over the 20-year period.

Key Assumptions

The objectives and policies outlined above each have timing and cost implications. Specifically, the Current Services needs assessment makes the following assumptions:

- *Retirement and partial replacement of Heritage fleet*. The Heritage fleet is in excess of 40 years old, and expensive to keep in service. Some can not operate beyond FY01 due to FRA requirements to install retention toilets. The entire fleet needs to be retired by FY05.
- *Capital overhaul program*.
  - Progressive Overhaul – Refers to the replacement/overhaul of major components on a regular basis (other than those done as part of the heavy overhaul cycle).
  - Heavy overhauls – The majority of the fleet is on a four-year heavy overhaul cycle, including all passenger cars.
  - Wreck and accident repair – For most equipment types, 1.5 percent of the fleet is assumed to need wreck and accident repairs in a given year.
  - Interior enhancements – Enhancement programs are provided for most Superliners and Amfleet equipment once in the 20-year plan in addition to the heavy overhaul cycles.
- *Linkage of overhaul to retirement and procurement.* The overhaul program is linked to retirement of fleet by discontinuing heavy overhauls two years before the beginning of the retirement of a particular category of fleet. The heavy overhaul program generally begins two years following the beginning of new equipment procurement.

Capital Overhaul Program

The capital overhaul program is designed to maintain the fleet in full compliance with Federal Railroad Administration standards, to provide a reliable fleet in good operating condition and to minimize the need for unexpected repairs.

The capital overhaul needs are estimated to require $268 million per year over the 20-year plan – $330 million per year in the first five years and $247 million per year thereafter. The cost in the first five years is greater, reflecting the cost to bring existing equipment back to a state-of-good-repair. Thereafter, costs reflect the need to maintain equipment in a reliable, quality condition.

The major programs that make up these capital needs include:

- Standard progressive overhaul, heavy overhaul, and wreck and accident programs on all equipment;
- Capstone enhancement program during the first five years of the plan on all Amfleet equipment that has not yet gone through the program;
- Enhancement program on all leisure Amfleet II, Superliner I and Superliner II equipment during the first five years of the plan;
- Enhancement program on point-to-point Amfleet II equipment during the first five years of the plan, and on Superliner I and II equipment during the last fifteen years of the plan; and
- Enhancement program on six E60 electric locomotives during the first five years of the plan.

The capital costs of each program and each category of fleet are summarized in Figure IV-6. Additional detail on capital overhaul needs by brand is provided in Appendix III-A.

Figure IV-6. Capital Overhaul Needs to Meet Current Services
Average Annual Capital Cost (in millions of 2000 $)

Program	FY01-05	FY06-20	FY01-20
Progressive Overhauls	37	39	38
Heavy Overhauls	175	186	183
Enhancements	98	2	26
Wreck and Accident Repair	20	20	20
Total	**330**	**247**	**268**

(Numbers may not add due to rounding)

Procurement

In order to sustain a quality fleet, Amtrak must target retirement and replacement of some of its oldest equipment, along with the procurement of additional locomotives, trainsets, passenger cars, and mail & express fleet that will allow an improved and expanded level of service.

The Current Services assessment concludes that there is a need to retire 342 passenger cars, 147 locomotives, 226 mail & express cars, and a portion of the work equipment fleet over the 20-year plan. Investment will also be required to support

existing state contractual commitments, enhanced leisure service, and mail & express growth. The major elements of this retirement and procurement program include:

Corridor

- Retirement of Horizon corridor fleet in two phases – the first 38 cars in the first five years with the beginning of Midwest Regional Rail service, and the remaining 57 cars in the last 15 years of the plan (the cars are replaced through corridor trainset acquisition related to Amtrak's 20-year Growth needs – see Growth Needs section below);
- Retirement of five Heritage coaches in the first five years of the plan; and
- Fulfillment of New York, North Carolina and Pennsylvania state contracts, which result in the enhancement and rebuilding of 20 Amfleet coaches, four AEM7 locomotives and six Turboliner trainsets; this program also includes the procurement of ten cab cars and three trainsets.

Leisure

- Retirement of the entire leisure baggage, Heritage food service and Heritage crew dorm fleet in two phases – the first 82 cars in the first five years, and the remaining 12 cars in the last 15 years of the plan;
- Retirement and replacement of the 64 auto carriers in the current fleet with auto carriers of new design, plus an additional 20 auto carriers to provide extra capacity on the Auto Train and new service on the Coast Starlight;
- Replacement of the baggage and Heritage fleet with newly-designed equipment; and
- Purchase of 53 additional baggage cars and 106 additional food service cars to provide enhanced service on Amtrak's leisure trains in Amtrak Intercity and Amtrak West.

Point-to-Point

- Retirement of the seven passenger cars in the point-to-point Horizon fleet in the last 15 years of the plan;
- Retirement of 48 Heritage coaches, sleepers and food service cars in the first five years of the plan; 27 of these are replaced with the procurement of new single-level cars; the remaining are replaced with the equipment from the Capstone enhancement program;
- Retirement of ten cab cars in the first five years of the plan; five of these are replaced with new procurement; and
- Retirement and complete replacement of the 22 baggage cars used in point-to-point fleet, also in the first five years of the plan.

Other

- Retirement of a portion of the AEM7 fleet -- 30 are replaced with new high-horsepower electric locomotive procurement, while 22 are available for rebuilding to support Amtrak's Growth needs (see 20-Year Growth Needs section below);
- Retirement of the entire E60 fleet in two phases – five in the first five years, and the remaining six in the last 15 years of the plan (only the final six are replaced);
- Retirement of the entire F40 fleet in the first five years of the plan. These locomotives are replaced through new diesel locomotive procurement;
- Procurement of additional diesel locomotives to support the Network Growth Strategy and the mail & express business;
- Acquisition of 2,301 pieces of equipment (plus associated bogies and couplermates) for the mail & express business – all of it in the first five years of the plan; 66 of these cars are box car replacements for the 66 baggage cars used for mail services that are retired in the first five years of the plan;
- An average of $6 million per year is spent on replacing work equipment over the course of the plan – $10 million per year in the first five years and $5 million per year thereafter.

Figure IV-7 summarizes Amtrak's fleet procurement needs by category and equipment type. Additional detail is provided in Appendix III-A.

Figure IV-7. Summary of Procurement Needs to Meet Current Service
Total Number of Units Procured: 2001-2020

Equipment Type	Corridor	Leisure	Pt-to-Pt	Other	Total
Passenger Cars					
Single-level	20*	85	27		179
Bi-level		68			68
Baggage Cars		100	22		75
Cab Cars	10		5		15
Auto Carriers		84			84
Subtotal, Passenger Cars	**30**	**337**	**54**		**421**
Trainsets					
Turboliner	6*				6
Tier II/Acela Express	3				3
Subtotal, Trainsets	**9**				**9**
Mail & Express					
Box Cars				1,234	1,234
Material Handling Cars				160	160
RoadRailers				907	907
Subtotal, M&E				**2,301**	**2,301**
Locomotives					
Electric	4*			36	40
Diesel				133	133
Subtotal, Locomotive	**4**			**169**	**173**

* Rebuild of existing equipment in fulfillment of state contract

The cost of this procurement program is summarized in Figure IV-8. Note that a value associated with retired fleet ("salvage value") is included. Resulting total procurement spending averages $71 million per year over the 20-year plan – $206 million per year in the first five years and $26 million per year thereafter. The costs of this procurement program would be spread out over the life of the plan and beyond through financing. (See the Long-Term Capital Plan section below.)

Figure IV-8. Cost of Procurement to Meet Current Service Commitments
Average Annual (in millions of 2000 $)

Program	FY01-05	FY06-20	FY01-20
Corridor	29	0	7
Leisure	67	5	20
Point-to-Point	16	0	4
Locomotive	62	11	24
Mail & Express	32	7	13
Work Equipment	10	5	6
Salvage Value	(10)	(2)	(4)
Total	**206**	**26**	**71**

(Numbers may not add due to rounding)

20-YEAR GROWTH NEEDS

The fleet needs associated with expanded service will depend on the extent of corridor and long-distance service development over the next 20 years. This needs assessment is based on the Growth Service investment scenario outlined above. The service assumptions included in the scenario are based on state corridor plans where available. The actual level of investment will depend on the projects selected pursuant to a strict criteria-based process (see Investment Scenario and Financial Plan sections above).

