Final Report to Congress on the Amtrak Route System

As Required by the Amtrak Improvement Act of 1978

United States Department of Transportation

January, 1979

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

January 31, 1979

Honorable Walter F. Mondale
President of the Senate
Washington, D.C. 20510

Honorable Thomas P. O'Neill
Speaker of the House of Representatives
Washington, D.C. 20515

Dear Mr. President and Mr. Speaker:

I am pleased to transmit to you a report containing the Department's final recommendations for a restructured intercity rail passenger system to be operated by the National Railroad Passenger Corporation. The recommendations are required by the Amtrak Improvement Act of 1978 (P.L. 95-421).

My recommended route system is described in detail in Chapter Four of the report, but I will make a few observations about it here. First, I have adhered to the national/interregional concept of service that was recommended in my preliminary report published in May. Second, the new system represents a more prudent use of Federal funds than does the current system. It is 43 percent smaller than the current system, in terms of route-miles, but it will be more efficient and will be used more intensively by its customers. Because of its concentration of better routes, there will be only a 20 percent reduction in the number of passenger-miles and only a 9 percent decrease in ridership. It should have an overall level of patronage of 173 passenger-miles per train-mile, compared to a level of 141 for the current system.

Third, as a result of these recommendations, Amtrak management will be able to concentrate resources on those routes which have the greatest promise, rather than devoting resources to routes which today we recognize as hopeless. Also, the system is of a size that will allow Amtrak's equipment fleet to be used well and it will require significantly smaller expenditures for new equipment than the current system.

Finally, the recommended system will be much less expensive to run than the current system. In Fiscal Year 1980 (FY 1980), the first full year in which it will be operated, it will require an operating appropriation of $552 million. That is 23 percent less than the $718 million which would be required if the current system were continued unchanged. Over the five-year period from FY 1980 through FY 1984, the new system will require $1.39 billion less in total appropriations than would the current system.

The Department's task in preparing these recommendations was not an easy one. Clearly the recommended system will disappoint those who wish to retain or expand Amtrak's present services. Further, there will be disagreement with my recommendations from many of the citizens in cities and towns that stand to lose rail passenger service. The desires and opinions of those individuals have had to be balanced against the unrelenting fact of a rapidly worsening Amtrak deficit.

We can no longer afford to provide a disproportionately large and continually increasing amount of Federal funds for operating subsidies for a passenger transportation system that is used by less than one-half of 1 percent of the intercity traveling public. We live in a time of Federal fiscal restraint. President Carter has pledged budget responsibility and an intensified fight to control inflation. I believe that implementing the system that I recommend in this report will be of significant assistance in meeting the President's budget and anti-inflation goals, both in FY 1980 and in the years beyond, while at the same time providing intercity railroad transportation in those sections of the country where it is an appropriate transportation alternative.

In addition to recommending a route system, the report contains several policy recommendations, all aimed toward stabilizing, and eventually reducing, the growth in the system's deficit. First, I propose that Amtrak's authorizations be provided on a three-year basis. I believe that multi-year authorizations will provide an atmosphere of stability in which Amtrak's Board and management can plan responsibly for the future administration of their operations. An initial three-year authorization will provide sufficient time for experience with the new system, and for proper evaluation of Amtrak's operation of it, before recommendations for the next three-year authorization must be prepared.

Within the funds provided by Congress, I believe that Amtrak's Board and management should have considerable flexibility in operating the system and in making it more efficient. In accordance with the Amtrak Improvement Act of 1978, I have only recommended the end points and principal intermediate points to be served by the new system. The specific routings between those points, which we have shown for display purposes, are not required by law, and should be viewed by Amtrak as advisory. To the extent that Amtrak identifies intermediate routings which are preferable to those shown by us, and which can be operated within appropriated funds, those routings should be implemented.

Once the new system is in place, Amtrak is also free to change frequencies and specific routings between designated end and intermediate points, as management continues its economic evaluation of the system and as it is determined that such changes will provide for a more efficient system and will serve Amtrak's customers better. It is my understanding that the Route and Service Criteria, which were developed by Amtrak in response

to requirements of the Rail Passenger Service Act, will be used for any route additions or discontinuations, and for any extensions of service beyond the designated end points.

There are signs that fundamental changes in intercity passenger transportation patterns are occurring. Lower airline fares brought about by deregulation already have had a significant impact on Amtrak's market. In fact, my recommended route system was partially configured to serve markets that are less vulnerable to diversion of passengers because of low air fares than are present markets. Even with those changes, it is our estimate that the recommended system may generate as much as $10 million less in revenues in FY 1980 than it would were airline deregulation not a reality. Similar changes in Amtrak's market may well occur if there is any substantial lessening of economic regulation of the intercity bus industry. To accommodate such changes, we must be willing to make future adjustments to the Amtrak system, both through the Corporation's use of the Route and Service Criteria and through the multi-year authorization process.

I have also suggested that Amtrak establish certain budget and service-related goals. The portion of Amtrak's cash expenses which is funded by its customers has been declining over time, and was only 37 percent in FY 1978. Together with Amtrak, we have agreed on the necessity to halt the continuing decline in that relationship immediately. After stabilizing the relationship, Amtrak has agreed that an appropriate goal would be for revenues to cover 44 percent of cash expenses in FY 1982, the end of the first three-year authorization period. For long-range planning purposes, I believe an appropriate corporate goal would be for revenues to cover 50 percent of such expenses by not later than the end of the second three-year authorization period in FY 1985. When that goal is achieved, revenues paid by Amtrak's customers would once again equal operating subsidy contributions from the Federal Government.

To improve the Corporation's financial posture and the level of service that it provides to the public, Amtrak must improve revenue generation, cost control, and management of operations. Chapter Three of the report contains a series of recommendations to Amtrak on actions to be taken in those areas. I am very pleased that Amtrak's Board has recently adopted a fare policy aimed at keeping the long-term Federally-funded deficit to a minimum, while providing an acceptable level of service. A series of fare-related actions are recommended in Chapter Three which are consistent with that policy and which, when implemented, will help assure that Amtrak's systemwide revenues will increase at a rate greater than the rate of growth in expenses.

Finally, I have called on Amtrak to improve the quality of service it offers to the public, and I have recommended that the Corporation develop criteria for measuring the quality of its services, together with a

specific quantitative goal for each measure and a schedule for meeting those goals. We will ask Amtrak management to report to us annually, beginning with the FY 1981 budget submission, on progress toward meeting those goals.

I am pleased to report that Amtrak's new management has independently arrived at many of the same conclusions that we reach in this report and is rapidly moving to evaluate and correct many of the deficiencies that we have noted. Concerted management actions are already underway to achieve improvements in the areas of fares, cost control, equipment utilization and productivity. We will continue to give Amtrak our strong support in those efforts.

In my May preliminary report, I raised the question of changing Amtrak's institutional structure to make it more responsive to the concerns of the Federal Government. As I noted in my cover letter to that report, I was particularly interested in proper budgetary control of the considerable amount of public funds devoted to Amtrak. I presented a series of institutional options for public comment which ranged from bringing Amtrak fully into the Federal Government to retaining the existing corporate structure but strengthening the spending, capital and budgetary guideline provisions of the Rail Passenger Service Act. After considerable thought on this issue, and in light of changed circumstances, I have decided not to recommend legislation to change Amtrak's institutional framework at this time.

The first and most significant change since May is that the Amtrak Improvement Act of 1978 requires Amtrak to follow the same budget process as do Federal agencies. That change will henceforth permit Amtrak's budget to be evaluated by the Administration and the Congress in the context of spending for all transportation programs and indeed for all Federal programs. Second, I am pleased with recent steps that have been taken by Amtrak's President and his management to improve the financial and operating condition of the Corporation. Finally, Amtrak's Directors have recently shown a willingness to deal with many of the same concerns being addressed by the Administration and the Congress. These changes, coupled with the implementation of a more efficient route system in a more stable financial and planning environment, should enable Amtrak to bring its operations within proposed budget levels and to provide better service to the public.

