AMTRAK'S LEGISLATIVE MANDATE: A TIME FOR RETHINKING

I. INTRODUCTION

The National Passenger Corporation, or Amtrak, was created by Congress to reverse the unfortunate decline of the passenger railroad industry. Initial hopes for a profitable enterprise were unrealized, as Amtrak drowned in seas of red ink. Subsequent efforts have focused upon shifting its route structure to increase patronage and reduce subsidy. The most significant of these efforts is the Northeast Corridor Project, which has attracted a great increase in the number of passengers. It has, however, failed to reduce deficits. This project has demonstrated that Amtrak can succeed in being an important mode of transportation if enough money is invested in improving service in appropriate markets. If Amtrak is to have a future, it is in the short-distance, high-speed "corridor" system, which is presently being developed in the Northeast. The costs, however, are very high; therefore, serious study must be given to a determination of which regions of the country will be best served by the institution of high-speed rail service. This note will discuss the reasons for the failures of Amtrak, the benefits to the public of a passenger rail system, and the possibility of extending the corridor concept to other areas of the country.

II. THE DECLINE OF THE PASSENGER TRAIN AND THE EMERGENCE OF AMTRAK

A. Losses and Subsidies

The American passenger train, once a dominant part of the nation's transportation scheme, had witnessed a significant decline by the 1960's. Since the end of World War II, the trains lost more and more passengers each year to airplanes and automobiles. The private railroad companies, which transported both passengers and freight, were experiencing significant losses from their passenger services. The resulting scheme involved a "cross subsidy," under which freight earnings subsidized the operation of passenger trains.[1] The railroads responded by discontinuing passenger trains. The discontinuation was overseen by state railroad commissions, which did not establish uniform criteria.

B. Role of the Interstate Commerce Commission

The national scope of the problem prompted Congress to respond

1. G. HILTON, AMTRAK: THE NATIONAL RAILROAD PASSENGER CORPORATION 5 (1980) [hereinafter cited as HILTON].

in 1958[2] by giving the Interstate Commerce Commission (ICC) power to regulate all discontinuation. The ICC undoubtedly forestalled the disappearance of passenger trains. Despite the continued unprofitability of passenger rail service, the ICC committed the nation to the retention of at least a skeletal system. It preserved at least one train on every long distance route,[3] forcing the private railroads to absorb the losses. It advanced legislation promoting stricter discontinuation requirements.

The age of the privately owned passenger train had clearly arrived by the end of the 1960's. The railroads, particularly in the Northeast, were no longer able to absorb the great losses which were produced by their passenger services. Congress was again forced to respond.

C. Reasons for the Decline

Two hypotheses had been repeatedly advanced for the decline. The first, explained by ICC Examiner Hosmer in a 1958 report,[4] identified the public's preference for automobile and airline transportation as the major cause. Increased costs were attributed to the heavy concentration of labor required to run the trains. The report reasoned that reductions in fares or improvements in service would be unlikely to reverse the trend in light of shifting public preference. In forecasting the imminent demise of the passenger train, the report concluded that "in a decade or so this time-honored vehicle may take its place in the transportation museum along with the stagecoach, the side-wheeler, and the steam locomotive."[5]

The contrary thesis, known as the "discouragement hypothesis," was widely accepted and most vigorously advocated by Peter Lyon.[6] According to Lyon, passengers did not merely exercise a preference; they were "pushed from the trains" by railroad executives, who preferred to transport more profitable and less troublesome freight. Lyon pointed to the railroads' failure to advertise or employ any of the creative marketing techniques pioneered by the airlines.[7] He accused the railroads of downgrading the quality of service to encourage passengers to seek other forms of transportation.[8] He declared that the "passenger-service deficit, so-called, is and always has been a statistical mirage; a fraud; a phony."[9] He proposed the nationalization of the passenger railroad industry, contending that such a corporation—operated in the public interest—would be profitable.

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2. *Id.* at 6.
3. *Id.* at 13.
4. H. Hosmer, Railroad Passenger Train Deficit (ICC Docket No. 31954, 1958), *cited in* HILTON, *supra* note 1, at 9.
5. *Id.*
6. P. LYON, TO HELL IN A DAY COACH (1968) [hereinafter cited as LYON].
7. *Id.* at 244-45.
8. *Id.* at 223-76.
9. *Id.* at 246.

D. The Railroad Passenger Act of 1970

1. *Congressional Considerations*. As the system in operation at the end of the 1960's served every region of the country, its preservation had important political appeal.[10] Congressional sentiment was divided between providing direct subsidies to the private railroads to continue service and creating a federal corporation to operate the trains. The widely held discouragement hypothesis was most consistent with the latter option. The preference of John Volpe, Secretary of Transportation, for such a corporation persuaded Congress to enact the Rail Passenger Service Act of 1970.[11]

2. *Corporate Structure*. The Act created the National Railroad Passenger Corporation, or Amtrak. It was incorporated in the District of Columbia as a for-profit corporation.[12] The private railroads were to become the common stockholders; preferred stock would be issued to investors.[13] The railroads were issued stock after paying to the corporation a sum of capital which was based on the amount of loss sustained by operating that service.[14] The amount could be paid in cash, equipment, or obligations to provide future service. Alternatively, the railroads could, instead of receiving stock, decide not to join the system and write off their required contributions as tax losses. Only four railroads chose to become stockholders.[15] A railroad that paid nothing under either alternative lost its right to discontinue passenger train service. Only a few railroads exercised this option. Most contributed by providing equipment, much of which was heavily depreciated. Congress provided a small grant to enable the corporation to begin operations.

3. *Route Plan*. The Secretary of Transportation submitted a plan for the new corporation's route structure. The plan, under which about half of the then-operating trains would be discontinued, proposed a series of radials extending outward from Chicago to various distant cities. The plan also recommended routes from New York to Buffalo, Boston, Washington, New Orleans, and Miami. One additional route provided for service between Washington and St. Louis.