Key Assumptions

The Growth Service needs assessment is based on unit costs per equipment type, timing, and other assumptions, including:

- *Use of service contracts for maintenance of new trainsets.* All trainsets procured for Growth are maintained and overhauled through the use of service contracts, similar to those in place for the *Acela Express* and *Amtrak Cascades* equipment.
- *Fleet subject to standard capital overhaul program.* The same fleet overhaul assumptions are used for Growth as were used for the Current needs.
- *Timing of procurement and overhauls*. In the first five years of the plan, equipment delivery is targeted for a particular year; in the last fifteen years, equipment delivered in each five-year segment of the plan is assumed to be delivered in a middle year. Thus, equipment for the FY06-10 time period is assumed to be delivered in FY08; for FY11-15, it is assumed to be delivered in FY13; and for FY16-20, it is assumed

to be delivered in FY18. The overhaul program generally begins two years following the beginning of new equipment procurement.

- *Long-distance fleet*. The Growth Service scenario assumes future expansion of long-distance network service, and thus reserves additional fleet capacity. Specific services and brand category (i.e., Leisure or Point-to-Point) are undefined at this point; details will be determined based on ongoing market-based network (MBNA) of existing and new routes.
- *Inclusion of locomotives with trainsets*. For corridor services, locomotives are not separately addressed, but rather are included as part of a total trainset procurement.
- *Trainset definitions*.
  - *Tier I single-level* – assumed to be a single-level, tilt capable trainset hauled by a diesel locomotive on one end, and with a cab car on the other; it is designed to be capable of speeds up to 125 mph;
  - *Tier I bi-level* – assumed to be a five-car, bi-level trainset hauled by a diesel locomotive on one end and a cab compartment in the last passenger car; it is designed to be capable of speeds up to 125 mph; and
  - *Tier II* – assumed to be a six-car trainset with electric and/or dual-mode propulsion; it is designed to be capable of speeds up to 150 mph.

Capital Overhaul Program

The capital overhaul program is designed to maintain the fleet in full compliance with Federal Railroad Administration standards and "right-and-ready" service standards, to provide a reliable fleet in good operating condition and to minimize the need for unexpected repairs. New corridor trainsets are assumed to be serviced under maintenance and overhaul contracts similar to those already in place. No additional enhancements are scheduled during the life of the plan for the new equipment purchased as part of the Growth scenario, and maintenance on corridor trainsets is funded entirely out of the operating budget.

The cost of each program is summarized in Figure IV-9. Progressive and heavy overhaul needs result in average capital spending of $116 million per year over the 20-year plan – $31 million per year in the first five years and $144 million per year thereafter. Most of these costs are associated with Phase II of the Network Growth Strategy. Additional detail on capital overhaul needs by brand is included in Appendix III-A.

Figure IV-9. Capital Overhaul Needs to Meet Growth Service
Average Annual Capital Cost (in millions of 2000 $)

Program	FY01-05	FY06-20	FY01-20
Progressive Overhauls	5	19	15
Heavy Overhauls	24	109	88
Enhancements	0	0	0
Wreck and Accident Repair	3	16	13
Total	**31**	**144**	**116**

(Numbers may not add due to rounding)

Procurement

Amtrak envisions meeting the growing demand for passenger rail through the procurement of additional fleet to support new corridors, new point-to-point trains, and additional capacity and frequency on existing routes. Procurement needs include the acquisition of 716 passenger coaches and baggage cars, 371 trainsets of various designs (with associated cab cars and locomotives), 187 long-haul and 12 short-haul diesel locomotives, and 41 rebuilt and new electric locomotives. Assumptions regarding the fleet needs for the second phase of the Network Growth Strategy are not exact and should be treated as placeholders. Actual fleet needs associated with future phases of the Network Growth Strategy will be determined as each component of the strategy is analyzed and approved over time.

Corridor

- Acquisition of 125 single-level passenger coaches (including food service cars), 12 short-haul diesel locomotives, and 19 new electric locomotives to support growth in the Northeast Corridor;
- Rebuilding of the 22 remaining AEM7 locomotives to meet motive power needs of the Northeast Corridor; and
- Acquisition of 177 Tier I single-level trainsets, 60 Tier I bi-level trainsets, and 79 Tier II trainsets to support corridor development throughout the country.

Long-Distance/Point-to-Point

- Acquisition of 333 bi-level and 250 single-level passenger coaches (including food service, lounge and dorm cars), eight baggage cars, and 187 diesel locomotives for expanding the Amtrak network in both frequencies and destinations; and
- Acquisition of 55 Tier I single-level trainsets, along with associated cab cars and short-haul locomotives, to begin corridor development in many locations around the country.

Figure IV-10 summarizes Amtrak's fleet procurement needs by category and equipment type.

The cost of the Growth procurement program is summarized in Figure IV-11. Resulting total procurement spending averages $433 million per year over the 20-year plan. As in the Current Service needs above, the costs of this procurement program would be spread out over the life of the plan and beyond through financing (see the Long-Term Capital Plan section below).

Figure IV-10. Summary of Procurement to Meet Growth Service Needs
Total Number of Units Procured: 2001-2020

Equipment Type	Corridor	Long-Dist	Total
Passenger Cars			
Single-level	125	250	375
Bi-level		333	333
Baggage Cars		8	8
Subtotal, Passenger Cars	**125**	**591**	**716**
Trainsets			
Tier I Single-level	177	55	232
Tier I Bi-level	60		60
Tier II/Acela Express	79		79
Subtotal, Trainsets	**316**	**55**	**371**
Locomotives			
Electric	22		22
Diesel		199	199
Subtotal, Locomotive	**22**	**199**	**221**

Figure IV-11. Cost of Procurement Needs to Meet Growth Service
Average Annual (in millions of 2000 $)

Program	FY01-05	FY06-20	FY01-20
Corridor	187	341	302
Long-Distance/Point-to-Point	246	93	131
Total	**434**	**433**	**433**

(Numbers may not add due to rounding)

Non-Fleet Capital Needs

The non-fleet capital needs elements were assessed based on existing studies and plans, as described under the Capital Needs Approach section above. The needs assessment synthesized these studies and plans, applying consistent metrics, and identified all capital costs associated with each of the two investment scenarios – Current Service and Growth Service. As with the rest of the needs assessment, this portion of the study was not constrained by funding sources or funding availability; those constraints are reflected below in the Capital Plan. The product of this effort is an assessment of the capital costs required to meet current passenger rail commitments, as well as expanded services.

This section summarizes U.S. passenger rail capital needs, including:

- *Infrastructure*. Amtrak-owned assets, and passenger rail investment needs on infrastructure owned by other entities (e.g., freight railroads, commuter agencies);
- *Stations/facilities*. Stations under Amtrak and other ownership, and facilities related to both maintenance-of-way and maintenance-of-equipment; and
- *Other*. Amtrak-specific needs for debt service, information technology, and program management.

INFRASTRUCTURE

Infrastructure is the single-most capital-intensive element of the nation's passenger rail system. The infrastructure section of this plan provides a definition of rail infrastructure, overview of the ownership structure, and a summary of the capital needs for Current Services and for Growth Services.

Infrastructure Definition

Infrastructure is defined here as all fixed assets of the rail system, excluding stations and facilities. Rolling stock is covered under "fleet" above, and stations and facilities are covered in the subsequent section. Specifically, infrastructure components include:

- Track/ties;
- Communications and signals;
- Catenary (if electric);
- Structures (bridges and tunnels);
- Interlockings/switches;
- Grade crossings (identified separately in the Growth Services section);
- Station-related platforms/track; and
- Program management specific to infrastructure (planning, design, testing, etc.).

Infrastructure Ownership

Amtrak owns, maintains and operates much of the Northeast Corridor (NEC), including the entire 226-mile "South End" from New York to Washington – the most heavily used rail line in the country. In addition to Amtrak, six commuter agencies and two major freight carriers run on portions of the South End, with non-Amtrak carriers accounting for approximately 48 percent of all train movements. On the "North End" between Boston and New York, Amtrak owns 137 miles of the line in New York and Connecticut, accounting for 59 percent of the 231-mile segment, and shares operations with three major commuter agencies.

Also in the northeast, Amtrak owns the 104-mile "Keystone" corridor from Philadelphia to Harrisburg, the 58-mile Springfield line between New Haven, CT and Springfield, MA, and an 11-mile portion of the Empire Line north of Penn Station New York. (See Figure IV-12 for a summary of Amtrak's Northeast Corridor infrastructure assets.)

Figure IV-12. Amtrak's Northeast Corridor Infrastructure Assets

1,594 Total Track Miles	1,500 Miles of Catenary Wire
1,106 Mainline Track Miles	29,000 Catenary Poles
2,078,779 Concrete Ties	160 Substation Transformers
2,784,300 Wood Ties	73 Hot Box Detectors
1,342 Switches	438 Dragging Equipment Detectors
122,700 Switch Timber	1,447,353 Feet of Duct Line
1,170 Bridge Structures	5,703,840 Feet of Express Cable
1,150 Culverts	6,433,592 Feet of Local Cable
11 Movable Bridges	2,264 Switch Machines
16 Tunnels	12,995 Signal Heads
2,383 Miles Signal Power Transmission	105,900 Relays
953 Miles 138KV Transmission wire	13 Frequency Converters

In the Midwest, Amtrak owns 95 miles of track in Michigan and Indiana, as well as small pieces involving mostly yard tracks surrounding terminals in Chicago, IL, St. Louis, MO, Detroit, MI, Lorton, VA, Sanford, FL, New Orleans, LA, and Beach Grove, IN (a major mechanical facility near Indianapolis).