I believe that in achieving the improvements discussed above, Amtrak management should be provided significant freedom from external controls. During the course of preparing this study, it has become obvious that certain practices which Amtrak must follow to comply with Interstate Commerce Commission service regulations, issued under section 801 of the Rail Passenger Service Act, hinder management's flexibility in operating

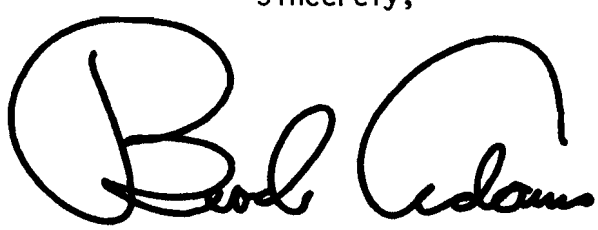
the system in the most efficient manner, while not necessarily providing service which is tailored to best meet the needs of the traveling public. I will propose legislation which would relieve Amtrak of those regulatory requirements, permitting the Corporation to make decisions based upon economic merits and the real needs of its customers.

In a related matter, I am required by section 12 of the Amtrak Improvement Act of 1978 to evaluate the common stock ownership of the Corporation and to provide recommendations to the Congress with respect to retention, retirement, or conversion of the stock. While conducting that evaluation, I have become concerned about possible excessive benefits to the common stockholders arising from the continuing large Federal investment in Amtrak and the likelihood that the investment will never be repaid. I will present recommendations on this subject to you in March.

I have also directed my staff to issue, prior to October 1, 1979, the spending, capital and budgetary guidelines that are required by the Rail Passenger Service Act. Publication of those guidelines will provide Amtrak's management and Board with the information they will need to participate fully in the budget preparation process by advising the Administration on the levels and types of services that should be offered within the multi-year authorization ceilings.

I believe that implementation of the route system and other recommendations contained in this report will go a long way toward resolving the concerns which prompted passage of the Amtrak Improvement Act of 1978. I continue to believe that a well-managed and efficient rail passenger service will play an important role in our transportation system for many years to come.

Sincerely,



Brock Adams

Enclosure

Identical letter sent to the following:

United States Senate:

Committee on Appropriations
Subcommittee on Transportation

Committee on Commerce, Science and Transportation
Subcommittee on Surface Transportation

House of Representatives:

Committee on Appropriations
Subcommittee on Transportation

Committee on Interstate and Foreign Commerce
Subcommittee on Transportation and Commerce

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Chapter 1

INTRODUCTION

This report, prepared in response to section 4 of the Amtrak Improvement Act of 1978 (P.L. 95-421), presents the recommendations of the United States Department of Transportation regarding the route system that should be operated by the National Railroad Passenger Corporation (Amtrak). The report also recommends several major policy objectives that must be achieved if the quality and financial performance of intercity railroad passenger service in this country is to be improved significantly.

In 1970, Amtrak was created as a mixed-ownership corporation to operate a Federally-supported system of railroad passenger service. Congress and other interested parties hoped that an efficiently managed, interconnected railroad passenger system could, with some initial Federal financial assistance, revive railroad passenger service as a popular and economic means of travel. It was expected that continuing Federal support would not be necessary.

Amtrak now has been in operation for seven years, and sufficient evidence is available to draw certain conclusions. On the positive side, Amtrak has made substantial improvements to the railroad passenger equipment and facilities available to the public. In addition, it has been successful in halting the decline in railroad ridership. By the time Amtrak was created, railroad passenger service was no longer an important element of intercity passenger transportation. Following a surge of traffic during World War II, intercity railroad passenger traffic had declined from a postwar level of 39.9 billion passenger-miles in 1947 to 4.4 billion passenger-miles[1] when Amtrak began operating in 1971 (Figure 1-1). From Fiscal Year 1972, Amtrak's first full year of operation, through Fiscal Year 1978, passenger trips on Amtrak grew 22 percent, from 15.5 million[2] to 18.9 million per year, and passenger-miles grew 43 percent, from 2.8 billion to 4.0 billion.

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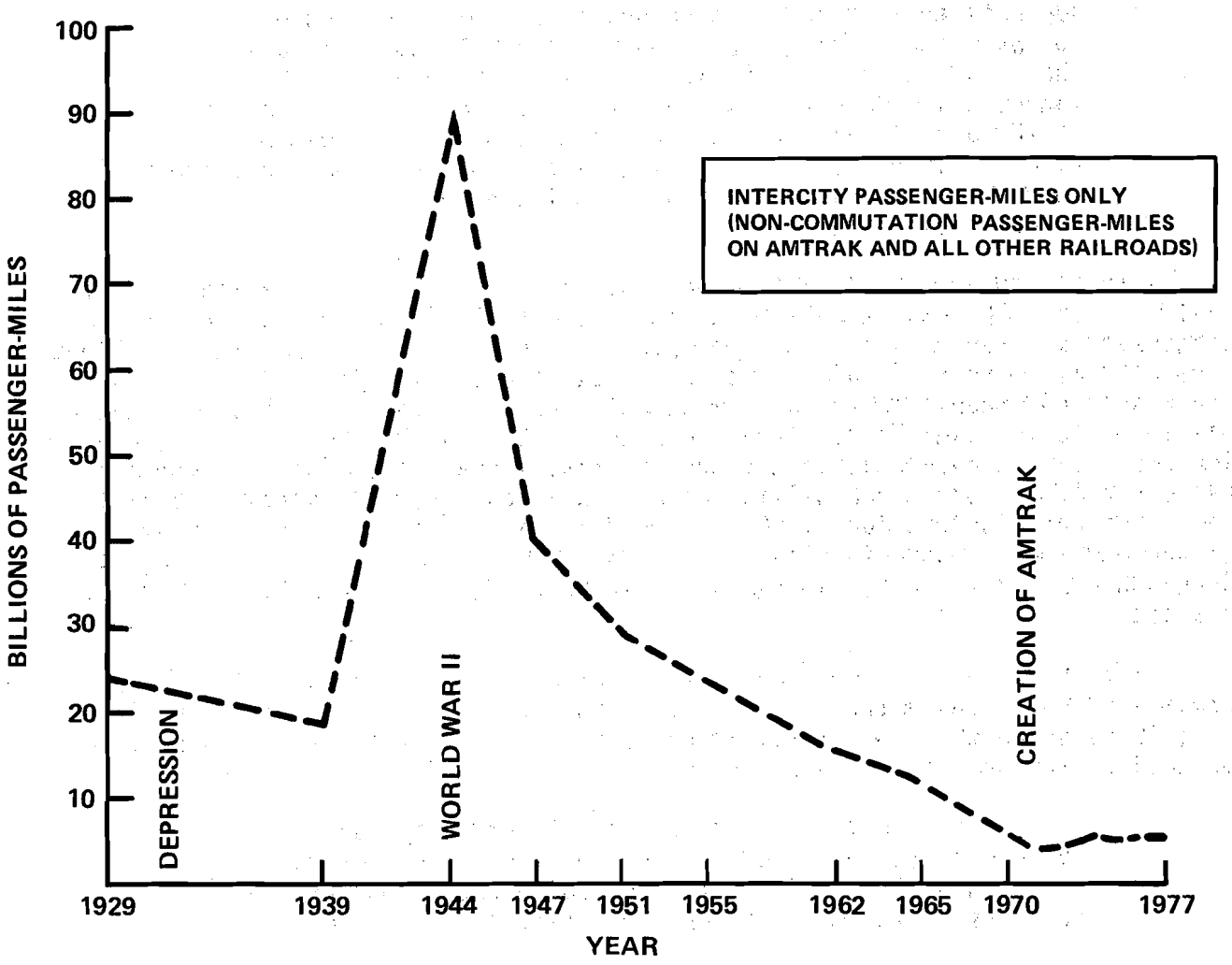
[1]Includes the intercity passenger-miles generated by all United States railroads prior to the initiation of Amtrak service on May 1, 1971 and the intercity passenger-miles generated by both Amtrak and those United States railroads that did not join Amtrak after May 1, 1971.