Two criticisms of the plan emerged.[16] The first noted that the most heavily traveled rail networks were in densely populated regions, such as the Northeast, where cities were only short distances apart. Air

10. HILTON, *supra* note 1, at 18.
11. Pub. L. No. 91-518, 84 Stat. 1327 (1970).
12. Pub. L. No. 91-518, § 304, 84 Stat. 1331 (1970) (codified at 45 U.S.C. § 544 (1976) (amended 1974)).
13. *Id.*
14. Pub. L. No. 91-518, § 401, 84 Stat. 1334 (1970) (codified at 45 U.S.C. § 567 (1976) (amended 1973)).
15. The Burlington Northern, Grand Trunk Western, Milwaukee Road, and Penn Central became shareholders.
16. HILTON, *supra* note 1, at 18.

travel was not an alternative for many of these routes because the distance to the airport was often only a bit shorter than the distance to the destination city. For example, a plane trip is not a viable option for a traveler who wishes to journey from downtown Manhattan to Philadelphia since it takes almost as much time to get to John F. Kennedy airport as to travel to Philadelphia. Trains, on the other hand, serve downtown areas, which remain the business and financial centers of the Northeastern cities. The same competitive advantage could be cultivated in other heavily populated areas, such as along the Chicago-Detroit route and in Southern California. The proponents of this view reasoned that Amtrak would be more successful if it exploited the short-distance markets and left the long-distance routes to the airlines. The second criticism of the Secretary's plan was that it was not national enough. For example, it did not call for any north-south service along the West Coast.

The advocates of the second criticism were ultimately successful. Several long distance routes were added to the final route structure.[17] The success of this position is easily explained. Amtrak, as a creature of legislation, is very sensitive to political pressures. To survive politically, it must serve as many geographic areas of the country as possible. Instead of concentrating efforts on high-speed service in densely populated areas, Congress drew the routes to cover as much ground as possible. Amtrak was simply spread too thinly over areas in which there was too little demand for service.[18] The remaining demand was frustrated by the fact that most routes offered service by only one train per day, leaving intermediate points with service only during the middle of the night. As a result, service facilities and passenger stations were located in many remote places, where they would be lightly used and very expensive.

The political aspect was reflected in many routes. For example, Senators from Indiana had always been interested in transportation policy; Indianapolis was initially served by three Amtrak routes.[19] West Virginia was the home of several important political figures.[20] The initial plan called for only one train through West Virginia, but a second was soon added. In January 1979 the Carter Administration proposed the elimination of all the trains—by then, three—which travelled through West Virgina. Congress kept all three.[21] By the summer of 1979, it became clear that some Amtrak routes would have to be cut. Congress decided to cut all long-distance trains with fewer than 150

17. The added routes included: Seattle-San Diego, Los Angeles-New Orleans, Norfolk-Cincinnati, and St. Louis-Kansas City.

18. HILTON, *supra* note 1, at 20.

19. *Id.* at 19.

20. These include: Harley O. Staggers, Jennings Randolph, and Robert C. Byrd. *See* discussion in *At Last, Amtrak Has a Chance to Highball*, BUSINESS WEEK, Oct. 8, 1979, at 88 [hereinafter cited as *At Last, Amtrak Has a Chance*].

21. *Id.*

passenger-miles per train mile.[22] But to ensure the retention of service in key Congressional districts, it added sections to the act which provided that one train in each quadrant be kept for "regional balance."[23] The inevitable political element in these decisions was ultimately quite wasteful.

Amtrak began operations by contracting with the private railroads to provide service. Amtrak was not really a railroad at its inception because it did not own track or operate its trains directly. Under the usual arrangement, the private railroad would operate the trains over its tracks. Amtrak owned the trains and provided passenger service and station pesonnel, while the railroad provided the engine and train crew.

III. OPERATING EXPERIENCE

A. Financial Experience

Amtrak's brief history has been very controversial. The corporation has, at least in part, managed to arrest the decline of the passenger railroad industry. This result has been accomplished, however, by the infusion of vast sums of tax dollars.

Table 1[24] shows that the number of travelers has steadily increased over the years. However, Amtrak has only captured three-tenths of one percent of all intercity travel in the United States.[25] Present fleet size

22. A passenger-mile figure is a measurement of the load factor of a passenger train. It is obtained by multiplying the number of passengers travelling on a train by the number of miles they travel.

23. *At Last, Amtrak Has a Chance*, *supra* note 20, at 90.

24.

TABLE 1

AMTRAK OUTPUT, 1972-1978

Year	*Ridership* (millions)	*Passenger-Miles* (millions)	*Route-Miles* (thousands)	*Train-Miles* (millions)
1972	16.6	3,038	23	26
1973	16.9	3,806	22	27
1974	18.8	4,258	24	29
1975	17.4	3,939	26	30
1976	18.6	4,221	26	31
1977	19.2	4,333	26	33
1978	18.9	4,169	26	32
Percentage increase	13.8	37.2	13.0	18.8

SOURCES: National Railroad Passenger Corporation, *Background on Amtrak* (1977), p. 27; Amtrak Annual Report, 1977, p. 24; Amtrak Performance Measure Reports, 1978-1979.

HILTON, *supra* note 1, at 33.

25. *Authorize Appropriations for Amtrak and DOT's Final Route Recommendation: Hearings Before the Subcomm. on Surface Transportation of the Comm. on Commerce, Science, and Transportation*, 96th Cong., 1st Sess. 29 (1979) (statement of Hon. Brock Adams, Secretary, D.O.T.) [hereinafter cited as *1979 Amtrak Hearings*].

will not permit substantial improvements in this figure.[26]

The reversal of the decline in patronage has been a result of heavy public subsidy. Amtrak has, to date, never recovered even half of its revenues from passenger fares. Amtrak divides its routes into three categories: long-haul, short-haul and Northeast corridor. Although no route breaks even,[27] the least profitable service is between New York and Washington. The greatest losses are incurred on the short-haul routes.

B. Explanation of Financial Situation

Why has Amtrak been such a dismal financial nightmare, recovering less than half of its revenues from the travelling public? A General Accounting Office (GAO) report[28] points to two reasons—the high operating costs and the inability to raise fares without losing passengers and revenue.

The report demonstrates the extent of Amtrak's inability to recover its costs. For example, in February 1977 a train on the Milwaukee-Chicago route had to carry 532 passengers to meet expenses with its then current fares and costs. The capacity of the train was only 271, and the average ridership was only 76. Even though the operating costs amounted to $39 per passenger, the average revenue was only $5.55 per passenger.

A large portion, approximately 65%, of Amtrak's costs are labor-based. The report used train number 355 from Chicago to Detroit as an example. The six-hour train ride required the employment of seven people. The engine crew consisted of an engineer and a fireman, who both worked under a controversial union contract specifying that a trip of 100 miles be considered a full-day's work. The resulting overtime pay swelled the average yearly salary of an engineer to $30,500 and a fireman to $27,500. Because the conductor and brakeman worked under contracts defining 150 miles as a full-day's work, each received two day's pay for the journey. In 1977 an average brakeman and conductor earned $27,500 and $26,500, respectively. In addition, three on-board service crew members were employed for the journey. By way of contrast, an intercity bus only requires the services of one person, the

26. The Department of Transportation's data show that, from 1980 through 1982, filling every seat in every train would still result in Amtrak handling less than one percent of all intercity travel. *Id.* at 34.

