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INTERCITY
PASSENGER RAIL

Assessing the Benefits
of Increased Federal
Funding for Amtrak and
High-Speed Passenger
Rail Systems

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Abstract Amtrak made minimal progress in 2000 toward achieving operational self-sufficiency. Although Amtrak is required by law to achieve operational self-sufficiency by the end of 2002, the outlook for it doing so is not bright. In 2000, it reduced its budget gap the gap that Amtrak says it has to close to become operationally self-sufficient by only \$5 million. It must achieve an additional \$281 million in savings by the end of next year. If it does not, Amtrak must submit a plan to the Congress for its liquidation. In addition to the uncertainty over Amtraks future, this is an opportune time to begin examining the future of intercity passenger rail. Federal costs are expected to be large. For example, Amtrak proposed last month that the federal government provide it with \$30 billion over 20 years to support an expanded Amtrak system and to invest as seed money in helping develop high-speed rail corridors. The ultimate cost of developing these high-speed rail corridors is unknown, but certainly in the many tens of billions of dollars. Much of the funding could be expected to come from the federal government.		
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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify today on issues surrounding the federal commitment to the National Railroad Passenger Corporation (Amtrak) and intercity passenger rail, particularly high-speed rail. This statement is based on our recent reports on Amtrak financial and high-speed rail issues,¹ others' reports, and Amtrak's recently-released finance and capital plans.

In summary:

Amtrak made minimal progress in 2000 toward achieving operational self-sufficiency. Although Amtrak is required by law to achieve operational self-sufficiency by the end of 2002, the outlook for it doing so is not bright. In 2000, it reduced its "budget gap"—the gap that Amtrak says it has to close to become operationally self-sufficient—by only \$5 million. It must achieve an additional \$281 million in savings by the end of next year. If it does not, Amtrak must submit a plan to the Congress for its liquidation.

In addition to the uncertainty over Amtrak's future, this is an opportune time to begin examining the future of intercity passenger rail. Federal costs are expected to be large. For example, Amtrak proposed last month that the federal government provide it with \$30 billion over 20 years to support an expanded Amtrak system and to invest as seed money in helping develop high-speed rail corridors. The ultimate cost of developing these high-speed rail corridors is unknown, but certainly in the many tens of billions of dollars. Much of the funding could be expected to come from the federal government.

¹*Performance and Accountability: Challenges Facing the Department of Transportation* (GAO-01-443T, Feb. 14, 2001), *Intercity Passenger Rail: Decisions on the Future of Amtrak and Intercity Passenger Rail Are Approaching* (GAO/T-RCED-00-277, Sept. 26, 2000), *Intercity Passenger Rail: Amtrak Will Continue to Have Difficulty Controlling Its Costs and Meeting Capital Needs* (GAO/RCED-00-138, May 31, 2000), *Surface Infrastructure: High-Speed Rail Projects in the United States* (GAO/RCED-99-44, Jan. 14, 1999), Letter to the Chairman, Committee on the Budget, House of Representatives (Sept. 15, 1998), and *Amtrak: Issues for Reauthorization* (GAO/T-RCED-95-132, Mar. 13, 1995).

A number of benefits to the public and the national transportation system have been attributed to intercity passenger rail service—such as reducing congestion and increasing travel choice. These benefits need to be realistically examined. For example, intercity passenger rail service can work well in certain situations, such as service between two densely-populated cities that are a couple hundred miles apart, but is not a realistic travel alternative for most longer-distance travelers.

In deciding the future of intercity passenger rail, it is important for the Congress to have realistic assessments of the benefits to the public from this mode of transportation. These assessments would help establish the role of intercity passenger rail service in the nation's transportation system, if any, and guide the Congress in its decisions over potentially large funding of such systems.