[2]From Amtrak's Annual Report to the Interstate Commerce Commission (Form R-1), Schedule 531, adjusted to reflect fiscal years. As a result of accounting techniques used in 1972 and 1973, which double-counted passengers on Amtrak trains that traversed more than one railroad, this figure is inflated. No adjustment to the pertinent Form R-1's has been filed with regard to the figure. However, on May 6, 1974, in hearings before a subcommittee of the House Committee on Appropriations (Department of Transportation and Related Agencies Appropriations for 1975, Part 5, page 815), Amtrak testified that its Fiscal Year 1972 ridership was 14.3 million. That figure would yield a ridership growth of 32 percent between Fiscal Years 1972 and 1978.

Figure 1-1

HISTORICAL TRENDS IN RAIL PASSENGER-MILE VOLUME



SOURCE: AAR, Yearbook of Railroad Facts, 1978, "Passenger-Miles by Classes."

However, the ridership gains have been achieved in part by adding more routes and trains to the Amtrak system. Between 1972 and Fiscal Year 1978, Amtrak increased its route-miles by 14 percent, from 23,376 to 26,570,[1] and its train-miles by 23 percent, from 26.3 million to 32.4 million. As the Comptroller General of the United States found in a recent report to the Congress:[2]

> "Amtrak points to its increase in passengers served . . . as evidence that the system is turning the corner and that even larger demand is likely in the future. But available data suggests that Amtrak's increased passengers have not been won over to existing trains and routes. Instead, it appears that, on average, ridership increases have been largely induced by adding routes and services. Moreover, the costs of the additional services have not been met by additional ridership and revenue so that the additions have been uneconomical for Amtrak and have contributed to its need for additional Federal subsidy."

Amtrak's total annual costs rose from $306 million in Fiscal Year 1972 to $891 million in Fiscal Year 1978, an increase of $585 million. During this time, Amtrak's revenues did not keep pace with costs, rising only $160 million, from $153 million in Fiscal Year 1972 to $313 million in Fiscal Year 1978. The result has been that the annual deficit funded by the Federal Government has more than tripled since Fiscal Year 1972. During that period, and including amounts made available in the current fiscal year, the Federal Government has directly provided $3.2 billion to Amtrak in capital and operating assistance, and has also provided $900 million for capital acquisitions through guaranteed loans, most of which has been borrowed from the Federal Financing Bank and none of which is expected to be repaid except through further Federal grants.

Disturbed by this increasing deficit, the Congress called for a reexamination of the Amtrak system. Section 4 of the Amtrak Improvement Act of 1978 directed the Department, in cooperation with Amtrak, to develop recommendations for an Amtrak route system:

> ". . . which will provide an optimal intercity railroad passenger system, based upon current and future market and population requirements, including where appropriate portions of the Corporation's existing route system."

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[1] From a summation of Amtrak routes listed in Amtrak's October 29, 1978 timetable. Interstate Commerce Commission Form B-180230 (R0503), prepared by Amtrak for the fourth quarter of 1977 and the first three quarters of 1978, indicates a total of 26,011. However, this report did not include all the mileage of some railroads over which Amtrak operates.

[2] Amtrak's Subsidy Needs Cannot Be Reduced Without Reducing Service, Report by the Comptroller General of the United States, May 11, 1978.

Section 4 also identified other factors to be considered by the Department in developing the recommended route system. These are discussed in detail in Chapter 4.

This report contains the recommendations required by section 4. The events leading up to publication of this report began in May 1978, when the Department published "A Preliminary Report to Congress and the Public: A Reexamination of the Amtrak Route Structure" (Preliminary Report). That report briefly discussed Amtrak's operating and financial history, presented several policy issues for public discussion, and defined a preliminary recommended route system. That 18,900 mile route system included basic long distance east/west service over northern and southern routes, basic north/south service along routes on both coasts and in the Midwest, and a supplemental system of interregional and short distance services. A detailed discussion of how that system was developed is presented in Chapter 4.

Between May 1 and August 31, 1978, the Rail Services Planning Office (RSPO) of the Interstate Commerce Commission held hearings on the Preliminary Report in 51 cities. On September 30, 1978, the RSPO submitted its report on the hearings to the Secretary of Transportation. The RSPO report found that reaction to the Department's preliminary recommendation was sharply divided. More than 4,200 respondents, including representatives of governments, public interest associations, business organizations and concerned citizens, provided oral or written testimony at the public hearings. In its report on the hearings, the RSPO characterized the comments as follows:

> The hearings and written comments demonstrated a strong polarization of views on the DOT Report's recommendations and on Amtrak in general. Public reaction, both favoring and opposing Amtrak, was strong. In general, the comments either advocated the retention of Amtrak, often with recommendations for expansion of Amtrak's services, or they presented opposition to the continuation of any Amtrak routes which were not financially self-sustaining. There seems to be little "middle ground" on the Amtrak issue. Although the majority of the comments were in favor of retaining Amtrak, it must be remembered that most of the public hearings were conducted in areas threatened by service cutbacks or eliminations if the DOT Report's recommendations were implemented.

After full consideration of the views of the RSPO and the public, and having considered the results of further analyses undertaken in cooperation with Amtrak and an assessment of the potential environmental impacts, the Department has prepared this final report to Congress and the public. The Amtrak Improvement Act of 1978 provides that the final report shall be deemed approved unless, within 90 calendar days of continuous session, either House of Congress adopts a resolution of disapproval. Once the recommendations become effective, Amtrak is expected to begin to implement them immediately. Implementation must be completed within one year of the adoption of the recommendations. With certain limited exceptions, however, the route system itself cannot be modified or restructured prior to October 1, 1979.

In addition to presenting final recommendations on the system of routes and services which should be operated by Amtrak, this report also recommends policy changes required to improve the quality and financial performance of intercity railroad passenger service in general. Chapter 2 reviews Amtrak's financial and operating performance. Chapter 3 presents the Department's policy recommendations. Chapter 4 describes in detail the recommended route system and the methodology used to develop that system. Chapter 5 presents the Department's estimates of required funding for Amtrak for the next five fiscal years and discusses the savings to be achieved by implementing the recommended system.

Chapter 2

TRENDS

OVERVIEW

Amtrak is a significantly different organization today than when it was first established. There is much to be learned from reviewing the operations and financial results of the Corporation during its seven-year history, both as to what went wrong and as to what went right. This Chapter presents the results of such a review and provides the background for the policy recommendations that are made in Chapter 3.

In 1972, its first full year of operation, Amtrak was relatively small and had to contract with outside companies to obtain virtually all its services. It had 1,500 employees and operated 26.3 million train-miles over a 23,376 mile route system. In addition to leasing locomotives from the freight railroads, it used 285 of its own road locomotives, which were an average of approximately 22 years old. It also operated 91 self-propelled cars and 1,535 locomotive-hauled cars that also averaged approximately 22 years old. Some of the equipment was more than 30 years old. In Fiscal Year 1972 Amtrak generated 2.8 billion passenger-miles and $153 million in operating revenues, incurred total costs of about $306 million, and ran at a deficit of $153 million, or 5.5 cents per passenger-mile.