27. In fiscal year 1977, the average operating cost per passenger-mile throughout the system was 22.3¢. Only 8.3¢ were recovered from the passenger, so the remaining 14.0¢ came from general tax revenues. The most unprofitable routes were the short-haul routes (up to 500 miles), which lost 16.0¢ per passenger-mile. The long-haul routes (over 500 miles) lost 14.3¢, and the northeast corridor (Washington-Boston) lost 12.0¢ per passenger-mile. The least unprofitable service was the New York-Washington Metroliner, which lost 6.2¢ per passenger-mile. These heavy subsidies make passenger train travel the most heavily subsidized in the country. HILTON, *supra* note 1, at 44-45.

28. U.S. COMPTROLLER GENERAL, SHOULD AMTRAK DEVELOP HIGH-SPEED CORRIDOR SERVICE OUTSIDE THE NORTHEAST? (CED 78-67) (1978).

driver. An automobile is driven by the owner without compensation. In addition to labor costs, Amtrak also incurred expenses for maintenance, fuel, sales and marketing, station services, and the privilege of using the privately owned tracks.

However, Amtrak is unable to raise its fares and maintain its ridership. Table 2[29] summarizes the options available to the traveling public on the Chicago-Detroit route. The full cost of an automobile reflects the cost of depreciation, insurance, taxes, repair, fuel, and miscellaneous items. However, most people own a car for general use, so some of these items—particularly depreciation and taxes—are paid regardless of whether one uses his car for this trip. Most people only take into account the additional price of fuel and oil in determining the cost of a trip. Amtrak's fare makes the train ride an attractive option in some markets. For a family of four, however, the private automobile is the clear choice.

The GAO report noted that Amtrak had discovered a significant relationship between frequency of service and patronage.[30] In 1975 and 1977 Amtrak increased train frequency on its Los Angeles-San Diego and Chicago-Detroit routes. The number of passengers grew significantly, but the total number of unfilled seats also rose. The operating deficit expanded.

The report also noted that Amtrak had failed, in many of its routes, to provide reliable on-time service.[31] Although late arrivals were usually caused by poor track and, therefore, were beyond Amtrak's control, its reputation for habitual lateness hurt its ability to attract customers. The report concluded[32] that Amtrak had not attracted more passengers because of its inability to provide frequent, on-time service; its slow speed; and, most importantly, the attachment Americans have for their cars. Amtrak would probably never succeed in recovering its costs, even by providing better service, unless petroleum supplies were seriously disrupted.

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TABLE 2

		Fares			Auto	
	Amtrak fare needed to break even	Amtrak	bus	air*	full cost	marginal cost
Chicago-Milwaukee	$38.75	6.25	5.50	25.00	14.95	4.25
Chicago-Detroit	29.80	20.30	21.40**	40.00	47.43	13.95
Los Angeles-San Diego	14.45	9.00	8.35	11.45	21.76	6.40

* lowest existing day coach fare
** round trip ticket reduces one-way cost by 5%

Id. at 12.

30. *Id.*

31. *Id.*

32. *Id.*

IV. LEGISLATIVE RESPONSES

Despite the miserable state of its balance sheet, Amtrak has had considerable success on Capitol Hill. Congress has seemed willing to cover Amtrak's losses with greater and greater subsidies. In addition, Congress has enacted legislation paving the way for an even greater role in the nation's transportation scheme.

A. Restructuring and Reorganization

The first major change in Amtrak's structure resulted in its metamorphosis from an operator of passenger trains to a genuine railroad. During the reorganization of the bankrupt northeastern railroads into Conrail under the Regional Rail Reorganization Act of 1973[33] and the Railroad Revitalization and Regulatory Reform Act of 1976,[34] Amtrak acquired the bulk of the Northeast Corridor track.[35] Acquisition of this track swelled its costs by requiring the direct employment of dispatchers, towermen, and train control personnel, whose work had previously been charged to Amtrak under its contracts with the railroads.

The mounting costs, which translated into ever-increasing deficits, prompted Congress to enact a series of bills to cover Amtrak's losses. The National Passenger Railroad Corporation Assistance Act of 1972[36] enlarged Amtrak's subsidy. The Amtrak Improvement Act of 1973[37] further expanded the subsidy and included provisions to make Amtrak a permanent venture.[38]

The Amtrak Improvement Act of 1978[39] contained favorable and unfavorable elements. While increasing the subsidy, it directed the Secretary of Transportation to develop a new route plan. Secretary Adams' plan favored the discontinuance of service on some 12,000 miles, or forty-three percent of the route. A heated controversy in Congress resulted in a compromise; Amtrak reduced its route mileage about thirteen percent.[40]

A recent legislative effort, still in effect, is the Amtrak Reorganization Act of 1979,[41] which sets goals for performance and profitability. A fifty percent improvement in on-time performance within three years

33. Pub. L. No. 94-5, 89 Stat. 7 (1973).
34. Pub. L. No. 94-210, 90 Stat. 31 (1976).
35. From the Penn Central, Amtrak acquired its 456 mile line from Washington to Boston, plus branches of 62 miles from New Haven, Conn., to Springfield, Mass., and 103 miles from Philadelphia to Harrisburg—a total of 621 miles of route ranging from two to six tracks. The corporation also acquired track from Michigan City, Indiana, to Kalamazoo, Michigan. HILTON, *supra* note 1, at 27.
36. Pub. L. No. 92-316, 86 Stat. 227 (1972).
37. Pub. L. No. 93-146, 87 Stat. 548 (1973).
38. The Act restricted the voting rights of the railroads on the Board of Directors and added representatives of consumer groups to the Board. It increased the control of Congress over Amtrak while reducing the control of the executive branch, particularly the Office of Management and Budget and the Department of Transportation.
39. Pub. L. No. 95-421, 92 Stat. 923 (1978).
40. HILTON, *supra* note 1, at 30.
41. Pub. L. No. 96-73, 93 Stat. 537 (1979).

is demanded. The implementation of a system-wide average speed of fifty-five miles per hour (mph) is required within those three years. Furthermore, the Act directs Amtrak to recover an even greater percentage of its losses in future years.[42]

B. High-Speed Corridors

The Passenger Railroad Rebuilding Act of 1980[43] addresses the concept of high-speed rail corridors. It appropriates money for the completion of the Northeast Corridor Project, the high-speed rail project between Boston and Washington. In addition, the Act appropriates money for a study of the feasibility of short-distance, high-speed rail transportation in thirteen different regions of the country.[44] The Secretary of Transportation is directed to rank these markets according to potential for attracting riders, reducing energy consumption, and providing cost-effective rail transportation service. The Act is significant because it demonstrates the awareness, of at least some members of Congress, that the real potential for passenger trains lies in high-speed, short-distance service. As Mr. Madigan stated on the floor of Congress,

> We do not believe, in sponsoring this section of the bill, that the future of rail passenger service lies in long-distance trains. We think the future of rail passenger service in the United States lies in short-distance, high-density routes that people are using and are likely to use in the future.[45]

This new emphasis in the direction of Amtrak has undoubtedly resulted from the relative successes of train service offered in the Northeast.