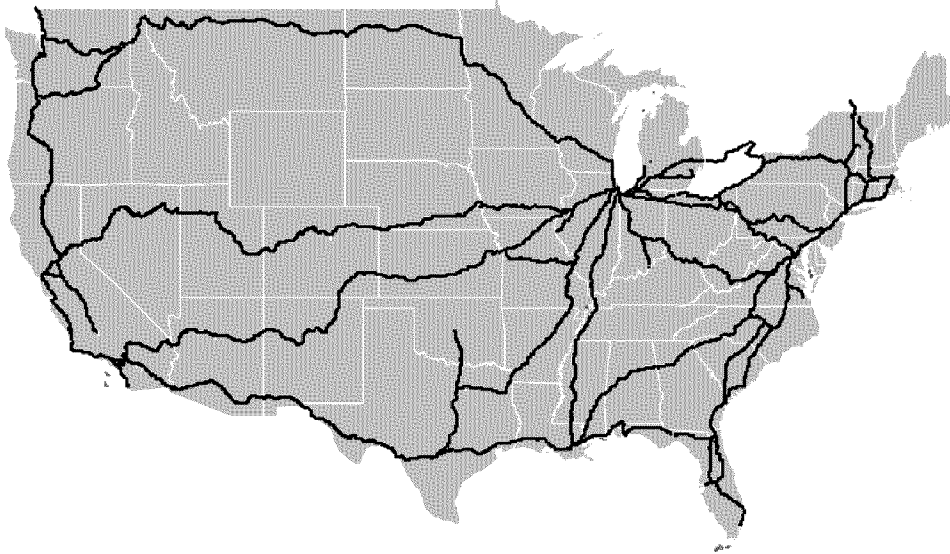
Background

The Rail Passenger Service Act of 1970 created Amtrak to provide intercity passenger rail service. Like other major national intercity passenger rail systems in the world, Amtrak has received substantial government support—nearly \$24 billion for capital and operating needs through fiscal year 2001. About 22 million passengers in 45 states ride Amtrak's trains each year (about 60,000 passengers per day, on average).

Amtrak operates a 22,000-mile passenger rail system, primarily over tracks owned by freight railroads. (See fig. 1.) Amtrak owns 650 miles of track, primarily in the Northeast Corridor, which runs between Boston and Washington, D.C. About 70 percent of Amtrak's service is provided by conventional trains; the other 30

percent of the service is provided by high-speed trains (up to 150 miles per hour) operating in the Northeast Corridor.²

Figure 1: Amtrak's Route Network



Source: Amtrak.

With the growth in the nation's highways and aviation system in the previous decades, intercity rail passenger service has lost its competitive edge. Highways have enabled cars to be competitive with conventional passenger trains (those operating up to 90 miles an hour), while airplanes can carry passengers over longer distances at higher speeds than can trains.

High-speed rail systems (with speeds over 90 miles per hour) are intended to make trains more competitive with these other modes.³ The Federal Railroad

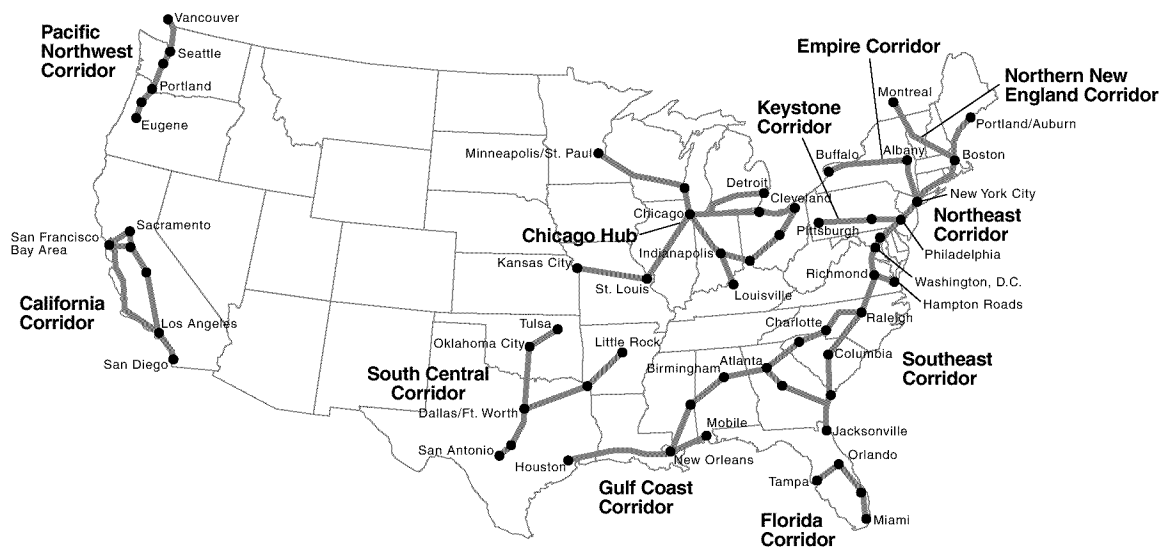
²As measured by train-miles—the movement of a train for a distance of 1 mile. The percentage of train miles cited as high-speed is somewhat overstated because it includes some trains that operate at 90 miles per hour or more on the Northeast Corridor but at slower speeds off the corridor.