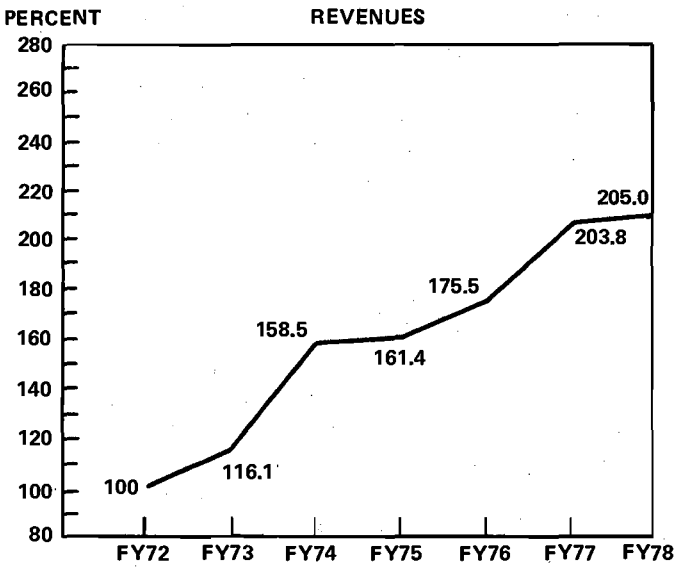
Today, Amtrak is a nationwide organization which employs approximately 19,900 people and owns most of its support facilities. It provides its own reservation and marketing systems and on-board service staff, and performs a significant portion of its station services, heavy overhauls and routine equipment maintenance. In addition, Amtrak now owns, maintains and operates most of the Northeast Corridor between Boston and Washington. In Fiscal Year 1978, the Corporation operated approximately 32.4 million train-miles over a 26,570 route-mile system, using 320 road locomotives, 137 self-propelled cars and 1,686 locomotive-hauled cars. Of these, 225 new locomotives, 65 new self-propelled cars and 490 new locomotive-hauled cars were purchased after 1972. Most of the rest of the car fleet has been refurbished. In Fiscal Year 1978, Amtrak generated 4 billion passenger-miles and received $313 million in operating revenues. Total costs in Fiscal Year 1978 (including depreciation) were $891 million, and a deficit of $578 million, or 14.3 cents per passenger-mile, was incurred. A summary of the trends in various measurements of Amtrak's performance appears in Figure 2-1.

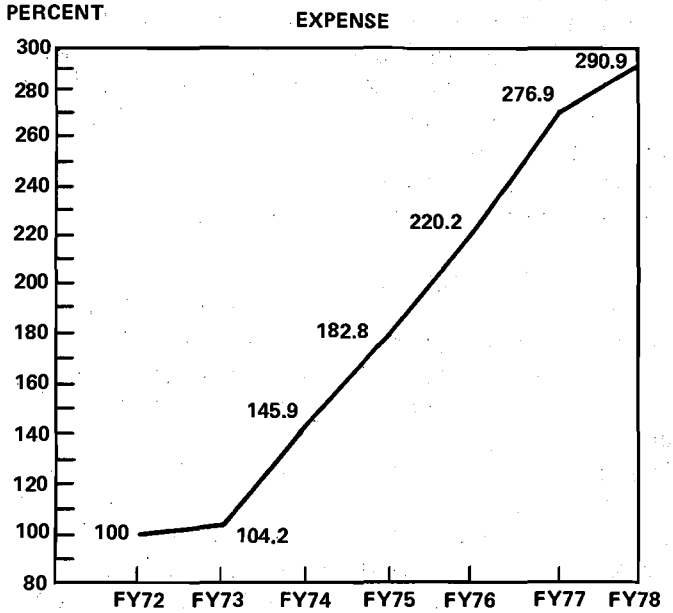
SYSTEM AND EQUIPMENT DEVELOPMENT

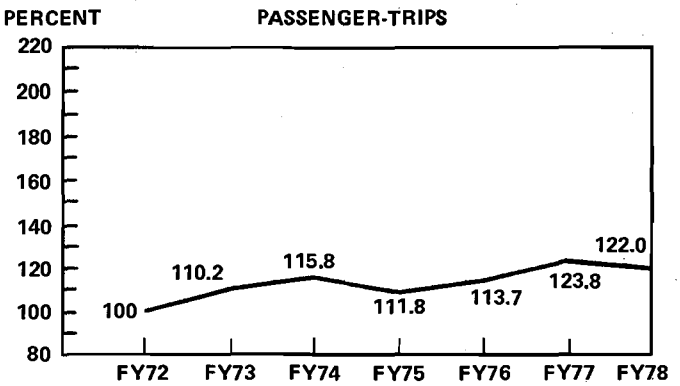
On May 1, 1971, Amtrak began operation over a 23,000 route-mile system connecting 21 city-pairs designated by the Secretary of Transportation. Through the addition of experimental and international routes mandated by the

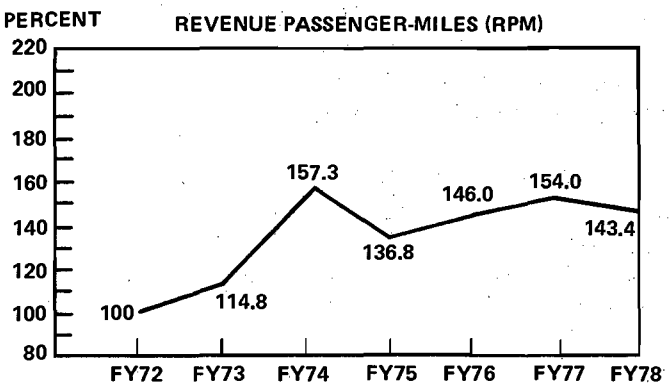
Figure 2-1

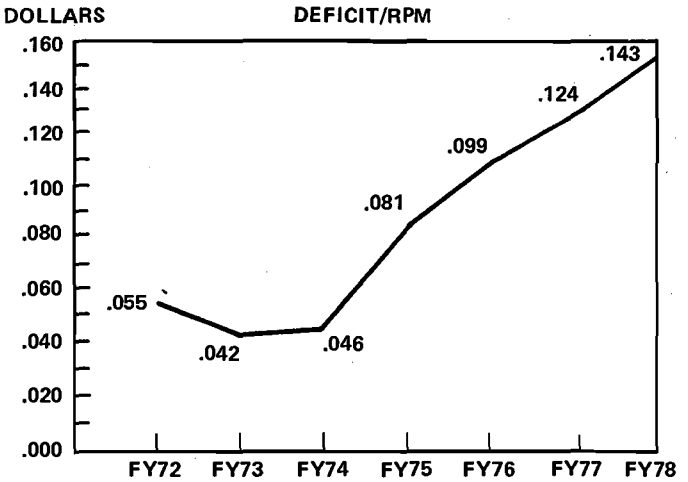
TOTAL AMTRAK SYSTEM PERFORMANCE BY FUNCTION THROUGH FY78

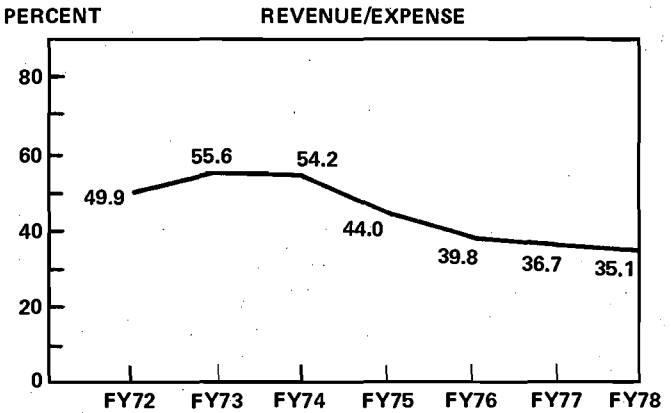












SOURCE: Calculated from Amtrak financial and operating reports to the Interstate Commerce Commission.

Congress, new routes partially subsidized by the States under the provisions of section 403(b) of the Rail Passenger Service Act, and the addition of routes initiated by the Amtrak Board of Directors, the route structure has grown to its present 27,500 route-miles.[1] In addition, Amtrak has added frequencies on some existing routes. A map of the current route structure appears in Figure 2-2, and a list of the routes operated appears in Table 2-1.