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42. The Act instructs Amtrak to recover 44% of its operating expenses by the end of fiscal 1982 and 50% by 1985. It sets limits of avoidable loss to be met by short and long-haul trains. Trains not meeting the criteria are to be discontinued.

43. Pub. L. No. 96-254, 94 Stat. 399 (1980) (codified at 45 U.S.C.A. §§ 651-658 (West Supp. 1980)).

44. These potential markets are the following routes:
    (1) Cincinnati-Chicago
    (2) Cleveland-Chicago
    (3) Detroit-Chicago
    (4) Los Angeles-San Diego
    (5) Los Angeles-Las Vegas
    (6) Miami-Jacksonville
    (7) New York-Buffalo
    (8) St. Louis-Chicago
    (9) San Jose-Sacramento
    (10) Seattle-Portland
    (11) Dallas/Ft. Worth-San Antonio-Houston
    (12) Minneapolis/St. Paul-Chicago
    (13) Washington-Richmond

45. CONG. REC. H2,358 (daily ed. March 31, 1980) (remarks of Rep. Madigan).

V. THE NORTHEAST CORRIDOR

A. Early Efforts

The first successful congressional plan for the revival of the passenger railroad industry was proposed in the early 1960's by Senator Pell from Rhode Island. His original scheme[46] envisioned an eight state public authority that would own and operate a high-speed railroad service within the densely populated region between Boston and Washington. The system was to be financed by long-term, tax-exempt bonds guaranteed by the federal government. His proposals, though not accepted initially, were widely debated. The Johnson Administration, in a report to Congress,[47] proposed the enactment of legislation appropriating funds to study the feasibility of high-speed rail service in heavily travelled regions of the country. President Johnson's plan called both for research into materials, aerodynamics, vehicle power and control, guideways and for an analysis of travel preferences and potential markets for high-speed ground transportation. His bill, the High-Speed Ground Transportation Act,[48] appropriated ninety-nine million dollars for these studies. It gave the Secretary of Commerce, and later the Secretary of Transportation, the authority to conduct demonstration projects in conjunction with the private railroads. Work began on two demonstration projects, one between Washington and New York and the other between New York and Boston. Together, these projects became known as the Northeast Corridor Project. Initial enthusiastic remarks by the President suggested that improved service could shorten the travel time between Washington and Boston to less than four hours.[49]

The Department of Transportation entered into a contract with the Penn Central Railroad, which owned and operated the trains and track between New York and Washington, enabling that company to acquire a fleet of electrified, self-propelled railroad cars capable of sustained speeds of up to 150 mph. The contract provided for improvements to the railbed, rails, bridges, and tunnels. The service became known as the Penn Central Metroliner.

The project on the New York-Boston route had to be more limited in scope because of the deplorable condition of both the tracks and the finances of the New Haven Railroad, the operating carrier.[50] Electrically powered equipment could not be used because much of this route was not electrified. A contract was made with United Aircraft Corporation to build and test several light train sets powered by aircraft tur-

46. LYON, *supra* note 6, at 256.
47. *See* [1968] U.S. CODE CONG. & AD. NEWS 2732.
48. 49 U.S.C. § 1631 (1976).
49. LYON, *supra* note 6, at 257. Railroad timetables from 1965 show that the trip was scheduled to take eight hours and 40 minutes. *Id.*
50. *Id.* at 269.

bine engines.[51] An advanced suspension system was designed to negotiate the numerous grade crossings and bridges, many of which were fifty to seventy-five years old.

The high speeds envisioned by President Johnson were never attained. The state of the tracks and roadbeds in both segments of the Corridor prevented either route from realizing its potential. The Metroliner could make the New York-Washington trip in three hours with stops.[52] The running time for the turbotrains between Boston and New York was three hours and forty-four minutes, with intermediate stops. Subsequent experience revealed that even these schedules could not be kept reliably, so the times were increased further.

B. Emergence of the Current Project

In September 1971, after the creation of Amtrak, the Secretary of Transportation issued a report entitled "Recommendations for Northeast Corridor Transportation."[53] The report's recommendations for the 1970's included implementing improved high-speed rail service with nonstop running times of about two hours between New York and Washington and two and three quarter hours between New York and Boston. Total estimated cost, including vehicles, was 460 million dollars.

A 1973 report by the Department of Transportation[54] increased the estimated cost to 700 million dollars. A series of congressional acts, which reorganized the bankrupt northeast railroads, directed the Department to conduct further studies of the cost of implementing different speed options. A 1975 report[55] discussed six speed options and their potential costs. Congress studied the different plans and opted, in the Amtrak Improvement Act of 1978,[56] for one of the more ambitious proposals. The Act appropriated 1.75 billion dollars for the project and called for service, within five years, operating on schedules of at most two hours and forty minutes between New York and Washington and at most three hours and forty minutes between Boston and New York. The electrically powered Metroliner equipment was chosen to serve the entire system. This choice necessitated the extension of electrification north from New Haven, Connecticut, where it had previously ended, to Boston. Modification of existing electrification was to be undertaken to promote greater efficiency. Further improvements of roadbeds, tracks, bridges, signalling, grade crossings, fencing, and tunnels would enable

51. *Id.*
52. Nonstop service, with a running time of two and one-half hours, was provided in 1969, but it was discontinued after six months.
53. U.S. COMPTROLLER GENERAL, PROBLEMS IN THE NORTHEAST CORRIDOR RAILWAY IMPROVEMENT PROJECT (CED 79-38) 5 (1979) [hereinafter cited as PROBLEMS IN THE NORTHEAST CORRIDOR].
54. *Id.*
55. *Id.*
56. Pub. L. No. 95-421, 92 Stat. 923 (1978).

the faster speeds to be attained. Plans included improvements of passenger stations as well.