Elsewhere, Amtrak service is provided on infrastructure owned by numerous private and public entities. As the nation's passenger rail operator, Amtrak works with these entities – freight railroads, commuter railroads and states – to operate trains, and to plan service changes or expansions. As owner of the busiest and most congested track in the country, Amtrak is responsible not only for system maintenance but also for the planning required to renew, replace, and modernize the infrastructure that meets the objectives of all users. This diverse infrastructure ownership and operating profile creates a complicated environment in which to plan and operate passenger rail service.

In order to reflect accurately the complex ownership environment, this needs assessment is organized into three categories of infrastructure need:

- *Amtrak-owned infrastructure*. All investment on Amtrak-owned infrastructure is included in the needs assessment, regardless of the beneficiary of that investment. The subsequent capital plan seeks to distinguish between investments which benefit

intercity passenger rail service and those that benefit commuter or freight operations, by assigning the share of cost to the presumed beneficiary.

- *Partner-owned infrastructure*. Only investment that is intended to benefit intercity passenger rail is included for infrastructure owned by other entities. For example, high-speed corridor development generally involves infrastructure improvements on freight-owned tracks, and that cost would be included here. Here again, not all of that cost is assumed to be borne by Amtrak, and these funding source assumptions are reflected in the Capital Plan.
- *Other*. Includes items such as environmental compliance and station-related infrastructure (tracks, platforms, etc.), and program management system's directly related to infrastructure.

Note that the development of high-speed corridors requires extensive upgrading or elimination of grade crossings, and therefore this item makes up a substantial portion of the Amtrak- and particularly partner-owned infrastructure categories. The needs assessment did not include a comprehensive review of highway-rail grade crossings needs – a task that should be undertaken in the context of other federal and state transportation safety programs.

20-Year Current Service Needs

The bulk of Current Service requirements are on Amtrak-owned infrastructure. On rights-of-way owned by freights, commuters, etc., investments needed to maintain safe, reliable infrastructure are assumed to be made by those entities in order to sustain their own operations. Access fees paid by Amtrak to those owners provide for the incremental cost of Amtrak's usage. In several cases, where there are existing agreements in place with states, or where states have already committed capital funds, those costs – even if they are incurred on partner-owned infrastructure – are included as part of the Current Service scenario.

Amtrak-Owned Infrastructure

Current Service requirements on Amtrak-owned infrastructure broadly include two major types of basic support improvements:

- *Life safety.* Lighting, ventilation and access/egress at major tunnels – particularly at New York Penn Station; fencing and other safety-related projects.
- *Operational reliability.* Includes projects designed to:
  - Recapitalize the railroad infrastructure to eliminate the state-of-good-repair backlog resulting from years of deferred investment;
  - Replace infrastructure components through a program of normal replacement as needed on a life cycle basis; and
  - Maintain current schedules and levels of on-time performance and prevent the imposition of slow orders on train operations.

Life safety improvements include work on the Hudson and East River Tunnels in New York, the Baltimore and Potomac (B&P) Tunnels in Baltimore, and the First Street Tunnel in Washington. On average, these tunnels are about a century old, and major investment is required to restore the tunnels to a state-of-good-repair. The New York improvements are currently being made pursuant to an agreement with Long Island Rail Road with New Jersey Transit currently contributing a portion of short-term costs under a separate joint benefits agreement. Similar life safety improvements are being made in Baltimore, with a focus on structural and drainage issues, and are planned for the First Street Tunnel in Washington. The capital program also includes funding for right-of-way and inter-track fencing at stations to improve safety at higher speeds.

Operational reliability improvements focus primarily on renewal and replacement of infrastructure components on a life cycle basis to maintain current service levels. Current investment requirements include both ongoing annual capitalized replacement and recovery from years of deferred maintenance. Investment requirements for operational reliability are being driven by a number of factors, including:

- A state of good repair backlog estimated at about $2.7 billion in 1995 for Amtrak-owned Northeast Corridor Main Line infrastructure, requiring higher levels of current investment to make up for deferred investment from prior years;
- Increasing emphasis on the maintenance of on-time performance as a primary driver of guest satisfaction and revenue growth;
- Speed increases with the delivery of new high-speed trains from 125 mph to 150 mph on the North End and to 135 mph on the South End, requiring maintenance of the infrastructure at higher tolerances, particularly catenary and track;
- Heavier tonnage from freight carriers, requiring use of heavier gauge components and more frequent renewal and replacement.

Operational reliability requirements also are being driven by the advancing age of Amtrak infrastructure. In addition to the major tunnels, most of the NEC's major bridges are about 100 years old and must be replaced or completely rehabilitated. On the north end, the Thames and Niantic River bridges are reaching the end of their useful life, and replacement on existing alignments is programmed in the first five years. In New Jersey, the Portal Bridge over the Hackensack River is prone to failure when opening and closing to boat traffic, tying up traffic in and out of New York. In Maryland, bridges over the Bush, Gunpowder and Susquehanna Rivers are more than 90 years old; the Bush and Susquehanna Bridges are moveable – regularly opening and closing to boat traffic – making their reliable operation particularly critical to South End on-time performance. The NEC's traction power system, installed in various stages in the 1920's, 30's and 40's south of New York, must also be upgraded.

The NEC's communications and signal systems are old and increasingly obsolete, with much of the build-out having occurred in the 1930's with only incremental modernization since then. Amtrak is undertaking major projects to upgrade microprocessor relay circuits which transmit the position of trains; implement reverse signaling in many areas;

and install positive stop/ civil speed control (ACSES) – a technology that significantly improves safety by automatically controlling train speed and stopping trains in the event a train does not respond appropriately to a wayside signal indicator.

On the track side, operational reliability improvements are being made to improve subgrade and drainage, renew switches and major interlockings, and install premium components, including Pandrol plate rail-to-tie fastening systems and moveable point frogs, which improve the useful life and reliability of switch points when trains make crossover moves. Amtrak is also undertaking a comprehensive program of joint welding and rail grinding, which results in improved safety, reliability and ride comfort, an important consideration as passenger rail competes with other modes of transportation.

In addition, Amtrak is undertaking a major needs assessment of the entire Penn Station complex in New York City in conjunction with other major users, including New Jersey Transit (NJT) and Long Island Rail Road (LIRR). The complex includes the existing station, Hudson and East River tunnels, a complex web of infrastructure surrounding the station as well as a major yard at Sunnyside, across the East River in Queens. Three stations have recently opened or are under construction in northern New Jersey, at Hamilton, Secaucus and Newark Airport. The opening of new stations, added NJT traffic from the Kearny Connection to the Northeast Corridor just north of Newark as well as increased traffic from expanded high-speed service on the North End is putting increasing pressure on the Penn Station complex. In addition to operating at near capacity levels for the majority of the daylight hours (over 1,000 separate train movements occur on a typical weekday), there are significant infrastructure upgrades required to address both short and long-term operational reliability needs.

The requirements for operational reliability on the Michigan line include the need to replace one major, aging moveable bridge as well as the existing signal system on the entire 95-mile route. Although Amtrak has upgraded this signal system to support 110-mph operation, Amtrak's upgrade is a computerized overlay on the original electro-mechanical signal system. The original signal system has reached the end of its useful life and will need replacement within five years to ensure continued reliability of on-time high-speed rail operations.

Partner-Owned Infrastructure

Partner-owned infrastructure investments included in the Current Service scenario include network expansion commitments made by Amtrak for which needs have been identified, as well as service expansion for which state commitments have been made as of October 2000.

Specifically, current infrastructure needs associated with Amtrak's Network Growth Strategy (NGS), include the following planned service and/or route changes:

- Florida service restructuring;
- Crescent extension to Fort Worth;

- Texas service restructuring;
- San Antonio to Monterrey service;
- Extensions to Fond du Lac and Des Moines; and
- Chicago hub improvements

Much of this NGS infrastructure investment would also benefit high-speed corridor development (under the Growth scenario below).