Perhaps the most dramatic improvement brought about by Amtrak since 1971 has been in the quality of its equipment. Amtrak has invested $203.2 million to acquire 492 Amfleet cars[2] and $56.2 million for 13 Turbotrains. In addition, Amtrak has purchased 241 new locomotives (some of which have been subsequently rebuilt or leased) costing $129 million. In addition to refurbishing most of the cars in its fleet, Amtrak is installing a modern electric heating and air-conditioning system compatible with that used in the Amfleet cars in the best of the older cars it acquired from the railroads. These investments have improved passenger comfort and led to a decline in heating and air-conditioning failures, which were a major source of discomfort to Amtrak's passengers in its early years.

However, Amtrak's new equipment program has had problems. Although operating performance of the car fleet has improved, average running maintenance costs for new cars have not been significantly lower than those for old cars. Further, the Amfleet cars experienced unexpectedly high out-of-service ratios initially, although they have been performing successfully since corrections were made.

In the locomotive fleet, each of the following investments made by Amtrak has resulted in major problems:

- In its first new locomotive acquisition, Amtrak purchased 150 General Motors SDP-40's, modified heavy freight locomotives that experienced problems when operated in passenger service on several member railroads. Of these, 54 have been rebuilt at Amtrak's expense into lighter locomotives similar to Amtrak's successful F40-PH locomotives.

- Amtrak also purchased 25 General Electric P30-CH locomotives which experienced occasional high out-of-service ratios, causing train annulments in 1976 because of certain operating restrictions and reliability problems. Some of these locomotives have been temporarily leased to the Southern Pacific Railroad, while ten others remain in Amtrak service.

- The Turbotrains, built by a French firm as well as by the Rohr Corporation using a modified French design, consume 3.5 gallons of fuel per mile, compared to 2 gallons per

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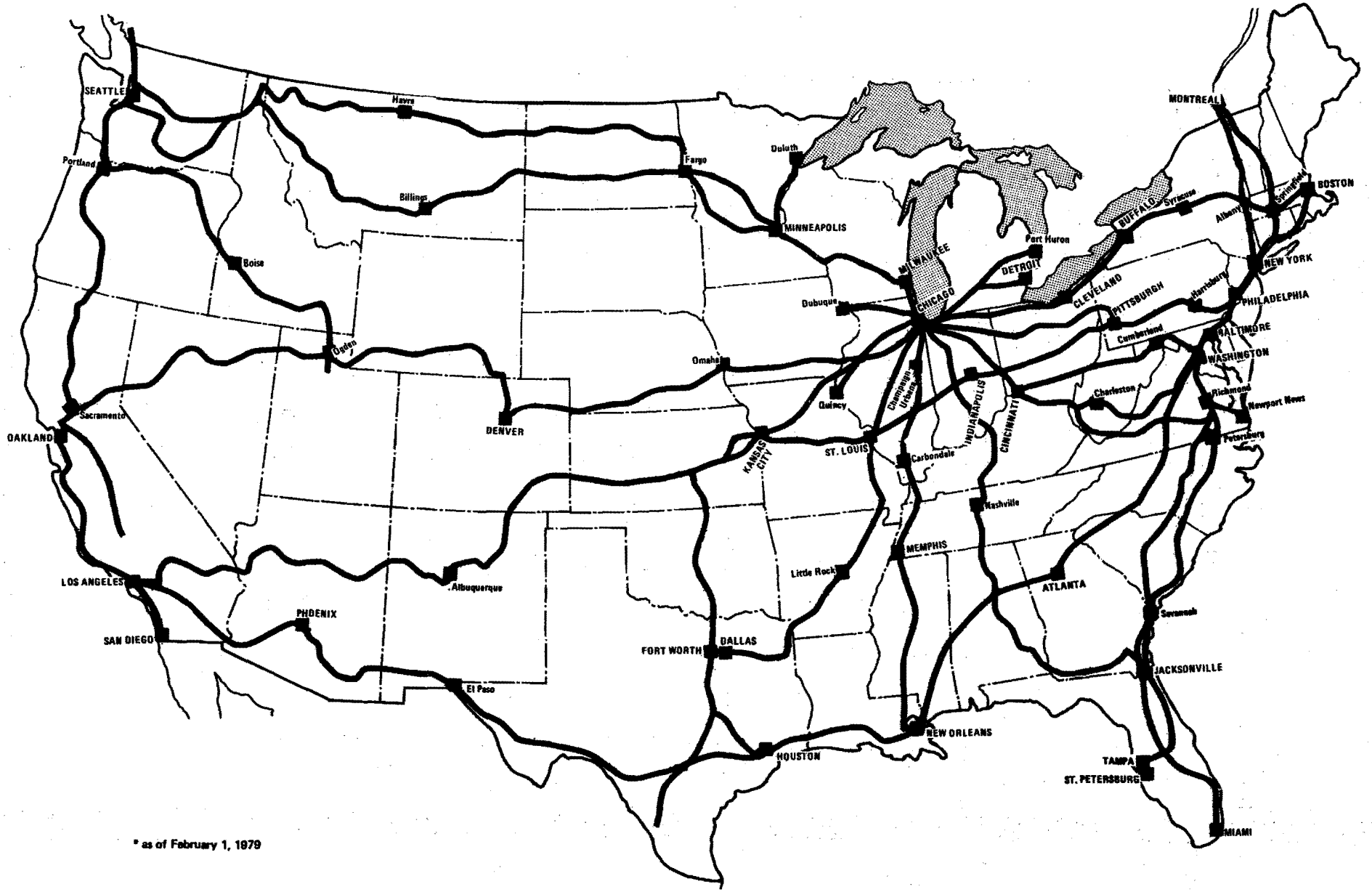
[1] As of February 1, 1979. Includes the Southern Crescent in the Amtrak system and excludes the portion of the Niagara Rainbow west of Niagara Falls, New York that is to be terminated on that date.

[2] Two cars are no longer in service.

Figure 2-2

CURRENT * AMTRAK SYSTEM



* as of February 1, 1979

Table 2-1

Current Amtrak Routes

Routes	Operating Railroad	Basis for Addition to System
Northeast Corridor		
Metroliners	Amtrak	
NEC Conventionals	Amtrak	
New Haven-Springfield	Amtrak	
New York-Harrisburg	Amtrak	
New York-Philadelphia	Amtrak	
Philadelphia-Harrisburg	Amtrak	403(b) (partial)
Short Distance		
Chicago-Carbondale	ICG	403(b) (partial)
Chicago-Detroit	Conrail, Amtrak	403(b) (partial)
Chicago-Dubuque	ICG	403(b)
Chicago-Milwaukee	Milwaukee	
Chicago-Port Huron	GTW, Conrail, Amtrak	403(b)
Chicago-Quincy	BN	403(b)
Chicago-St. Louis	ICG	403(b) (partial)
Los Angeles-San Diego	Santa Fe	403(b) (partial)
Minneapolis-Duluth	BN	403(b)
New York-Buffalo/Detroit	Conrail	403(b) (partial)
New York-Montreal	Conrail, D&H, CP	403(b)
Oakland-Bakersfield	Santa Fe, SP	Amtrak
Seattle-Portland	BN	
Seattle-Vancouver	BN/CN	International
Washington-Cincinnati (Cumberland)	B&O	Experimental
Washington-Martinsburg	B&O	Amtrak
Long Distance		
Boston-Newport News	Amtrak, RF&P, C&O	Amtrak
Chicago-Florida	L&N, SCL	
Chicago-Houston	Santa Fe	
Chicago-Laredo	ICG, MP, MKT	International
Chicago-Los Angeles	Santa Fe	
Chicago-New Orleans	ICG	
Chicago-New York/Boston	Conrail	Experimental
Chicago-New York/Washington	Conrail, Amtrak	
Chicago-San Francisco	BN, UP, SP	
Chicago-Seattle (via Havre)	BN, Milwaukee	
Chicago-Seattle (via Billings)	BN, Milwaukee	Amtrak
Chicago-Washington (Cincinnati)	C&O	
Kansas City-New York/Washington	MP, Conrail, Amtrak	
Los Angeles-New Orleans	SP	
Los Angeles-Seattle	SP, BN	
New York-Florida	Amtrak, RF&P, SCL	
New York-Savannah	Amtrak, RF&P, SCL	Amtrak
Seattle-Salt Lake City	UP, BN	Experimental
Washington-Montreal	Amtrak, B&M, CN, CV	International
Washington-Tri-State Station	RF&P, SCL, N&W, C&O	Amtrak

Source: Official Guide of the Railways; Amtrak Public Affairs Dept., Background on Amtrak

mile for the 3,000 horsepower SDP-40 locomotive, burn 84 gallons of fuel per hour when idling, and require a fuel that is more expensive than diesel fuel. In addition, the Turbotrains have cost more than other equipment types to maintain since facilities have been dedicated primarily to their maintenance. Amtrak is currently spending $287,000 to fit one of its 13 Turbotrains with an experimental engine that is more fuel efficient and less expensive to operate.