As might have been expected, even this sum of money was inadequate to cover the costs of the project. Engineering difficulties arose at every turn. In March 1979, a report by the Comptroller General[57] concluded that the project would not be completed within the allotted time at the initial investment level. The report noted[58] that Amtrak had already abandoned the prospect of some of the originally planned work. Even the scaled-down goals would require funding of 2.4 billion dollars. Completing all the originally scheduled work would require 2.6 billion dollars.

Congress reacted positively to the report in its most recent legislation, the Passenger Railroad Rebuilding Act of 1980 (1980 Act).[59] This Act appropriated an additional 750 million dollars to the Northeast Corridor project, bringing the total investment to 2.5 billion dollars.[60] Senator Pell remarked on the floor that "this legislation will provide the final push that is necessary to complete the project in the right way and allow it to achieve the goals set for it in 1976."[61] Given the tendency of such construction projects to run far ahead of their anticipated costs, this enthusiasm appears premature. However, even if the time goals are not met, the improvements should bring about a significantly improved rail service in the Northeast Corridor. The Act provides for the termination of the project in five years and the gradual decrease and eventual elimination of the public subsidy.[62]

VI. EMERGING CORRIDORS

Perhaps an even more significant aspect of the 1980 Act is the section which directs the Secretary of Transportation to identify other markets which are ripe for development of high-speed corridors.[63] In complying with the 1980 Act, the Federal Railroad Administration (FRA) prepared a study which ranked not only the thirteen named markets but four others which were suggested by a congressional committee.[64]

57. PROBLEMS IN THE NORTHEAST CORRIDOR, *supra* note 53.
58. *Id.*
59. Pub. L. No. 96-254, 94 Stat. 399 (1980) (codified at 45 U.S.C.A. §§ 651-658 (West Supp. 1980)).
60. This amount falls slightly short of the $216 billion that the Comptroller General found was needed to fulfill all the original goals, but it does reflect Congress' continued commitment to the project.
61. 126 CONG. REC. S5,807 (daily ed. May 22, 1980) (remarks of Sen. Pell).
62. Amtrak is instructed to recover, in the Northeast Corridor, 55% of its operating costs in 1981, 75% in 1982 through 1986, and 100% thereafter.
63. Pub. L. No. 96-254, §§ 1001-1003, 94 Stat. 399 (1980) (codified at 45 U.S.C.A. §§ 651-653 (West Supp. 1980)).
64. These extra routes are:
    (1) Atlanta-Nashville
    (2) Atlanta-Savannah
    (3) Cleveland-Columbus

The FRA report defines a "corridor" as

> a route with large cities at each end of and/or along the route, where a rail service level of at least three trains per day in each direction would be capable of attracting substantial numbers of passengers. Normally, such a route would contain at least one metropolitan area of at least two million population and, more desirably, several such areas spaced at distances of less than 200 miles.[65]

The FRA ranked these corridors on the basis of the following factors: potential ridership, operating costs and revenues, preliminary information on the capital expenditures required, economic and demographic growth projections, evidence of state committment to rail passenger services, fuel efficiency, and adequacy of other modes of transportation in the area served. Potential improvements in patronage were forecast using a model which relied on a variety of different assumptions, including various train frequencies, different costs of gasoline, and top speeds of 79 mph or 110 mph. The route forecasting model is based upon historical changes in demand observed, for example, when the price or availability of gasoline changes or the frequency of service increases.[66] The following corridors emerged from the study as being the most promising: 1. Los Angeles-San Diego; 2. Philadelphia-Atlantic City; 3. New York-Buffalo; 4. Los Angeles-Las Vegas.

The Los Angeles-San Diego corridor, the most promising of all, provides an interesting example of how the goals will be attained. Over the 128-mile route is an area with a population of 89,417 per mile, the highest density of any corridor studied. Upgrading the track and signalling to accommodate a top speed of 79 mph would cost 18.7 million dollars in 1980 dollars. The additional trains would cost another 27 million dollars in 1980 dollars. Each dollar expended would, according to the forecasting model, result in 10.93 more passenger-miles. Assuming gasoline costs $1.40 a gallon (in 1980 dollars) in 1985, the resulting improvement in patronage would be 41 percent over present use. Even greater patronage improvements should be attained if top speeds of 110 mph can be reached or gasoline climbs to $2.50 per gallon by 1985.

The fuel savings generated by the investment are very expensive. Assuming a gasoline price of $1.40 per gallon and an average speed of 79 mph, the project would require the expenditure of $7 for each gallon of fuel saved. Other corridors would require even greater investment to effect the same fuel savings. The FRA report concludes that "[by] any

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(4) Philadelphia-Atlantic City.

65. FEDERAL RAILROAD ADMINISTRATION, U.S. DEP'T OF TRANSPORTATION, RAIL PASSENGER CORRIDORS, EVALUATION METHOD AND RANKING 3 (July 1980) [hereinafter cited as RAIL PASSENGER CORRIDORS, JULY EVALUATION].

66. The model is based upon historical changes in demand and forecasts of future increases. Amtrak believes that increasing cost of fuel greatly affects demand for rail transportation, "as former automobile travellers choose public transportation and find that the train service is competitive with the automobile." FEDERAL RAILROAD ADMINISTRATION, U.S. DEP'T OF TRANSPORTATION, RAIL PASSENGER CORRIDORS, EVALUATION METHOD AND RANKING 20 (Feb. 1980) [hereinafter cited as RAIL PASSENGER CORRIDORS, FEBRUARY EVALUATION].

measure the implementation of rail service in these corridors would be very expensive and *not* very cost effective based on fuel conservation."[67] Other rationales for the investment must be advanced.

VII. SUBSIDY

A. Subsidy in General

Amtrak's subsidy is very controversial, and many critics have advocated the dismantling of much of the system. However, Amtrak's subsidies must be considered against the background of subsidies to other forms of transportation. Subsidy is a significant factor in our nation's transportation system, almost all parts of which receive some government revenue. For example, the federal government has spent billions of dollars developing the interstate highway system. Much of this money has been collected through "user charges" in the form of fuel and vehicle taxes, which are dispersed to the states through the highway trust fund. Yet much of the money comes from general revenues. Table 3,[68] compiled from Federal Highway Administration statistics, shows that in 1975 the Federal government disbursed about 2 billion dollars more for highways than it received in user charges. The figure for state and local governments was almost 7.5 billion dollars. By 1979 the total subsidy grew to 14.7 billion dollars. The National Transportation Policy Study Commission predicts that the total subsidy will grow to 31 billion dollars by 1985 and 54 billion dollars by 2000, assuming only moderate growth. The nation's highways are, and will probably continue to be, the recipients of large subsidies. Many other forms of transportation, particularly urban mass transit and air travel, also receive significant subsidies.