In addition, Amtrak currently has agreements in place with four states in which the state and/or Amtrak is to invest in infrastructure:[32]

- *New York (Empire).* A total five-year, $185 million agreement with the state of New York to upgrade service, with funding shared equally between Amtrak and the state. The program includes approximately $130 million for infrastructure improvements from New York to Buffalo.
- *Pennsylvania (Keystone).* A $140 million program, split evenly between the Commonwealth of Pennsylvania and Amtrak, to upgrade stations, improve the frequency of service, and make speed and service-related improvements, including approximately $85 million for grade-separation and other infrastructure improvements.
- *North Carolina (Raleigh-Charlotte).* A $75 million Amtrak match of state of North Carolina funds to purchase rail passenger equipment, increase service frequency and reduce trip times along the Raleigh-Charlotte high-speed rail corridor. North Carolina's funding commitment will likely exceed $75 million.
- *Maine (Boston-Portland).* An agreement with the State of Maine to operate four daily round trips on the 114-mile route between Portland, ME and Boston's North Station, including infrastructure work to improve speed and reliability, primarily on a 78-mile stretch in New Hampshire and Maine owned and operated by Guilford Rail System. All costs are assumed to be paid by the State of Maine or the New England Passenger Rail Authority.

In California, Amtrak has been developing with its state and local partners a five-year rail system improvement plan. The state of California has taken the lead in funding rail improvements by adopting the Governor's Traffic Congestion Relief Plan that includes over $250 million for passenger rail. At the core of both plans is addressing California's most immediate needs including:

- Congestion relief through track improvements designed to expedite and expand commuter, intercity passenger, and freight train traffic on heavily congested tracks in the San Diego, Los Angeles, and San Francisco Bay areas, along with the San Joaquin Valley;

[32] Fleet and station components of these agreements are covered in their respective capital needs sections of this plan.

- Improve service by upgrading existing track and signals, which will allow passenger trains and freight to operate at higher speeds with less interference over longer stretches of track between the state's major cities; and
- Improve safety and mobility through grade crossing improvements and selective grade separations.

The five-year plan is the first step toward a comprehensive twenty-year vision. The California twenty-year rail improvement plan is in the final stages of development and is due to be published in 2001. The 20-year vision was developed for fast, frequent passenger service at speeds of up to 125 mph, over existing rail lines, linking population centers within regional areas and linking California's major regions to each other.

As noted previously, most of the infrastructure in the Northeast over which Amtrak runs is owned by Amtrak. However, there are certain key segments that are owned by Amtrak partners. A 56-mile segment of the North End from New Rochelle, NY to New Haven, CT is operated by the Metro North Commuter Railroad with segments owned by the Connecticut Department of Transportation and the Metropolitan Transportation Authority of New York. Further north, a 38-mile segment from the Rhode Island-Massachusetts state line to Boston is owned by the Massachusetts Bay Transportation Authority (MBTA), but is dispatched and maintained by Amtrak under contract with MBTA. In addition, CSX owns most of the Empire line, except an 11-mile segment north of Penn Station, New York along the west coast of Manhattan. Finally, Metro North owns a segment north of Spytin Dyvil (northern tip of Manhattan) to Poughkeepsie along the eastern shore of the Hudson River.

Amtrak's capital plan includes Amtrak's estimated share of the cost of improvements on these partner-owned segments that benefit intercity passenger rail.

Total Current Service Needs

The total infrastructure capital needs for Current Service – without regard to funding source – are summarized in Figure IV-13. Given the backlog of unfunded capital needs, the first five years reflect more than twice the capital need than that required in the out-years. A more detailed summary of Current Service needs is provided in Appendix III-B.

Figure IV-13. Current Service Infrastructure Needs
Average Annual Need (in 2000 dollars) – All Funding Sources

Infrastructure Item	FY01-05	FY06-20
Amtrak-owned	474	305
Partner-owned	230	24
Other[33]	90	52
Total	**795**	**380**

(Numbers may not add due to rounding)

[33] Other includes environmental compliance, station-related infrastructure (tracks, platforms, etc.), and program management associated with infrastructure projects.

20-Year Growth Needs

Growth needs represent expansion of services under study and/or development. This scenario contains mostly high-speed corridor projects, although there are some long-distance and point-to-point service included. Since the bulk of the corridor development is on infrastructure owned by others, much of the need falls into the "partner-owned" category. The actual set of projects funded under the Growth scenario will be determined pursuant to a strict criteria-based process (see Financial Plan section).

Amtrak-Owned Infrastructure

Growth assumptions for the Northeast Corridor include corridor enhancement projects designed to upgrade speed on most existing segments of the Corridor, expand service on other selected lines, and provide shared benefit and capacity improvements – improvements intended to accommodate projected traffic expansion of at least 25 percent from all users (Amtrak, commuters and freights).

Northeast Corridor travel time assumptions include:

- On the South End between New York and Washington, 2:44 service with six intermediate stops at Newark, Metropark, Philadelphia, Wilmington, Baltimore and BWI will become effective with the introduction of the new high-speed trainsets. With added investment under the Growth scenario, comparable run times are expected to drop to about 2:37 over the first five years, with further reductions in subsequent years. Express service between Washington and New York of 2:28 in early 2001 is expected to decrease to approximately 2:25 over the first five years, and further decrease over the plan period to 2:05.
- Travel times on the North End from Boston to New York will drop in stages under the Current Services scenario investments to 3:00-3:05 with limited stops, and about 3:10-3:15 with several stops.

In addition, the Growth scenario assumes significant investment by Amtrak in conjunction with other Northeast Corridor stakeholders in shared benefit and capacity projects designed to increase both speed and reliability, and make additional capacity available to meet the growing needs of Amtrak, commuter and freight operators.

The Growth Scenario assumes extensive work on the South End between Washington and New York, including interlocking modernization and installation of concrete ties on non-high-speed tracks – projects designed primarily to expand capacity to meet projected 25 to 40 percent growth (as detailed in the recently published South End Report).[34] Six commuter rail and two freight carriers currently operate on the South End, with commuter and freights accounting for about 48 percent of all train movements and more than 100 million person trips per year. Implementation of shared benefit and

[34] *The Northeast Corridor, South End Transportation Plan*, Report to Congress, Washington, D.C. to New York City, Phase II Letter Report, National Railroad Passenger Corporation, January 2000.

capacity projects as detailed in the South End report will have the added benefit of reducing ongoing maintenance costs.

Significant investment will also be required to upgrade the existing track infrastructure at the Penn Station New York complex. State and local agencies also expect that at least one additional tunnel will be required under the Hudson River to increase capacity and support longer-term expansion plans for commuter and freight services. Operations in New York are already severely constrained at existing service levels. Companion investments to increase capacity and reliability will also be required at Sunnyside Yard, which provides turnaround and servicing facilities for Amtrak and New Jersey Transit.

On the North End between New York and Boston, funding is needed primarily to make additional capacity and safety-related improvements consistent with projected long-term growth and program requirements outlined in the 1994 North End Transportation Plan.[35] Although Amtrak has invested more than $2.5 billion to electrify the North End from New Haven to Boston, improve infrastructure and purchase new high-speed trainsets, future growth on this corridor will depend on additional improvements to expand capacity, safety and reliability, particularly in the congested New Rochelle, New York, area where Amtrak operations interface with the Metro-North Commuter Railroad. Additional work is also required to improve or eliminate grade crossings, construct fencing and to make additional sidings, station bypasses and third track available to commuter and freight operators. Much of this work will be funded from non-Amtrak sources.

Also under the Growth scenario, branch line high-speed upgrades will include the Springfield Line between New Haven and Springfield, the Empire line from New York to Schenectady, and the Keystone line from Philadelphia to Harrisburg. The first stages of Empire and Keystone improvements are currently underway under agreements with New York and Pennsylvania respectively. In Michigan, upgrades to the Amtrak-owned right-of-way are included as part of the Midwest Regional Rail Initiative – which brings higher-speed service to several corridors, including the Chicago-Detroit segment.

In the longer range, Amtrak anticipates that major projects will be needed to remove bottlenecks and accommodate traffic growth that is likely to reach 40 percent in the latter years of the 20-year plan. To accommodate such growth, substantial investment will be required in new tunnels in New York and Baltimore.

Partner-Owned Infrastructure

The needs assessment for the Growth Service scenario includes significant corridor development, including all of the federally designated high-speed corridors, as well as several additional corridors proposed by states.

[35] *The Northeast Corridor Transportation Plan, New York City to Boston*, Report to Congress, Volume 1, U.S. Department of Transportation, Federal Railroad Administration, Office of Railroad Development, July 1994.