- After having developed specifications which called for the General Electric E-60 locomotive to operate at 120 mph, Amtrak purchased 26 units. They have not been satisfactory for operation at that speed in passenger service and will not, therefore, be usable for high-speed operation in the Northeast Corridor after completion of the Northeast Corridor Improvement Project.

To maintain its equipment, Amtrak has gradually acquired since 1971 many of the facilities used to maintain its rolling stock. Today, the majority of Amtrak's locomotives and cars are assigned to Amtrak-operated facilities for routine maintenance, and many of Amtrak's heavy repairs are done in shops at Beech Grove, Indiana, and Wilmington, Delaware, acquired by Amtrak from the Penn Central Transportation Company.

While acquisition of some of the facilities has increased Amtrak's control over maintenance operations, it has not been determined if it has led to improved maintenance quality or financial efficiencies. In terms of equipment availability, a measure of maintenance quality, Amtrak's average percentage of cars and locomotives out of service decreased between 1972 and 1976, but increased in 1977. While Amtrak's lack of cost standards makes it difficult to determine whether its shops are performing specific repairs more cost-effectively than were its contractors' shops, a consultant study[1] estimated that a $23.5 million increase from 1972 to 1977 in running maintenance costs could be attributed to Amtrak's assumption of these functions.[2] This represents 20.5 percent of the $114.6 million total cost increase in running maintenance. Details of the consultant's report on Amtrak's equipment maintenance costs are shown in Table 2-2.

OPERATING AND FINANCIAL TRENDS

Amtrak's addition of 4,500 miles of new routes, in response to Congressional mandates and offers of subsidies from state governments, as well as its addition of frequencies to existing routes, has increased the number of train-miles operated from approximately 26.3 million during 1972 to approximately 32.4 million during Fiscal Year 1978, an increase of 23 percent. This increase in train-miles has been accompanied by an increase in passenger-miles, which rose from 2.8 billion in Fiscal Year 1972 to 4.3 billion in Fiscal Year 1977, but declined to 4 billion in Fiscal Year 1978.

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[1] Analysis of Amtrak's Costs; Temple, Barker and Sloane, Inc.

[2] It is likely that a portion of this increase would have been incurred through changes in Amtrak's maintenance contracts had Amtrak not assumed direct control of the facilities. The precise amount that would have been so incurred cannot be calculated.

Table 2-2

MAINTENANCE OF EQUIPMENT
-Running Repairs-
SOURCES OF COST INCREASES
1972 to 1977
(millions of dollars)

	Locomotives	Cars	Total	Percent
Total Operating Cost Increase	$23.8	$90.8	$114.6	100.0
Causes:				
Inflation	13.4	34.2	47.6	41.5
Volume (unit miles)	-6.3	20.9	14.6	12.7
Combined Inflation and Volume	-1.0	5.0	4.0	3.5
Total Inflation and Volume	6.1	60.0	66.1	57.7
Increase in Railroad Contracts and Higher Standards	3.9	28.0	31.9	
Assumption of Facilities	6.7	16.8	23.5	
Deferred Maintenance	N/A	-14.0	-14.0	
Efficiencies from New Locomotives	-1.1	N/A	-1.1	
SDP-40 Problem & Bad Weather, '77	8.2	N/A	8.2	
Total Other	$17.7	$30.8	$48.5	42.3

Source: Analysis of Amtrak's Costs; Temple, Barker and Sloane, Inc.

In general, Amtrak's ridership has shown strong seasonal peaking, indicating a high percentage of discretionary vacation travel. An analysis of the distribution of the Fiscal Year 1977 ridership by week, which appears in Figure 2-3, shows that it ranged from an average of about 40 million passenger-miles per week during off-peak seasons to an average of about 80 million passenger-miles per week during the peak seasons.

Amtrak's system on-time performance has varied since the Corporation began operations, but was poorer in Fiscal Year 1978 than it was in Fiscal Year 1972. A summary of the Corporation's on-time performance appears in Figure 2-4. The specific reasons for Amtrak's deteriorating on-time performance include, among other things, failure of the operating railroads to maintain track to standards permitting speeds by which schedules were originally set and freight railroad operating practices that do not give preference to passenger train movement.

Revenues

Since its inception, Amtrak's revenue from fares[1] has increased 90 percent, from $129.8 million in Fiscal Year 1972 to $246.1 million in Fiscal Year 1978. Approximately $73.2 million of this increase can be attributed to the revenue generated by the increase of 1.2 billion annual passenger-miles between 1972 and 1978 at the Fiscal Year 1978 yield of 6.1 cents per revenue passenger-mile. The remaining $43.1 million is attributable to increases in fares. An important question, given Amtrak's mounting deficit, is whether that $43.1 million represents the maximum revenue increase that could have been attained through fare changes. While Amtrak's fares increased approximately 63 percent between 1971 and 1978, its yield increased just 34.4 percent during the same period. (Yield is expressed in terms of revenue per passenger-mile. It is a measure of revenue generation which takes into account the discounted fares which are offered by Amtrak.) Figure 2-5 displays the relative changes in Amtrak coach fare level and yield level during the period from 1974 to 1978. The following table demonstrates the effect of discounted fares on total potential revenue from fares.

(1972 revenues) x (volume increase 1972-78) x (fare increase 1972-78)	= undiscounted 1978 revenues
$129.8 x 1.43 x 1.63	= $302.6 million
minus actual 1978 revenue from fares	= $246.1 million
difference	$56.5 million

The $56.5 million represents the maximum additional revenue Amtrak could have earned in 1978 if elasticities of demand had permitted its yields to keep pace with its fare increases without an offsetting loss of passenger-miles. It is not possible to say with certainty what portion, if any, of the $56.5 million might have been captured by Amtrak.