67. RAIL PASSENGER CORRIDORS, JULY EVALUATION, *supra* note 65, at 35 (emphasis in original).

68. TABLE 3

	1975	1979	1985*	2000*
Federal Disbursement	−7,741	−10,545	−13,814	−19,519
Federal User Charge Revenues	+5,699	+7,054	+5,636	+5,116
Net (subsidy)	−2,042	−3,491	−8,178	−14,403
State and Local Disbursement	−20,412	−26,906	−36,436	51,461
State and Local User Revenue	+12,925	+15,725	+12,764	+11,877
Net (subsidy)	−7,487	−11,181	−23,672	−39,877
Total disbursements	−28,153	−37,451	−50,250	−70,980
Total User Charge Revenues	+18,624	+22,719	+18,400	+16,700
Net (subsidy)	−9,529	−14,672	−31,850	−54,280

* projected

FEDERAL HIGHWAY ADMINISTRATION, U.S. DEP'T OF TRANSPORTATION, *Statistics* 39 (1979); NATIONAL TRANSPORTATION POLICY STUDY COMM'N, NATIONAL TRANSPORTATION POLICIES THROUGH THE YEAR 2000, FINAL REPORT 223-24 (1979).

It could be argued that the government has allied itself with the travel preferences of only a segment of the population. By subsidizing an extensive highway system, the government has encouraged both passengers and shippers of freight to abandon the rails for the highways. Not only have federal, state, and local governments cultivated a public travel preference, they gave the trucking industry a comparatively free ride by carefully maintaining the highways while leaving the maintenance of the rails to the private railroads. As a result, the rails fell into disrepair, causing an even greater exodus of freight and passenger traffic.

This argument has been made by transportation authorities, many of whom claim that the nation's transportation policy has unduly favored highway transportation to the detriment of rail transportation. The result has been the diversion of passenger and all but the heaviest freight onto the highways. Yet, by itself, any unfairness in this policy does not sufficiently justify the rebuilding of the railroads. An effective transportation system, such as the one presently existing in the United States, need not be revamped unless there are compelling reasons for doing so. As one author notes,[69] it has been convincingly demonstrated that the development of the railroads was not an indispensable part of the nation's early industrial growth. The United States could have developed as it did by investing in canals instead. But no one suggests that a nationwide system of canals be built in the interest of fairness.[70]

B. Energy as Justification

A persuasive rationale must be devised to justify the continued subsidy of and further capital investment in the Amtrak system. The most frequently cited rationale is probably the most controversial—energy efficiency. Trains are an energy efficient mode of transportation, but considerable disagreement exists as to their efficiency vis-a-vis other modes of transportation. Perhaps the most exhaustive study of the efficiency of passenger trains was performed for the Department of Transportation in 1977 by a research team under R. K. Mittal.[71] The researchers tested the energy intensity of several types of passenger trains on the Buffalo-New York and Washington-New York routes.[72] Energy intensity was measured in British Thermal Units (BTU's) per seat-mile and BTU's per passenger-mile.[73]

69. F. MULVEY, AMTRAK: AN EXPERIMENT IN RAIL SERVICE 123 (1978) (prepared for National Transportation Policy Study Comm'n, Rep. No. NTPSC/SR-78/02).
70. *Id.*
71. R. MITTAL, ENERGY INTENSITY OF INTERCITY PASSENGER RAIL (1977) (prepared for U.S. Dep't of Transportation, Rep. No. DOT/RSPD/DPB/50-78-7) [hereinafter cited as MITTAL].
72. These trains included diesel, gas turbine, and electric locomotives pulling various types and numbers of cars. Self-propelled metroliner trains, which have no locomotives, were also tested.
73. A seat-mile figure does not correlate operating efficiency with actual observed load factors. It is a calculation of efficiency based on the number of seats on a train which can be filled. A

The researchers observed considerable variation in energy intensity between different types of equipment, routes, track conditions, and load factors. Some trains, for example the Canadian-built LRC (light rail comfortable) and the metroliners, were very efficient. Others, particularly the gas turbine trains, proved to be inefficient. The researchers averaged the results and compared them with energy intensity figures of automobiles, buses, and airplanes. The results are found in Table 4.[74] The actual load value the researchers used to calculate the energy-intensity of automobile travel is surrounded by some controversy. The authors assumed an average of 2.4 passengers per car, but they noted that experts disagree about the accuracy of this figure.[75]

The results show that a passenger train is not remarkably fuel-efficient. Although at full load it is more efficient than a fully loaded automobile and far more efficient than a plane, a train is far less efficient than a bus. Amtrak trains generally travel at low load levels. At these experienced load levels they are no more efficient than automobile travel, and they are sometimes even less efficient.

The Mittal report did note[76] that train performance might have been influenced by the poor quality of the track. On the New York-Buffalo route a train averages fifty-six accelerations and eighty decelerations at an average allowable speed of 57.82 mph. Both the high number of accelerations and decelerations and the low speed result

passenger-mile figure represents a calculation of efficiency based on observed loads. *See* note 18 *supra*.

74.

TABLE 4

Mode	B.T.U./S.M.	Actual Load Factor*
Auto		
Compact(1)	1100	1900(3)
Average(2)	1600	2650
Bus	500	1100(4)
Air		
Wide Body	3000	5500(8)
Current Fleet	3600	6500(8)
Train		
Cross Country	1000	3500(5)
Metroliner	1000(7)	2000(6)

(1) mpg = 26.0
(2) mpg = 18.0
(3) Occupancy Rate = 2.4
(4) 45% Load Factor assumed
(5) Best estimate based upon the survey of current literature
(6) 50% Load Factor assumed
(7) Best estimate based upon TPC runs and survey of current literature
(8) Estimated under the current operating conditions

* Calculated on a nation-wide basis.

MITTAL, *supra* note 71, at 10-4.

75. *Id.* at 9-19.