³High-speed rail systems are generally of three types: (1) incremental improvements to existing tracks, signaling systems, and grade crossings and purchasing modern trains that permit speeds between 90 and 150 mph on existing rights of way; (2) a completely new infrastructure to support very-high-speed operations of 200 mph or more; or (3) magnetic levitation systems that permit

Administration defines high-speed rail transportation as intercity passenger service that is time-competitive with airplanes or automobiles on a door-to-door basis for trips ranging from about 100 to 500 miles. The agency chose a market-based definition, rather than a speed-based definition because it recognizes that opportunities for successful high-speed rail projects differ markedly among different pairs of cities. High-speed trains can operate on tracks owned by freight railroads that have been upgraded to accommodate higher speeds or on dedicated rights of way. The greater the passenger train speed, the more likely it is to require a dedicated right of way for both safety and operating reasons.

According to the Federal Railroad Administration, 34 states are participating in the development of high-speed rail corridors and these states have invested more than \$1 billion for improvements of local rail lines for this purpose. Ten corridors have been designated either through legislation or by the Department of Transportation. (See fig. 2.)

Figure 2: Designated High-speed Rail Corridors and Amtrak's Northeast Corridor



Source: Federal Railroad Administration.

speeds of around 300 mph. Typically, the cost to implement these options grows as the sophistication of the technology and speed increase.

Designated corridors may be eligible for federal funds through several Department of Transportation programs. According to the Department, the designation also serves as a catalyst for sustained state, local, and public interest in corridor development. The 10 designated corridors are generally in various early stages of planning. Amtrak's Northeast Corridor is in operation and supports high-speed service up to 150 miles per hour.

The Congress Is Facing Critical Passenger Rail Decisions

The Congress is facing critical decisions about the future of Amtrak and of intercity passenger rail service. These decisions stem from Amtrak's limited progress toward achieving operational self-sufficiency and the large amount of funds that will be needed to maintain and expand the nation's intercity passenger rail network.

Achieving operational self-sufficiency is very important to Amtrak because the Amtrak Reform and Accountability Act of 1997 prohibits Amtrak from using federal funds for operating expenses, except for an amount equal to excess Railroad Retirement Tax Act payments, after 2002.⁴ If the Amtrak Reform Council (an independent council established by the act) finds that Amtrak will not achieve operational self-sufficiency, the act requires that the railroad submit to the Congress a liquidation plan and the council submit to the Congress a plan for a restructured national intercity passenger rail system.

Amtrak has made limited progress in reducing its budget gap in order to reach operational self-sufficiency.⁵ In fiscal year 2000, Amtrak closed its budget gap by only \$5 million, achieving very little of its planned \$114 million reduction.

⁴Amtrak participates in the railroad retirement system, under which each participating railroad pays a portion of the total retirement and benefit costs for employees of the industry. According to Amtrak, excess railroad retirement tax act payments are expected to be \$196 million in 2003.

⁵Amtrak defines its budget gap as the corporation's net loss (total revenues less total expenses) less capital-related expenses, including the depreciation of its physical plant, other noncash expenses, and expenses from its program to progressively overhaul railcars (i.e., to conduct limited overhauls of cars each year rather than comprehensive overhauls every several years).

Moreover, during fiscal years 1995 through 2000, Amtrak reduced its budget gap by only \$83 million. By the end of 2002, less than 2 years from now, Amtrak will need to achieve about \$281 million in additional savings to reach operational self-sufficiency. Although Amtrak has undertaken a number of actions to reach and sustain operational self-sufficiency, we are not optimistic that it will be able to do so.

The level of federal financial assistance that will be required to maintain and expand the nation's intercity passenger rail network far exceeds the amounts that have been provided in recent years. Last month, Amtrak announced that it is seeking \$30 billion in federal capital support from 2001 through 2020 (an average of \$1.5 billion each year with \$955 million in fiscal year 2002) to upgrade Amtrak operations and to invest as seed money in high-speed rail corridors. The proposed amount is nearly double the \$16.8 billion in federal support that Amtrak has received over the past 20 years (1982-01). It is also nearly three times the annual amount that the Congress provided Amtrak in recent years (e.g., \$571 million for 2000 and \$521 million for 2001 that could be used for both capital and operating expenses).

Some of this federal support is addressed in the High-Speed Rail Investment Act of 2001 (S. 250), which was introduced last month. This bill would allow Amtrak to issue \$12 billion in tax credit bonds⁶ (\$1.2 billion each year over 10 years), primarily for capital improvement projects on designated high-speed rail corridors and on Amtrak's Northeast Corridor.