In addition to the Northeast Corridor segments described above, corridors included in this assessment based on currently available studies performed by Amtrak and/or its state partners include:

- California
  - Capitol
  - San Joaquin
  - San Diegan (Pacific Surfliner)
- Florida
  - Jacksonville-Orlando
  - Jacksonville-West Palm Beach-Miami/ - Pensacola
  - Orlando-Tampa
  - Orlando-Miami
  - Tampa-Sarasota
  - Sarasota-Naples-Ft Lauderdale
  - Orlando-Port Canaveral
- Gulf Coast
  - New Orleans-Baton Rouge-Houston
  - New Orleans-Mobile
  - New Orleans-Meridian-Birmingham-Atlanta
- Midwest Regional Rail Initiative
  - Chicago-St Louis
  - Chicago-Detroit
  - Chicago-Milwaukee-Minneapolis
  - Chicago-Omaha
  - St Louis-Kansas City
  - Chicago-Carbondale
  - Chicago-Cincinnati
  - Chicago-Cleveland
  - Kalamazoo-Holland/Lansing-Port Huron
  - Milwaukee-Green Bay
- Ohio
  - Cleveland-Columbus-Cincinnati
- Oklahoma
  - Oklahoma City-Dallas/Ft. Worth
  - Oklahoma City-Tulsa
- Pacific Northwest
  - Eugene-Portland
  - Portland-Seattle-Vancouver
- Southeast Corridor
  - Washington-Richmond
  - Richmond-Raleigh-Charlotte
  - Charlotte-Atlanta-Macon-Jacksonville
- Texas
  - Triangle (Dallas/Ft. Worth, Houston, San Antonio)
  - Austin-San Antonio

- Other
  - Springfield-New Haven
  - Phoenix-Tucson
  - Palm Springs-LA
  - Kansas

One of the key elements of new corridor development is the upgrading or elimination of grade crossings. America's nearly 280,000 highway-rail grade crossings represent a significant safety problem today. Thousands of people are injured and hundreds killed in roughly 4,000 grade crossing accidents every year.[36] This needs assessment does not include a comprehensive review of all grade crossing requirements across the country; such an assessment is necessary as part of broader federal and state transportation safety efforts. This assessment does include grade crossing needs directly associated with high-speed rail corridor development.

As speeds and frequencies increase on corridors, the safety risks associated with grade crossings grow, and the need to improve or eliminate those crossings increases substantially. There are a variety of approaches for addressing grade crossing safety ranging from improved signals and gates (such as the four-quadrant gate system) to bridges and flyovers. The development of passenger rail corridors provides an opportunity not only to ensure safe operation of higher-speed passenger service, but also to improve safety on the entire rail and highway network.

Growth Service Summary

The total infrastructure capital needs for Growth Service – without regard to funding source – are summarized in Figure IV-14. The potential needs, particularly in the out-years, are significant. It is important to reiterate, however, that not all of the corridors and services included in this assessment will end up being fully developed during the plan period, and those that do will require significant capital investment from states and other sources. A more detailed summary of Growth Service needs is provided in Appendix III-C.

Figure IV-14. Growth Service Infrastructure Needs
Average Annual Need (in 2000 dollars) – All Funding Sources

Infrastructure Item	FY01-05	FY06-20
Amtrak-owned	137	682
Partner-owned	1,499	2,471
Other[37]	184	166
Total	**1,820**	**3,319**

(Numbers may not add due to rounding)

[36] Statistics from Operation Lifesaver, Inc., http://www.oli.org/.
[37] Other includes items such as environmental compliance, and station-related infrastructure (tracks, platforms, etc.) projects.

STATIONS AND FACILITIES

Among the most important elements of the passenger rail system are the stations – with which all passengers come in contact – and facilities that support the maintenance of infrastructure and equipment, and ensure safe, reliable transportation. Unfortunately, these too have been subject to significant under-investment in recent decades, and thus many currently fail to meet minimal standards.

Stations

Throughout the years of railroad history, stations have been viewed as literal and figurative gateways to our cities, just as the city gate was to the ancient city. Grand railroad stations were built in many cities throughout the U.S., including in Washington D.C., New York, Philadelphia and Chicago. In recent years, as passenger rail has begun a resurgence, public and private partnerships have developed to rebuild many of these monuments, and turn them into thriving hubs of transportation and commerce. In 1996, for example, the Great American Station Foundation was established to work with communities on restoration of existing rail stations and conversion of historic structures to active station use.

In spite of these growing efforts, many stations continue to fall into disrepair and have failed to keep up with even minimal comfort and accessibility needs. Amtrak recently commenced a comprehensive study of station requirements to bring stations up to specified minimum standards. This study will assess baseline conditions, state-of-good-repair needs, and Americans with Disabilities Act (ADA) compliance needs, and will analyze service standard requirements for different levels of ridership and service.[38] While the results of this assessment are not yet available, this report provides an estimate of the capital costs needed under a set of general assumptions about station needs.

Station Standards

Amtrak currently serves or connects to over 800 locations throughout the U.S. Nearly half of these locations are served by Amtrak buses, and are not included in this assessment. Even among the rail stations, there are large differences in size, scale, environment, location, ridership and ownership.

In order to establish useful standards, Amtrak has classified its stations into five categories. The categories were developed to determine *minimum* requirements within the Amtrak network and provide a level of consistency, without mandating a generic design to be utilized in every location. While the categories have been developed to establish minimum standards, where there are opportunities for supplemental sources

[38] Amtrak is required under the ADA to upgrade all stations for which it is a responsible party as soon as practicable, but no later than July 26, 2010. Capital funds are essential for completion of the station assessment and required station improvements.

of funds, additional upgrades above these standards are possible. Station classifications are:

- *Platinum.* The five largest stations within the system – New York, Chicago, Washington, Philadelphia and Boston. As terminal points or major hubs, these select few stations represent the bulk of both ridership and revenue, with nearly 50 percent of Amtrak guests utilizing these locations. They provide all Amtrak services such as ticketing, information, baggage and express and also provide a Metropolitan Lounge. The platinum stations must meet the requirements for a minimum of 700,000 Amtrak guests and $50 million in recorded ticket revenues annually with market research warranting the need for a Metropolitan Lounge. These five platinum stations, when combined with two additional stations serving the AutoTrain, account for over 40 percent of the ridership and over half of Amtrak's revenue.
- *Gold.* Also some of the largest stations within the system, offering all services, except, in most cases, a Metropolitan Lounge. The gold stations must meet the requirements for a minimum of 400,000 Amtrak guests and $5 million in recorded ticket revenues annually. There are currently 12 stations considered to be in the gold category. The Gold stations account for an additional 18 percent of the annual ridership. Therefore, combining the gold and platinum stations, more than half of Amtrak's riders pass through these 19 locations (see Figure IV-15).

Figure IV-15. Platinum and Gold Stations[39]
FY00 Ridership and Revenue (in thousands of $)

Station Location	Ridership	Revenue
New York, NY	8,178,308	211,861
Washington DC	3,317,898	115,520
Philadelphia, PA	3,820,366	90,608
Chicago, IL	2,247,547	70,106
Baltimore, MD	922,309	28,185
Lorton, VA	233,934	27,555
Sanford, FL	233,934	27,555
Los Angeles, CA	954,445	24,778
Newark, NJ[40]	1,340,878	24,459
Boston South, MA[41]	856,803	22,358
Wilmington, DE	716,936	19,326
Seattle, WA	587,438	16,702
BWI Air-Rail Station, MD	488,149	14,506
Albany, NY	641,284	12,253
Portland, OR	426,992	10,738
Emeryville, CA	438,006	9,825
Sacramento, CA	560,646	7,387
San Diego, CA	649,752	6,347
Milwaukee, WI	417,211	4,445

[39] Also includes Auto train stations.
[40] Includes *Clocker* service.
[41] Boston is projected to surpass Baltimore in ridership and revenue with *Acela Express*.

- *Silver.* The most varied with small to mid-sized staffed stations that offer a smaller range of services comprised of ticketing and guest assistance. Many silver stations are currently "one-person" facilities, but provide waiting areas and rest rooms and vending machines. Silver stations should have 50,000 guests per year and/or $500,000 in recorded revenue. It is acceptable for stations not meeting these requirements to be in the silver category, based upon the financial participation of external partners or an Amtrak decision to provide staffing for other business or service reasons. There are over 200 silver stations that as a category account for 36 percent of the total ridership.
- *Bronze.* Small unstaffed stations that offer waiting areas and rest rooms. They may be served by a caretaker, a custodian or community stakeholders. Currently bronze stations should have 10,000 guests per year and/or $50,000 in recorded revenue. The bronze category consists of 133 stations accounting for 3 percent of the annual ridership.
- *Minimum.* Small unstaffed platforms that offer shelters. With 123 minimum locations (not including the buses discussed above), minimum stations account for 2 percent of the annual ridership nationally.

Station Needs

For purposes of this capital needs assessment, several assumptions are made regarding stations. Generic unit costs are applied to each station classification to reflect the estimated minimal average investment needed. Where specific projects are planned or underway, they are added to the generic unit costs. Again, these costs reflect total need without regard to source; the capital plan below assumes significant contribution from state and local governments and other sources.