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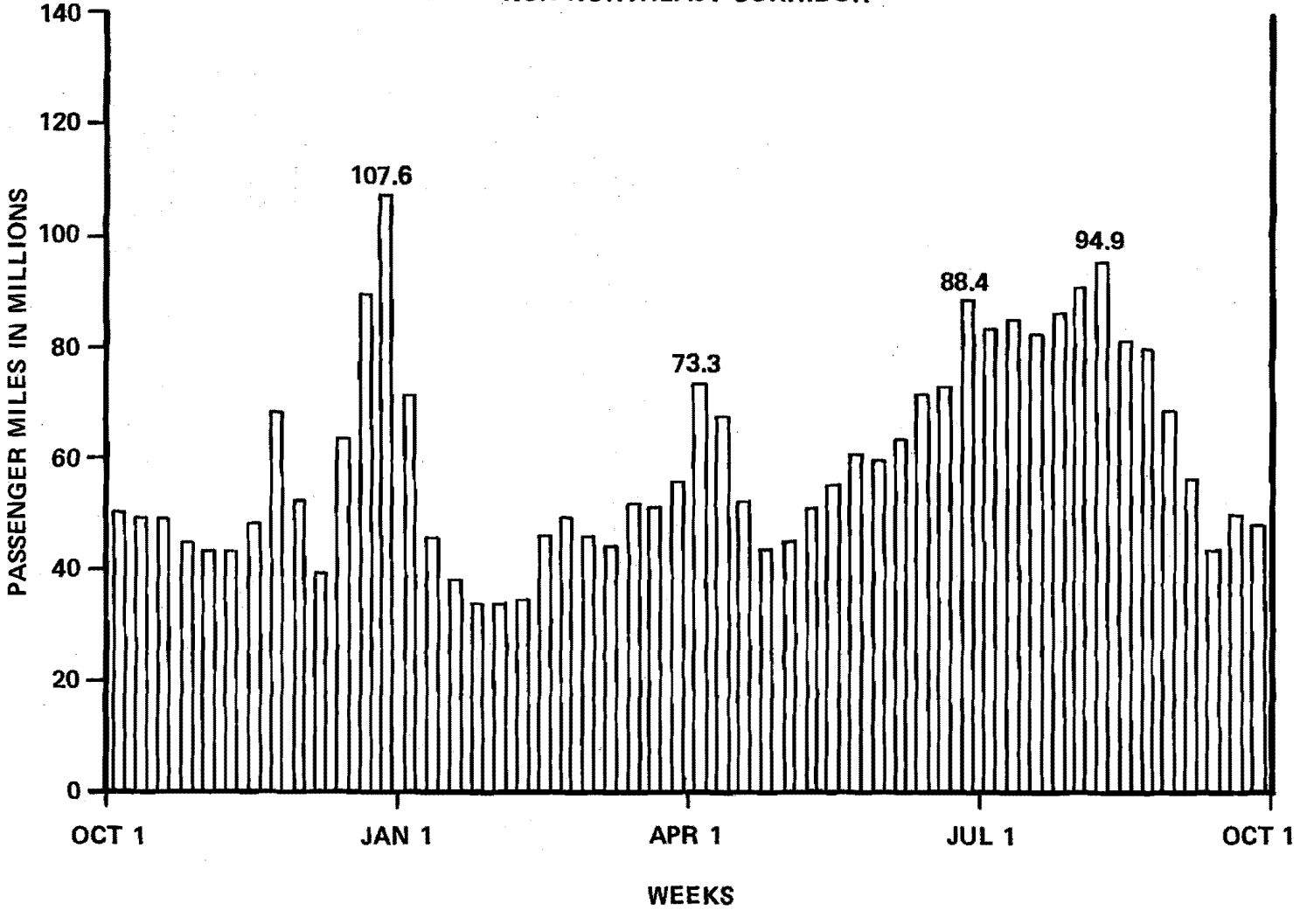
[1] Includes fares for transportation (ICC Account 102) only. Excludes certain charges for sleeping and parlor car accommodations.