The development of the designated high-speed rail corridors will require substantial amounts of federal assistance. Overall cost figures are unknown because these initiatives are in various stages of planning. However, these corridors and the Northeast Corridor could require tens of billions in federal

⁶Bondholders would receive tax credits rather than interest payments.

assistance. The size of these capital investments is illustrated by several examples:

Last year, we reported that Amtrak had identified capital needs of at least \$7 billion (in 1999 dollars) through 2015 on its Northeast Corridor alone and at least an additional \$2 billion is needed for the rest of its system.⁷

The Midwest Regional Rail Initiative, comprised of nine midwestern states, anticipates capital costs of \$4 billion (in 1998 dollars) over 10 years to develop a 3,000-mile network (including one of the designated corridors). The rail group expects that the federal government will fund \$3.2 billion (80 percent) of these costs.

In California, a 703-mile high-speed rail system linking Sacramento and San Francisco in the north to Los Angeles and San Diego in the south could cost \$25 billion.

Estimates of the costs and financial viability of high-speed rail systems can be subject to much uncertainty, especially when they are in the early stages of planning. For example, in 1999 we found that ridership estimates for the proposed Florida Overland Express project may have been overstated by as much as 30 percent.⁸ It was unclear whether the project could achieve its financial objectives of paying all operating costs, repaying bondholders, and repaying federal loans if ridership was lower than estimated by the project.

Besides financial issues, other difficult issues will need to be resolved to make high-speed rail service a reality. These issues include (1) the capacity of privately owned freight rail systems to handle additional and higher-speed passenger rail

⁷See GAO/RCED-00-138.

⁸The project proposed to establish high-speed rail service between Miami, Orlando, and Tampa. See GAO/RCED-99-44.

traffic along with their own traffic, (2) the access to freight railroad tracks that these railroads could expect to grant to operators of high-speed rail passenger systems other than Amtrak, and (3) the ability to close thousands of grade crossings (the intersection of railroad tracks and roads) to allow high-speed trains to operate safely.

In part because Amtrak's future is uncertain and because Amtrak and other rail systems are counting on large increases in federal assistance for intercity passenger rail, the Congress needs to decide whether the magnitude of the benefits to the public and the nation's transportation system from intercity passenger rail justify such investments when compared to alternative modes of transportation.

The Public Benefits of Intercity Passenger Rail Need to Be Examined

A number of public benefits—such as reducing congestion, improved air quality, increased travel capacity, and greater travel choice—have been ascribed to Amtrak and intercity passenger rail. Yet these benefits have not been thoroughly addressed.

Reducing Congestion and Improving Air Quality

A public benefit cited for intercity passenger rail is its potential to help relieve traffic congestion in air travel and on our nation's highways. At a national level, this potential is not likely to be realized because intercity passenger rail currently represents about 3 tenths of 1 percent of intercity travel across all modes.⁹ Even if rail travel quadrupled, it would account for only about 1 percent of the nation's travelers.

⁹Congressional Research Service, *Amtrak: Overview and Options* (Jan. 25, 2001). The Congressional Research Service cites this statistic from *Transportation in America*, 1999 (Eno Foundation).

Expanding intercity passenger rail service might have some impact on congestion if it were targeted to areas where roads are at or near their design capacity. As more traffic uses these roads, travel time increases sharply and the delays are felt by all travelers. However, expectations for the extent to which intercity passenger rail can reduce congestion must be realistic. For example, in 1995, we reported that each passenger train along the busy Los Angeles-San Diego corridor kept about 129 cars off the highway (about 2,240 cars each day)—a small number relative to the total volume.¹⁰

High-speed rail could not be expected to ease congestion at airports when longer-distance travel is involved because rail travel is not time-competitive with air travel.¹¹ As a case in point, the scheduled travel time for the approximate 700-mile distance between Washington, D.C., and Chicago is about 2 hours for air and about 18 hours for Amtrak. Consistent with this, the Federal Railroad Administration is supporting the development of high-speed rail corridors that are competitive in travel time with air and highway travel.

Another advantage cited for intercity passenger rail is that it is energy-efficient, thus improving air quality. For example, the Congressional Research Service reported that Amtrak is much more energy-efficient than air travel. However, Amtrak is much less energy-efficient than intercity bus transportation and about equal in energy efficiency as automobiles for trips longer than 75 miles.¹² Our 1995 analysis of the Los Angeles-San Diego corridor found the increase in emissions from added automobiles, intercity buses, and aircraft would be very small if existing diesel-powered trains were discontinued.