76. *Id.* at 6-14.

from the poor track conditions, contributing considerably to higher energy intensity values. Trains produce significantly lower energy intensity figures at cruising mode.[77] The potentially great efficiency at cruising mode results from the structure of tracks and train wheels. A train is a very heavy vehicle, but as it rolls along the curve of its steel wheel touches very little of the flat surface of the steel rail. Less contact results in less resistance and less friction than is generated by rubber wheels on asphalt or concrete roads.[78] Automobiles benefit from well-maintained road surfaces, so they can presently rival or surpass trains in efficiency. Although increased maintenance of track will produce better train efficiency, improved automobile design will also produce a more efficient automobile. Therefore, the potential fuel benefits resulting from a switch from automobiles to trains are, at best, ambiguous.

Different researchers have reached different conclusions about the energy intensity of each of these modes. The results of several of these studies are summarized in Table 5.[79] Passenger trains fared well in most of these studies. Most found train travel to be significantly more efficient than automobile travel. In several, trains were found to rival or even surpass intercity busses in efficiency. The Mittal report attributed the wide variation in results to various factors. These include the use of different equipment, assumptions, and sources of data.[80]

The results of these studies point to a general conclusion. Passenger train travel is an energy-efficient form of transportation. It is, however, not a tremendous energy saver. It is clearly more efficient than airplane travel, and it is probably more efficient than at least some automobile travel.

One important point, which is not addressed directly by these studies, is choice of fuel. Intercity trains, unlike other forms of transportation, can use electricity as fuel. Airplanes cannot, of course, be converted to electricity, and present technology has not developed an electric car which can travel intercity distances. The conversion of the nation's railroads from diesel to electric power could be one significant precaution against a petroleum-short future. A petroleum-free future might render electric passenger and freight trains important resources. The difficulty is that only a small portion, about one percent, of the nation's route-miles are electrified.[81] Other nations have electrified

77. The figures at cruising mode, when trains are able to maintain a constant speed, range from 289 BTU/SM to 443 BTU/SM.

78. LYON, *supra* note 6, at 8.

79. See Table 5 on next page.

80. The various researchers used different types of equipment in each mode. They made different assumptions about the length of trip, load factor, and frequency of operation. Some may have used fuel consumption data for some modes which were supplied by the manufacturers. Such data are usually conservative. On the other hand, actual fuel measurement data are often high because they do not properly delineate trip energy from energy used in traction, yard switching, and maintenance.

81. *U.S. Dawdles While the Rest of the World Turns on*, RAILWAY AGE, Feb. 23, 1976, at 28.

TABLE 5

INTERCITY PASSENGER ENERGY INTENSITY FOR VARIOUS TRANSPORTATION MODES

Transportation Mode	B.T.U./P.M.									B.T.U./S.M.								
Automobile																		
Compact								2,738		1,900[2]		1,150	1,150	1,352	1,263	958	958	1,042	1,100
Average	2,400	3,800	3,800	3,600	3,000	3,800	4,600	7,600	2,883	2,650	1,796				1,475		1,976	1,167	1,600[1]
Intercity Bus	1,175	1,260	1,333	1,109	1,690	1,109	1,778	1,260	1,776	1,100	645	462	554	513		308	630	502	500
Train																			
Cross Country	3,852	2,774	924	1,733	3,015	1,733	2,774		2,965	3,500	963					352			1,000[3]
Metroliner								3,650		2,000[4]	1,850	660	660				1,850	436	1,000
Commuter						1,387		1,387	3,186		693						693	1,308	
Suburban						694					346							577	
Airplane																			
Wide Body						6,136		4,827		5,500	3,375					1,985-2,360	3,375	2,250-4,090	3,000[3]
Average	9,000	8,437	9,642	9,642	8,437	6,428	7,500	5,625	7,273 (Domestic) 5,980 (International)	6,500	3,970	2,596	2,596	6,136		3,292	3,970	2,647-5,000	3,600[3]
Reference	FEA	DOT/TSC	DOT/OTEP	Hirst (1973)	Hirst (1973)	National Commission on Materials Policy	Mooz	Goss	Pollard TSC	Mittal	Rice	DOT/OST	Fraise	Lieb.	Austen	Flight	Goss	DOT/NASA	Mittal

(1) Occupancy Rate = 4
(2) Occupancy Rate = 2.4, mpg = 2600
(3) Gross Estimate-depends upon several factors
(4) Based upon 50% load factor

Reprinted from MITTAL, *supra* note 71, at 9-37 & 9-38.

large portions of their railroads;[82] furthermore, most of these nations have been engaged for many years in extensive electrification projects on the remainder of the railroad lines that are not already electrified. The United States, on the other hand, added only 100 miles of electrified track between 1935 and 1975.

The reasons for these differences are well known.[83] Some early electrification projects were undertaken in the United States, but the availability of cheap petroleum made diesel engines the logical substitute for steam engines. In contrast to the United States, Europe and Japan had to rebuild much of their railroads after World War II. The higher cost of petroleum made electrification attractive.

The greatly increased cost of petroleum in the last decade has created renewed interest in electrification in the United States. However, the staggering capital investment needed to install the electrical catenary,[84] power stations, and other equipment cannot be borne by the private railroads, many of which have been slipping in and out of bankruptcy for years. The federal government, with its growing deficits, is unlikely to provide the needed capital. Amtrak is, therefore, a victim of the deteriorated condition of both the private and public sectors of the economy. It is unfortunate that such a forward-looking concept should be economically unfeasible.

C. Efficient Use of Space

The passenger train is a superbly efficient user of available space. On one track a railroad can haul fifty thousand people per hour.[85] Transporting the same number in the same time on a highway requires ten thousand cars, each carrying four passengers, travelling in four lanes. Once the trains empty their passengers, they can be dispatched to carry others. Automobiles clutter a city's streets and parking lots, awaiting further use.

This advantage should not be underestimated. The extensive highway construction of the 1950's and 1960's brought superhighways to the centers of our cities. This construction not only was very expensive but also left extensive urban blight in its wake. Immense traffic jams have become a constant urban problem. Highways are uniformly ugly, detracting considerably from the aesthetic quality of the cities they serve. The cloverleaf has become a national flower. Speculators buy up tracts of downtown property and convert them to unsightly parking lots and garages. The graceful downtown shopping areas of the past have deteriorated. The decentralization of the cities, resulting from increased mobility, has left abandoned, derelict land in the center of cities, often

82. For example, 27% of the route-miles in the USSR, 46% in Japan, 99% in Switzerland, and 25-60% in most other European nations are electrified. *Id.* at 28.
83. *Id.*
84. Catenary is the overhead wire which conducts electric power to electric trains.
85. LYON, *supra* note 6, at 7.

near the train stations. The freeway, the fast food store, the gas station, and the suburban shopping mall have become national institutions, replacing the more aesthetically pleasing city centers of the past.