For the Current Service scenario, the assessment assumes:

- All stations should meet the requirements as defined by the categories of the station classifications outlined above;
- Over the course of several years, most components would need to be replaced; and
- To meet a combination of legal obligations, such as ADA before 2010, as well as the brand and service initiatives, the backlog of investment needs should be eliminated before 2010.

For the Growth Service scenario, the assessment assumes:

- Eliminate shelter-only stations by replacing with a "bronze" level structure;
- Provide space for high-level (or partial high-level) platforms and overhead pedestrian bridges (or improved tunnels where existing) due to dwell time for any high-speed rail corridor station; and

- Upgrade stations to higher category if likely service/ ridership increases justify upgrade.

The resulting capital needs associated with stations are summarized in Figure IV-16 (below). Note that the spike in FY01-05 under Growth Service reflects the Penn Station/Farley project, most of which is assumed to be paid by non-Amtrak sources.

Figure IV-16. Station Needs
Average Annual Need (in 2000 dollars) – All Sources

Capital Scenario	FY01-05	FY06-20
Current Service	83	91
Growth Service	181	94
Total	**264**	**185**

(Numbers may not add due to rounding)

Facilities

In order to operate a safe, reliable passenger rail system, facilities for servicing and maintaining equipment as well as for maintaining the infrastructure right-of-way are required. Passenger rail facility needs identified here include:

Maintenance of Equipment

Amtrak's backshop operations consist of three major facilities located in Indiana (Beech Grove) and Delaware (Bear and Wilmington). These three backshop facilities perform overhaul, wreck repair, and component rework and repairs for Amtrak's entire fleet of cars and locomotives. The backshop facility at Beech Grove handles mainly overhaul, component, and wreck repair work for Superliner, Heritage, Horizon, and Viewliner type cars along with all Diesel locomotive overhaul and wreck work for both the Intercity and Western SBUs. In Delaware, the Bear backshop facility performs overhaul, component, and wreck repair work for the Northeast Corridor's Amfleet I and the Intercity's Amfleet II cars. Similarly, the Wilmington backshop facility performs overhaul, component, and wreck repair work for the Northeast Corridor's Electric Locomotive Fleet.

Within the 20-year needs assessment time period, all three backshop facilities will need to continue to improve their work processes, product quality, and infrastructure requirements not only to meet Amtrak's future overhaul schedules, but also to become competitive in order to attract additional insourcing work from other railroads. At Beech Grove, capital will be required for: modernization and infrastructure improvements for Coach Shop III and various other buildings; construction of a new paint shop; completion of Phase 2 of the Wheel Shop relocation project; and the consolidation of various component shops to improve productivity needs. At the Wilmington backshop there are plans for the consolidation of various component shops to streamline and improve operations. At the Bear backshop, capital is needed for a shop maintenance building, and to upgrade existing tracks within the facility.

As part of the high-speed rail program, Amtrak recently constructed three state-of-the-art maintenance-of-equipment facilities in Washington, DC (Ivy City), New York (Sunnyside Yard) and Boston (South Hampton). These facilities are dedicated to providing running repairs, maintenance and overhauls for the 20 new high-speed trainsets and 15 high horsepower locomotives currently being delivered for operation in FY01. Because these facilities are new, only nominal capital for normal replacement is assumed to be needed over the next 20 years. At the same time, Amtrak's Northeast Corridor operates facilities servicing conventional corridor equipment at Washington, New York and Boston, as well as locomotive servicing facilities at Philadelphia, New Haven, CT and Rensselaer, NY.

Amtrak Intercity operates equipment maintenance facilities in Chicago, Brighton Park, Hialeah (Miami), Sanford, New Orleans and Fort Worth. Chicago provides routine maintenance of locomotives and cars in both Midwest Corridor service and selected long-distance trains. Brighton Park, located outside of Chicago, provides maintenance services for the growing fleet of express boxcars and RoadRailers. Hialeah, Sanford, New Orleans and Fort Worth provide routine maintenance services for locomotives and passenger cars on long-distance routes.

Amtrak West currently has major capital construction projects in progress at three locations: Los Angeles, Oakland, and Seattle. These projects will provide new Service & Inspection Facilities at each location. The challenge for these facilities will be to meet the specific needs of the diverse types of equipment owned by state partners and operated in state-supported service in addition to Superliner equipment used on Amtrak's long distance trains. The Seattle facility will also provide running repairs and maintenance to the equipment used in the new Sounder Commuter Service in the Northwest. Capital funding is needed to complete each of the new facilities.

The volume of work at each of these facilities can be expected to increase as Amtrak implements its Network Growth Strategy services, as mail & express volume continues to grow, as corridor services are developed and as the 120-day inspection and maintenance program is adopted. Additional and expanded facilities are planned to accommodate the increased volume. Conventional facilities are expected to be upgraded in the same timeframe as fleet is replaced and upgraded. Precise locations and operating requirements will depend on specific equipment procurement decisions.

Maintenance of Way

Amtrak's Northeast Corridor operates a number of maintenance-of-way (MoW) bases and facilities, including: Washington, DC, Odenton, MD, Perryville, MD, Baltimore, Wilmington, Philadelphia, Adams, NJ, Penn Station New York, New Haven, and Providence on the mainline; Lancaster, PA on the Keystone Line; and Albany on the Empire Line. These locations function as bases from which inspection, maintenance and capital construction crews are dispatched to the job site. The larger bases typically contain yard space for the storage of heavy equipment and vehicles, and some type of

building to provide offices and locker facilities for administrative personnel and field crews.

Amtrak Intercity operates maintenance-of-way bases in Niles, Michigan and Chicago. The Niles facility is responsible for maintenance of the Amtrak-owned trackage in Michigan. The Chicago facility handles maintenance to the terminal trackage owned by Amtrak and utilized by all Amtrak trains serving Chicago.

Within the 20-year needs assessment time period, an additional MoW base in New England will be needed to maintain the recently upgraded North End infrastructure. All bases will experience increased demand as corridor, long-distance, freight and commuter services expand.

In the longer term, the siting, upgrade and modernization of maintenance-of-way bases will depend in part on the functional requirements of new technology equipment, such as Automated Track Inspection Vehicles and Track Maintenance Vehicles. By operating at relatively high-speeds over the right-of-way, this equipment is much more efficient than traditional modes of inspection and maintenance, which typically involve inspectors, maintenance and construction crews driving vehicles to an access points and walking on foot to inspect the railroad or reach a trouble site construction area. Included in 20-year fleet needs (above) is funding for the purchase of this type of equipment to make the railroad inspection and maintenance, and construction operation more efficient.

The resulting facilities needs are summarized in Figure IV-17. Again, a significant backlog of unfunded facilities needs is addressed in the FY01-05 period.

Figure IV-17. Facilities Needs[42]
Average Annual Need (in 2000 dollars) – All Funding Sources

Capital Scenario	FY01-05	FY06-20
Current Service	138	19
Growth Service	58	37
Total	**196**	**56**

(Numbers may not add due to rounding)

OTHER

While the bulk of the capital requirements for a viable passenger rail system fit into fleet, infrastructure, stations, and facilities categories, several additional capital needs require funding. Specifically, these include:

- *Debt service*. Given the lack of capital funding historically, Amtrak has been forced to finance virtually all of its fleet and some of its infrastructure and facilities. The

[42] Includes Maintenance of Equipment, Maintenance of Way, and Mail & Express facilities.

principal payments associated with this financing are paid with capital funds and the interest costs are paid with operating revenues. In addition to existing debt, Amtrak anticipates future financing under each of the investment scenarios (Current and Growth).

- *Information technology*. A critical element of Amtrak operations and its business plan is state-of-the-art information technology (IT). Lack of capital funding in the past has led to under-investment in IT. While Amtrak has recently begun to make technology investments, substantial work remains to provide for a level of technology that is competitive, and that supports customer service, business decision-making and cost reduction.
- *Program management*. Capital planning, capital accounting, network analysis, and construction/program management services.

These other capital needs are summarized in Figure IV-18 below.

Figure IV-18. Other Capital Needs
Average Annual Need (in 2000 dollars) – All Sources

Capital Need	FY01-05	FY06-20
Debt Service		
Current Service	99	153
Growth Service	4	9
Information Technology	68	66
Program Management	30	30
Total	**201**	**258**

(Numbers may not add due to rounding)

Capital Plan

Amtrak's 20-year capital plan identifies the expected share of capital needs to be paid for by Amtrak with federal capital funds and through financing. The plan is organized around the two investment scenarios described above – Current Service and Growth Service – and it is summarized over two time periods – FY01-05 average annual requirements, and FY06-20 average annual requirements. Note that the FY01 capital program and budget has already been established and is described in the Financial Plan section of this document. This section summarizes:

- Assumptions used to develop capital plan;
- Current Services scenario capital plan;
- Growth Services scenario capital plan; and
- Next steps.