¹⁰See GAO/T-RCED-95-132.

¹¹For a comparison of travel times for Amtrak, bus and air travel for several city pairs, see our September 15, 1998, letter cited in footnote 1.

¹²Congressional Research Service, *Amtrak and Energy Conservation* (Jan., 19, 1999).

Increasing Transportation Capacity

Another cited advantage is that an investment in intercity passenger rail can do more to increase transportation capacity (carry more travelers) than a similar expenditure in another mode. For example, Amtrak recently suggested that a dollar invested in intercity rail can increase capacity 5 to 10 times more than a dollar invested in new highways, depending on location.¹³ A 1999 study of the costs of providing high-speed rail, highway, and air service reached different conclusions.¹⁴ This study found that the investment costs (per passenger-kilometer traveled) of providing highway and high-speed rail service between San Francisco and Los Angeles were about the same, but both were substantially higher than the cost of providing air service for the same route.

When considering adding transportation capacity, decisionmakers will need to understand the extent to which travelers are using existing capacity and will use the added capacity in various modes. If the added capacity is underutilized (say, for example, because it is not cost competitive or offers inconvenient travel), then the foreseen benefit will not be realized.

Offering Travel Choice

Another benefit ascribed to the expansion of intercity passenger rail is the increase in travel choice—as an alternative to air, automobile, or bus travel. For example, the Federal Railroad Administration estimates that the development of the designated high-speed rail corridors could ultimately give about 150 million Americans (representing slightly over half of the nation’s current population) access to one of these rail networks. Yet travel choice entails more than physical access. To offer travel choice, rail must be competitive with other travel modes:

¹³Strategic Business Plan, February 2001.

¹⁴Included in these costs were the social costs of accidents, air pollution, noise, and congestion. See David Levinson, Adib Kanafani, and David Gillen, Air, High-speed Rail, or Highway: A Cost Comparison in the California Corridor; *Transportation Quarterly*, Vol. 53, No. 1 (Winter 1999).

It must take travelers where they want to go, be available at convenient times of the day, be competitive in terms of price and travel time, and meet travelers' expectations for safety, reliability, and comfort. For example, travelers may view a rail system more favorably if it offers multiple trips—rather than one or two round trips—each day and if it arrives and departs at convenient hours.

Public Benefits and Financial Goals Affect the Scope of Intercity Passenger Rail Systems

Once determined, the public benefits of high-speed passenger rail service, as well as of Amtrak's conventional rail service, must be weighed against the costs of federal financial assistance needed to support such service. For example, the Amtrak Reform and Accountability Act of 1997 directed Amtrak to operate a national system that ties together existing and emerging regional rail passenger service and fosters intermodal passenger service. As we stated earlier, we believe that it is unlikely that Amtrak will be able to operate a national system without federal operating support after 2002. Thus, the goal of a national system much like Amtrak's current system and the ability to operate without federal operating subsidies may be incompatible. In fact, Amtrak was created because other railroads were unable to operate passenger service profitably.

High-speed rail may work best for relatively short trips (of several hundred miles or less) where it connects densely populated cities with substantial travel between the cities. Amtrak's Metroliner service, which travels up to 125 miles per hour between New York City and Washington, D.C., is an example. The Metroliner is one of only two Amtrak trains that made an operating profit in 2000.¹⁵

¹⁵According to Amtrak, the Metroliner made a profit of \$65 million based on revenues of \$222 million. The other Amtrak route to make a profit was the Heartland Flyer. It made a profit of \$700,000 based on revenues of \$5.3 million. Of this revenue amount, \$3.9 million were payments made by states and \$1.4 million came from train operations.

We believe that the time is ripe for the Congress to begin considering the future of intercity passenger rail and to bring all affected parties into the discussion. This should start with a realistic assessment of the public benefits and costs of investments in intercity passenger rail and other modes. Such analyses would precede reaching agreement on the goals that will be pursued, the extent to which Amtrak and other intercity passenger rail systems can contribute to meeting those goals, and commitments of large amounts of federal funding.

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Mr. Chairman, this concludes our testimony. We would be pleased to answer any questions you or Members of the Committee may have.

Contact and Acknowledgments

For information about this testimony, please contact Phyllis F. Scheinberg at (202) 512-3650. Individuals making key contributions to this testimony were Angela Clowers, Helen Desaulniers, Richard Jorgenson, and James Ratzenberger.

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