Although the universal acquisition of the private automobile was an inevitable result of post-war prosperity, the abandonment of the intercity passenger train need not necessarily have occurred. In heavily populated regions, encouragement of intercity train travel might have made unnecessary at least some of the expensive and ugly highway construction. The retention of train travel could have helped downtown areas retain some of their vitality.

These concerns are, perhaps, rather speculative and romantic. It is clear, however, that intercity train travel does prevent highway congestion. Encouragement of train travel in fast-growing regions of the country might obviate some highway construction and thus contribute to the aesthetic beauty of these areas. In contrast, rural areas without congestion problems have little to gain by increased train frequency.

D. Unfeasibility of Alternate Modes

Passenger trains provide the best form of transportation for snowbound regions of the country during the winter months. For example, the "Empire Builder" train travels across northern regions of North Dakota and Montana, where severe winters often ground airplanes and make highway travel difficult or impossible. This environmental consideration prompted Congress to retain this route,[86] despite its heavy losses.

Providing service to small communities has been a national policy for many years. The federal government subsidizes airlines to serve small communities that would othewise have no air service. Continuation of these subsidies is justified on a service-for-the-sake-of-service rationale. The same rationale would apply to some Amtrak routes, which serve small cities without other forms of public transportation. However, Amtrak is a clumsy vehicle to use in fulfilling national transportation goals because so many cities are served by only middle-of-the-night trains. Eliminating one middle-of-the-night train per day would hardly cut these communities off from the rest of the country.

E. Safety

Train travel is a very safe mode of transportation. However, all common carriers have good safety records, and most passengers seem willing to risk the slightly greater danger involved in air travel in order to avoid the extra time required by train travel. Although train travel permits much higher speeds than can be safely attained on a highway,

86. *1979 Amtrak Hearings*, *supra* note 25, at 34.

the poor quality of track in most areas limits speed. Safety considerations do not, by themselves, justify Amtrak's subsidy.

F. Potential for Use in Fuel Emergencies

During the oil shortages of 1973 and 1979, Amtrak's patronage increased substantially.[87] Amtrak's role in times of severe fuel emergencies is limited by the small size of its fleet, which will not permit accommodation of even one percent of all intercity trips. The likelihood of a short-term fuel emergency does not justify the purchase of enough equipment to create a true backup system. The possibility of a permanent fuel emergency has not created sufficient interest in an obvious alternative, electric trains. By the time such an emergency arises, other solutions may have already emerged.

VIII. DISCUSSION

It is quite clear that energy considerations alone cannot be used to justify the continued Amtrak subsidy or future capital investment in high-speed corridors. The advantage of passenger rail service lies in its efficient use of space and its ability to provide service directly to population centers. As such, it provides an excellent alternative to air travel, which is very energy intensive and which serves airports located in peripheral areas. As the cost of petroleum increases, the energy intensiveness of air travel will probably cause its cost to increase dramatically, thus reducing its competitive edge. High-speed rail corridors could become popular carriers for travel over short distances. Government encouragement of this alternative is desirable because the increased highway congestion and the highway construction that will be needed if the public increases its driving will only detract from the quality of the environment. Thus, a case can be made for the development of high-speed rail transportation, at least in some markets. The service would be developed as a substitute for air and automobile traffic. Serious study should be made to determine which of the short-distance markets would respond to high-speed rail service. The potential benefits of this service are not of compelling necessity, so it should only be developed where losses will only be minimal. The benefits are, however, real. Short-distance passenger rail service has the potential to become a significant part of the nation's transportation scheme. Development should be encouraged in those markets which can best profit from it.

Subsidy of long-distance rail service is far less justifiable. In regions where severe winters make other forms of travel infeasible, such service offers an assistance to the only viable mode of transportation. Many of these routes do help fulfill the national transporation goal of

87. RAIL PASSENGER CORRIDORS, FEBRUARY EVALUATION, *supra* note 66, at 25.

providing service to small communities which cannot generate enough demand for a profitable business venture. However, these routes must be restructured so that these communities are served by trains which arrive during the day. Instead of offering one Chicago-Seattle train, for example, Amtrak should split the route into a series of day trains. Each train would begin its journey in the morning and reach its destination in the evening. This plan would, however, require the operation of quite a few more trains and the expenditure of considerably more money. This restructuring would allow Amtrak to better fulfill the national policy of offering service to small communities.

Much of the loss that Amtrak has sustained since its inception is unjustifiable. Service which does not seek to accomplish any of the goals enumerated herein benefits no one except the person who prefers to ride the train. The expenditure of enormous sums of money only to indulge the preference of those who wish to ride a train accomplishes no social good at an enormous cost to the public. Many of Amtrak's long distance routes are examples of the narrow focus of the subsidies. These routes provide no positive service to many of the communities through which they travel. They save little energy, they contribute nothing to the beauty of the environment, and they do not help any snow-bound traveller get out of his isolated town. Little social good is accomplished in catering to the travel preference of a passenger who might choose otherwise if he had to pay the full cost of the trip.

IX. CONCLUSION

The failure of Amtrak to be a profitable corporation has undoubtedly resulted from the low demand for the service it provides. People prefer to travel by car and plane. This preference has clearly been cultivated by the extensive highway construction in which the nation has engaged for many years. But the nation should not engage in a massive rebuilding of passenger railroads just in the name of fairness. Compelling reasons must be advanced for such an action. Trains are energy-efficient, but they are not enough so to justify even much of the present subsidy. The possibility that a large-scale electrification will soon take place is remote. Electrification provides great flexibility and thus makes sense in planning for a future in which the supply of fossil fuel is in doubt. It is, however, unlikely that the needed capital will be forthcoming. Other policy considerations do justify at least some of the subsidy to Amtrak. Nonetheless, passenger trains make the most sense in crowded urban areas. Such trains can provide service to downtown areas, thus enhancing the vitality of downtowns, minimizing urban sprawl, and relieving congestion on the highways. Amtrak's future lies in short-distance, high-speed rail corridors. Whether the Balkanization of Amtrak need result will depend upon whether the travelling public sees fit to patronize the long-distance routes. Ever-increasing petroleum prices may force significant numbers of people out of planes and

back on the tracks again. But that scenario is a more distant possibility. It would make little sense to dismantle the system. It makes much sense to restructure it to permit it to provide service where it is most beneficial to the public.

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