ASSUMPTIONS

In order to estimate capital needs from federal rail sources, this plan makes a series of assumptions regarding contributions from other sources and potential funding constraints.

Funding Shares

States have begun to recognize that passenger rail represents an untapped opportunity to help address their growing transportation problems (see Background section above). They have even begun to fund passenger rail capital needs in the absence of matching federal commitments. This plan assumes, therefore, that states and other participants will play a larger role in future passenger rail funding, particularly if the federal government makes a significant long-term capital commitment.

Specifically, for each project and investment category (infrastructure, fleet, etc.), the plan identifies a percentage contribution assumed to be made by states and other partners. In certain cases, where the match has already been identified, the plan uses the actual proposed match; in cases where the funding sources have not been identified, the plan makes assumptions about potential funding shares. The funding percentages reflect a split between Amtrak (via federal-rail funds and private financing sources) and partners (states, commuter agencies, freight railroads, etc.).

Determination of shares was based on three main factors:

- *Asset category and ownership*. Amtrak is assumed to bear greater responsibility for assets it owns or plans to own, such as fleet, and Amtrak-owned infrastructure and

facilities; partners are expected to bear a larger responsibility for their infrastructure and for stations.

- *Presumed beneficiary*. Partners are assumed to bear greater responsibility for state-initiated corridors and projects with shared benefits to those partners (e.g., commuter agencies, freight railroads).
- *Investment scenario*. Amtrak is assumed to bear a larger share of projects required to meet Current Service commitments; partners are assumed to bear more for projects aimed at Growth Services.

The resulting capital plan represents the share of investment that Amtrak should make using federal funding and private equity/debt.

Funding Constraints

Though significant undercapitalization has occurred, Amtrak recognizes that: (1) planning for corridor development is at different stages in different regions of the country; (2) varying levels of state interest exist for local capital investment; (3) the practical needs of coordinating the operation of passenger and freight service while constructing new high-speed corridors will limit the level of investment that can be made on an annual basis; and (4) federal funding for transportation is limited. Amtrak's capital plan attempts to balance these factors with the imperative to support the current national network and the goal to improve the financial position of Amtrak by investing in prudent corridor and national network development projects.

The capital plan was therefore constructed in stages. As described in the Methodology section above, following development of the needs assessment, the capital needs were overlaid with a set of funding share assumptions determined by asset category, asset ownership, presumed beneficiary and investment scenario.

The result was then compared to historical experience, authorization levels and pending legislation. Amtrak's latest federal authorization, which covers FY98-02, averages just over $1 billion per year. In addition, legislation proposed in the last congressional session would permit Amtrak to issue tax credit bonds for corridor development in an amount equal to $1 billion per year for a ten-year period. While the needs assessment did not seek to achieve a predetermined funding level, this context above was used to compare the reasonableness of the federal rail capital needs identified.

Note that the Long-term Capital Plan covers pure capital needs only. It does not include the contribution required for mandatory excess RRTA. A more detailed discussion regarding mandatory excess RRTA can be found in the Financial Plan section above.

CURRENT SERVICE PLAN

As mentioned above, the Current Services scenario represents the minimal investment needed to deliver on Amtrak's current mandates – to provide existing and committed

national passenger rail services while achieving and sustaining operational self-sufficiency (see Investment Scenarios discussion on page 3).

Based on the needs identified in the assessment, and the assumptions explained above, the Current Service capital plan requires $973 million per year between FY01-05, and $750 million per year in FY06-20 from federal funds. The higher levels in the early years of the program represent reinvestment in deferred capital needs necessary to bring infrastructure and fleet up to state of good repair. These levels represent the minimal capital commitment required from federal rail funds – assuming sufficient matching contributions from states, commuters and freights – in order to sustain current service commitments.

Figure IV-19 summarizes the capital needs by major category.

Figure IV-19. Current Service Capital Plan
Average Annual Federal Need (in millions of 2000 dollars)

Capital Need	FY01-05	FY06-20
Debt Service	99	153
Fleet	534	273
Infrastructure	380	233
Stations/Facilities	94	55
Information Technology	50	50
Program Management	10	10
Financed Items	(195)	(25)
Average Annual Total	**973**	**750**

(Numbers may not add due to rounding)

Other sources of funding would contribute 33 percent of the assessed need in the first five years and 22 percent of the assessed need in the last fifteen years, primarily for stations and infrastructure.

The major elements of each of the Current Services federal capital needs include:

- *Debt Service*. Existing debt service commitments plus new debt. Note that the principal payments increase over time as the cumulative effect of previous debt builds. A portion of the passenger fleet procurement is assumed to be financed. Resulting annual debt service payments are reflected in subsequent years of the capital plan. All debt service is the full responsibility of Amtrak.
- *Fleet*. Includes progressive and heavy overhauls on 100 percent of fleet; enhancements to Amfleet and Superliners to extend life and upgrade standards (in first five years); replacement of fleet as useful life ends; additional locomotives to handle expansion of long-distance and mail & express fleet (in first five years); additional cars for Leisure brand fleet (in first five years); and additional mail & express equipment, procurement of which is financed by M&E operating revenues. Amtrak is responsible for almost the entire fleet cost (98 percent).

- *Infrastructure*. Ensures operational reliability and life safety on all Amtrak-owned infrastructure – including elimination of the backlog of deferred capital investment; completion of the Northeast Corridor North End project; Phase I of the Network Growth Strategy; and fulfillment of current state commitments to begin investment on several high-speed corridors. Amtrak is responsible for about 46 percent of needs in the first five years and 61 percent of needs in the out years.
- *Stations/Facilities*. Includes bringing stations up to state-of-good-repair standards and meeting Americans with Disabilities Act (ADA) requirements; bringing maintenance of way and maintenance of equipment facilities up to standards; and mail & express facilities, which are financed out of M&E operating revenues.
- *Information Technology*. Includes identified information technology investments in hardware, software, infrastructure and communications. Investments include items such as the upgrade of reservation, distribution and financial systems and the construction of new customer, travel agent, mail & express Internet sites.
- *Program Management.* Estimated at $10 million per year under Current Services – all of which is Amtrak's responsibility.
- *Financed Items.* A portion of the passenger fleet procurement is assumed to be financed; resulting annual debt service payments are reflected in subsequent years of the capital plan.

Achieving this plan would ensure that the current passenger service commitments are met. With predictable federal dollars available to fund the identified need, and sufficient contributions from Amtrak's partners to complete the capital investments, Amtrak can fulfill its mandates to deliver quality national services and meet operational self-sufficiency.

Figure IV-20 provides a more detailed summary of the total Current Service needs and Amtrak's share by program item. Appendix III-B provides further detail on the Current Service plan.

Figure IV-20. Current Service Capital Plan
Average Annual Need (in 2000 dollars) – All Sources and Amtrak (Federal Rail) Funds

(Avg. annual in millions of 2000 $)	FY01-05 (avg. annual)		FY06-20 (avg. annual)	
Program	Total Need	Amtrak Funds	Total Need	Amtrak Funds
Current Debt Service	99	99	153	153
Fleet				
Amfleet Rebuilds (Capstone)	15	15	-	-
Superliner Rebuilds	83	83	2	2
Capital Overhaul Program	204	204	215	215
Corridor Fleet: Replacement	35	24	14	14
Long-Distance: Replacement	33	33	1	1
Long-Distance Fleet: Loco Growth	36	36	-	-
Leisure Brand Completion	40	40	4	4
Mail & Express Fleet	62	62	36	36
NEC				
Was-NY: Operational Reliability	229	149	195	124
All Other Segments: Op. Reliability	161	65	127	64
NY Tunnels/Life Safety	57	28	23	11
Environmental Compliance/Other	28	26	29	29
Bos-NY: committed trip times	51	51	-	-
Station Infrastructure	6	3	-	-
Intercity				
Operational Reliability	28	26	7	6
Network Growth Strategy I	49	22	-	-
West				
California: 5-Year Plan Infrastructure	137	-	-	-
Pacific Northwest	6	3	-	-
Stations/Facilities				
Passenger Stations/Facilities	172	50	110	55
Mail & Express Facilities	34	34	-	-
State Agreements				
New York	36	23	-	-
Pennsylvania	27	16	-	-
North Carolina	30	15	-	-
Maine	8	-	-	-
Information Technology	68	50	66	50
Program Management	10	10	10	10
Financed Items		(194)		(25)
Total	***1,741***	***973***	***993***	***750***

(Numbers may not add due to rounding)

GROWTH SERVICE PLAN

The Growth Services scenario represents the capital investment needed to expand the nation's passenger rail system and bring high-speed corridors to many parts of the country. Since it would be premature for Amtrak to speculate on the specific corridors that will be advanced by states, this plan assumes only that a portion of the needs identified will be funded through federal rail funds. Actual projects funded under this scenario will go through a selection process involving the market-based network analysis methodology to ensure investments create a service that makes a positive contribution to Amtrak's bottom line**.** As more fully described in the Financial Plan section, projects that provide a positive contribution would be prioritized based on selection criteria such as return on investment, state and private investment leveraged, and trip time and reliability improvements.

This capital plan recommends funding for a down payment on potential corridor needs identified in the needs assessment above. For planning purposes, Amtrak has estimated a federal share of corridor development costs based on the funding constraints described above; the actual allocation of these funds to corridors will depend on the pace and extent of progress on each corridor.

Based on the needs identified in the assessment, and the assumptions explained above, the Growth Service capital plan recommends $584 million per year between FY01-05, and $770 million per year in FY06-20. The net costs associated with the Growth needs increase over time as additional funding capacity is freed up from declining Current Service needs.

Much of the Growth Services investment would support early corridor development – benefiting existing intercity passenger rail service and planned Network Growth service as well. For example, initial investment in a South/ Central corridor in Texas, Oklahoma and Arkansas would likely involve track, grade crossings, and other infrastructure investment that would improve service on the Texas Eagle (Chicago-Little Rock-Dallas/Ft. Worth-San Antonio), Heartland Flyer (Oklahoma City-Fort Worth), and restructured Sunset Limited (Jacksonville-New Orleans-Houston-Dallas/Ft. Worth-El Paso-Tucson-LA). Even modest initial corridor investment could have a significant near-term impact on the quality and reliability of these types of services, while benefiting Amtrak's bottom-line in the short run.

Figure IV-21 summarizes the proposed federal down payment by major capital category for Growth Service needs. Appendix III-C provides further detail on the Growth Service needs.

Figure IV-21. Growth Service Capital Plan
Average Annual Federal Investment (in millions of 2000 dollars)

Capital Need	FY01-05	FY06-20
Fleet	215	287
Infrastructure	495	420
Stations/Facilities	42	43
Program Management	20	20
Financed Items	(192)	(10)
Debt Service	4	9
Average Annual Total	**584**	**770**

(Numbers may not add due to rounding)

The major elements of each of these capital needs include:

- *Fleet.* New trainsets to serve the potential new corridor development over the next 20 years, as well as equipment procurement and capital overhauls associated with the next phase of the Network Growth Strategy.
- *Infrastructure.* Investments in track, sidings, signals, grade crossings, etc. to allow higher speed, more frequent service on the existing service network or for corridors under development or active planning. Includes planning, engineering/ environmental, design/ procurement, construction and testing costs as identified in Figure IV-22 below.
- *Stations/facilities.* Station upgrades and facilities investment required to service new high-speed rail corridors.
- *Program management.* $20 million per year to plan, account and manage corridor development.
- *Financed Items*. A portion of the passenger fleet procurement and a portion of the infrastructure investment that results in travel-time savings are assumed to be financed. Resulting annual debt service payments are reflected in subsequent years of the capital plan.

Figure IV-22. Growth Service Infrastructure Costs by
Development Phase: Average Annual Federal Investment (in millions of 2000 dollars)

Development Phase	FY01-05	FY06-20
Planning	14	12
Engineering/Environmental	31	27
Design/Procurement	57	50
Construction	355	310
Testing	17	14
Other	21	7
Average Annual Total	**495**	**420**

(Numbers may not add due to rounding)

The Growth Service plan identifies the federal role in helping advance the U.S. passenger rail system. Delivering on this plan would allow the country to make

substantial progress towards addressing travel problems in congested corridors by bringing high-speed rail service – like America's first high-speed train, the *Acela Express* – to other parts of the country. This federal investment is simply a down payment on that progress. States and other sources would need to make significant additional funding commitments – particularly for stations and infrastructure improvements – to fully develop these Growth Services.

CAPITAL PLAN SUMMARY

The combined Current and Growth Services capital programs require about $1.5 billion annually in federal investment – only 2.5 percent of the current federal transportation budget.[43] This modest federal investment, combined with state and private funds, would allow the U.S. to modernize its existing passenger rail system, and advance high-speed corridor development throughout the country. The total average annual capital plan (excluding financed items) is summarized in Figure IV-23.

Figure IV-23. Combined Current and Growth Service Capital Plan
Average Annual Federal Need (in millions of 2000 dollars)

Capital Need	FY01-05	FY06-20
Fleet	517	526
Infrastructure	755	654
Stations/Facilities	102	98
IT/Program Management	80	80
Debt Service	103	162
Average Annual Total	**1,557**	**1,520**

(Excludes financed items; numbers may not add due to rounding)

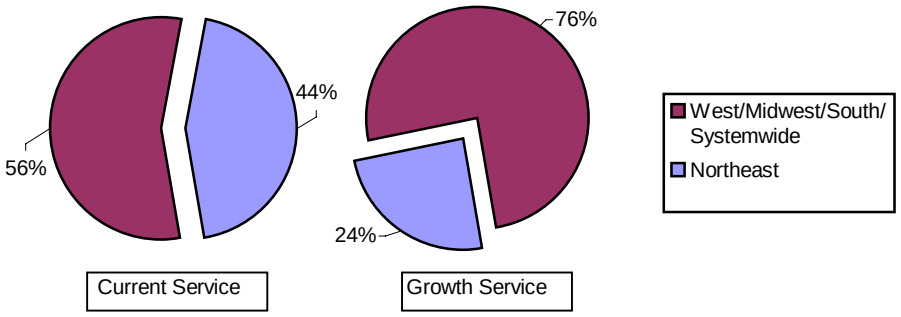
The benefits of this plan to the nation's passenger rail system would be enormous. For example, the plan would reduce trip times on the Northeast Corridor mainline, while improving reliability and on-time performance – improvements that would provide major relief to the northeast's strained highway and aviation systems. The plan would extend this benefit to additional corridors, such as those currently being planned in California, the Midwest Chicago hub, and the Southeast, and would weave those corridors together through a vibrant national network. Under the proposed plan, the nation's intercity passenger fleet would be modernized with higher quality, reliable equipment, such as new Superliner III and *Acela Express*-type trains – providing a level of passenger comfort and satisfaction unlike that experienced in the nation's airways or on the roads.

While a significant portion of Amtrak-owned assets are in the 13 Northeast Corridor states, and modernizing and maintaining these assets is a core responsibility of the company, the capital plan includes investment in infrastructure across the country and

[43] Based on current annual federal transportation spending of $58 billion in FY01.

in fleet that could be deployed anywhere there is demand. In fact, as Figure IV-24 shows, more than half (56 percent) of the federal Current Services investment is slated for non-Northeast Corridor assets – in spite of Amtrak's responsibility to make up for previous under-funding of those assets. As the figure indicates, more than three-quarters (76 percent) of the 20-year federal investment in Growth Services is outside the northeast.[44]

Figure IV-24. Breakdown of Federal Capital Investment Needs for Current and Growth Services (2001-2020): Northeast Corridor vs. Other Regions (percent of total)



NEXT STEPS

The development of this long-term capital plan represents one step in the process of reinvesting in our nation's passenger rail system. In order to realize the potential of this plan, Amtrak and its partners must move forward on several critical fronts.

First and most importantly, the federal government must provide a stable, long-term source of capital funds sufficient to support the long-term capital plan. A permanent capital revenue stream will allow Amtrak to develop plans more effectively and permit Amtrak to start making investments with longer-term, sustainable benefits. It will also help leverage additional capital contributions from states and other rail partners.

Second, Amtrak must continue to build partnerships with states, freight railroads and other entities. These partners are critical not only to meeting the remaining capital requirements, but also to the successful long-term operation of passenger rail in the U.S.

[44] Northeast includes all investment required in Amtrak's Northeast Corridor (NEC) Strategic Business Unit (infrastructure and fleet); West/Midwest/South/Systemwide includes all other infrastructure, fleet, stations/facilities, and other (debt, IT, program management) investment needs.

Third, Amtrak must fulfill its strategic business plan. With sufficient capital, and effective partnerships, Amtrak is well positioned to meet its mandates. The company's business strategies, which emphasize market responsiveness, quality service, cost-effective operations and partnership building – will allow Amtrak to deliver national service while meeting operational self-sufficiency.

Fourth, Amtrak must continue to work with its partners to refine its approach and update its long-term capital needs on an annual basis. Comprehensive assessments of stations, grade crossings, and other needs must be developed in the context of integrated transportation improvement efforts.

None of these steps will be easy. But as congestion on the nation's other transportation modes mounts, the need to reinvest in our nation's rail system becomes even more urgent. Amtrak looks forward to working with its public and private partners to seize this opportunity and deliver world class passenger rail service in the 21st century.