Figure 2-3

TOTAL WEEKLY PASSENGER-MILES OF TRAVEL

FISCAL YEAR 1977

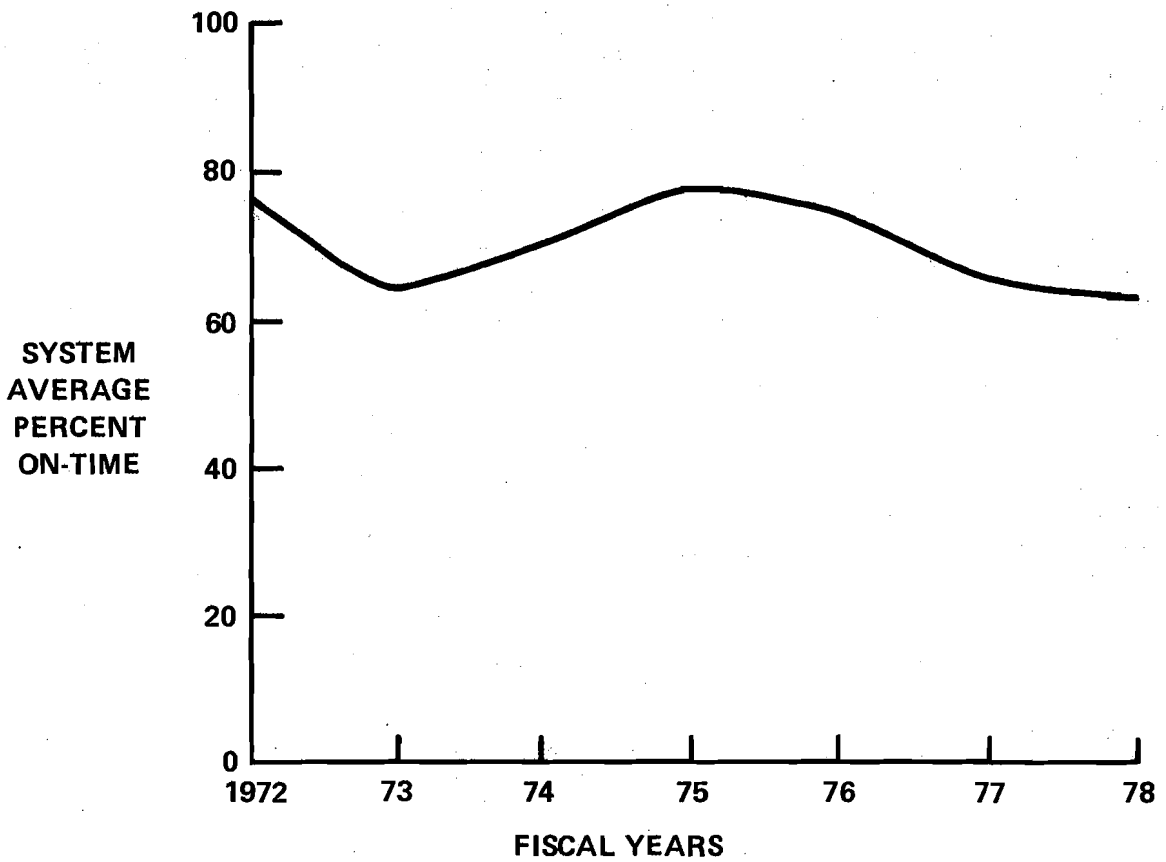
NON NORTHEAST CORRIDOR



SOURCE: Federal Railroad Administration Rail Passenger Statistics

Figure 2-4

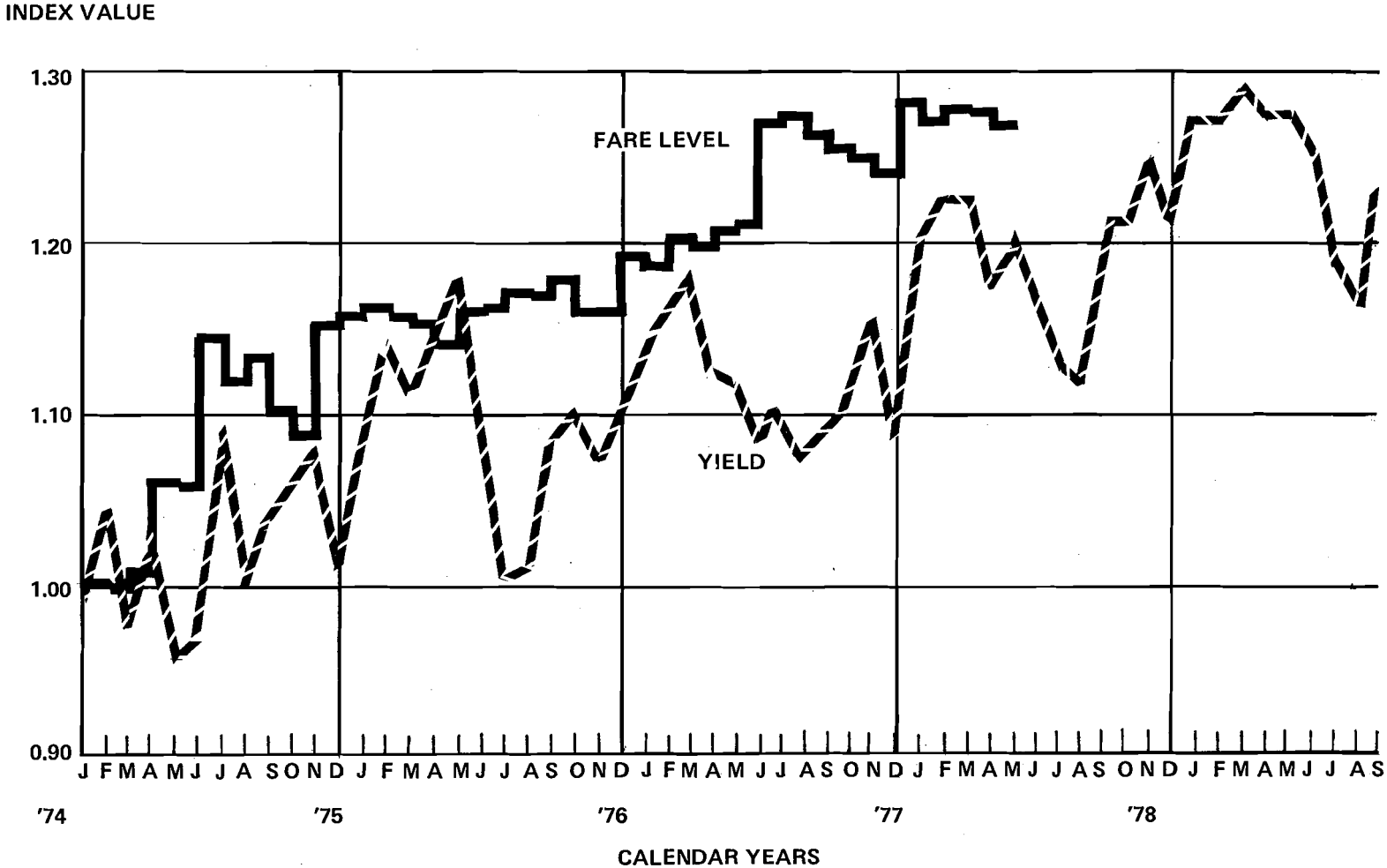
SYSTEMWIDE ON-TIME PERCENTAGES



SOURCES: 1972-1977, Amtrak Public Affairs Department, "Background on Amtrak"; 1978, Amtrak Performance Measurement Report, November 1978

Figure 2-5

INDEX OF COACH FARE LEVELS COMPARED WITH INDEX OF YIELD LEVELS (BASIS OF INDEX : JAN. 1974 VALUES=100)



SOURCE: 1/74–5/77, Amtrak Marketing Dept.,
6/77–9/78, Amtrak Performance Measurement Report, Nov. 1978

It should be noted that Amtrak has taken several steps to restrict discounted travel. It has abolished the former joint fares between points on different routes, has equalized fares in opposite directions, has lowered the age for children paying half-fare from five to two and has ended discounts for regular round trip fares. Amtrak has also made selective percentage increases and decreases in fares on a route-by-route basis based on analysis of ridership trends. In addition, Amtrak has introduced a completely new tapered scale of fares on a few routes. Despite those measures, there are indications that Amtrak's past use of discounted fares has not lead to the maximum possible revenue being gained from the Corporation's passengers. First, Amtrak yield has, since 1975, declined during the peak travel periods of the summer months and the Christmas holidays (See Figure 2-5). It is not clear how much of this decline is attributable to an increase in relatively lower yield long-distance travel and how much is due to a relative increase in the use of discount or special fares by Amtrak travelers. It is possible that the potential increased revenue from those persons traveling during peak periods who would have paid a higher fare or traveled at a lesser discount would offset the loss of revenue from those passengers who would not travel by train were it not for the magnitude of the existing discounts. Whatever the reason for the decline in yield during peak travel periods, the decline itself is contrary to expectations that when demand is highest Amtrak should have the most flexibility to price its services so as to increase yield.

Second, the USA Rail Pass, a special fare offered by Amtrak for unlimited travel during a given period of time at a fixed price, may be priced in such a way that it is diluting revenues by offering a discount to travelers who would be willing to pay a higher price. To minimize this dilution, other transportation companies generally set the price of the least expensive unlimited ride ticket (good for the shortest period of time) at or above the round trip fare for the longest major trip for which it could be used. For instance, the 22-day systemwide "Viapass" offered for passenger travel on most of the Canadian railroads, is priced at $240 during off-peak periods and at $300 during peak periods. The rail fare for the passenger trip between Montreal and Vancouver is also $240. By contrast, the 14-day USA Rail Pass costs $169 during nonsummer periods and $250 during summer periods, while the fare between New York and Los Angeles is $358 during peak periods and $214 during off-peak periods. The full fare for the more common trip between Chicago and Los Angeles is $242 during peak periods and $141 during off-peak periods. While the USA Rail Pass is a pricing tool that has been effective in generating some new Amtrak ridership, it is possible that some of this ridership increment would have been willing to purchase a full fare ticket. Thus, while there is not sufficient data to measure with precision the number of passengers who purchased a USA Rail Pass instead of a full fare ticket, the net effect of the program could have been a dilution of Amtrak's yield.

Third, an implicit and growing discount exists for Conrail commuters in the Northeast Corridor. Amtrak's pro-rata compensation from Conrail for carrying these passengers is defined by a contract negotiated with Conrail's predecessor, the Penn Central Transportation Company, that is based on a 1959 traffic survey and 1971 ticket prices. As ticket prices rise on other Amtrak services, the yield received from them is diluted by the lack of an equivalent

increase in pro-rata payments received from Conrail. The contract is currently being renegotiated consistent with the Amtrak Board's stated policy that the Corporation must be fully compensated for providing commuter services.[1] The Department endorses the Board policy.

Finally, if Amtrak is making increased use of discounts to meet fare competition from other modes of transportation in order to retain the Corporation's market share, even at the expense of an increased deficit, then the trend in Amtrak's yield should be similar to that experienced by the other modes. Figure 2-6 illustrates the trend in Amtrak's yields and those of the airlines and intercity bus industry. Between January 1976 and January 1978, Amtrak's yields have generally been increasing less rapidly than those of the airlines and the intercity bus industry, although recently Amtrak's yield has increased while the bus industry's has not.

Costs

Amtrak's total operating expense (excluding depreciation, interest and Federal income taxes) grew from $301.4 million in 1972 to $791.1 million in 1977. This operating expense growth represents a rate two times greater than that experienced by Class I railroads over the same period. This rate, however, covers a period in which Amtrak was transformed under Congressional directive from a primarily "contractor-only" to a "direct-operating" railroad. When growth rates are adjusted by the output variable train-miles, current dollar Amtrak unit costs grew an average of 15.8 percent annually while the industry's operating expense grew an average of 11.6 percent. After adjusting for inflation, the industry constant dollar operating expenses were stable and Amtrak's costs grew approximately 4.8 percent annually.

An analysis of Amtrak's historical cost experience conducted for the Department found that of the $489.7 million increase in Amtrak's expenses between 1972 and 1977, 68.9 percent was attributable to the combined effects of inflation and an increase in the number of train-miles operated by Amtrak.[2] The growth in Amtrak's staff and facilities, an increase in billings from railroads for work performed under contract, new programs initiated after 1972, and several other minor factors accounted for an additional 24.1 percent of the increase, leaving roughly 7 percent to be explained by other factors. The findings of that analysis are summarized in Table 2-3. That study did not perform a definitive analysis of the relationship between Amtrak's costs and its productivity. Such analysis would be very difficult because Amtrak has not yet developed the work standards or standard costs necessary to ascertain whether Amtrak is more efficient today in performing particular work tasks and in controlling total costs than it was when it began operating in 1971.

Deficits

Amtrak's operating results between Fiscal Year 1972 and Fiscal Year 1978 are summarized in Figure 2-1 on page 2-2. While revenues have increased,

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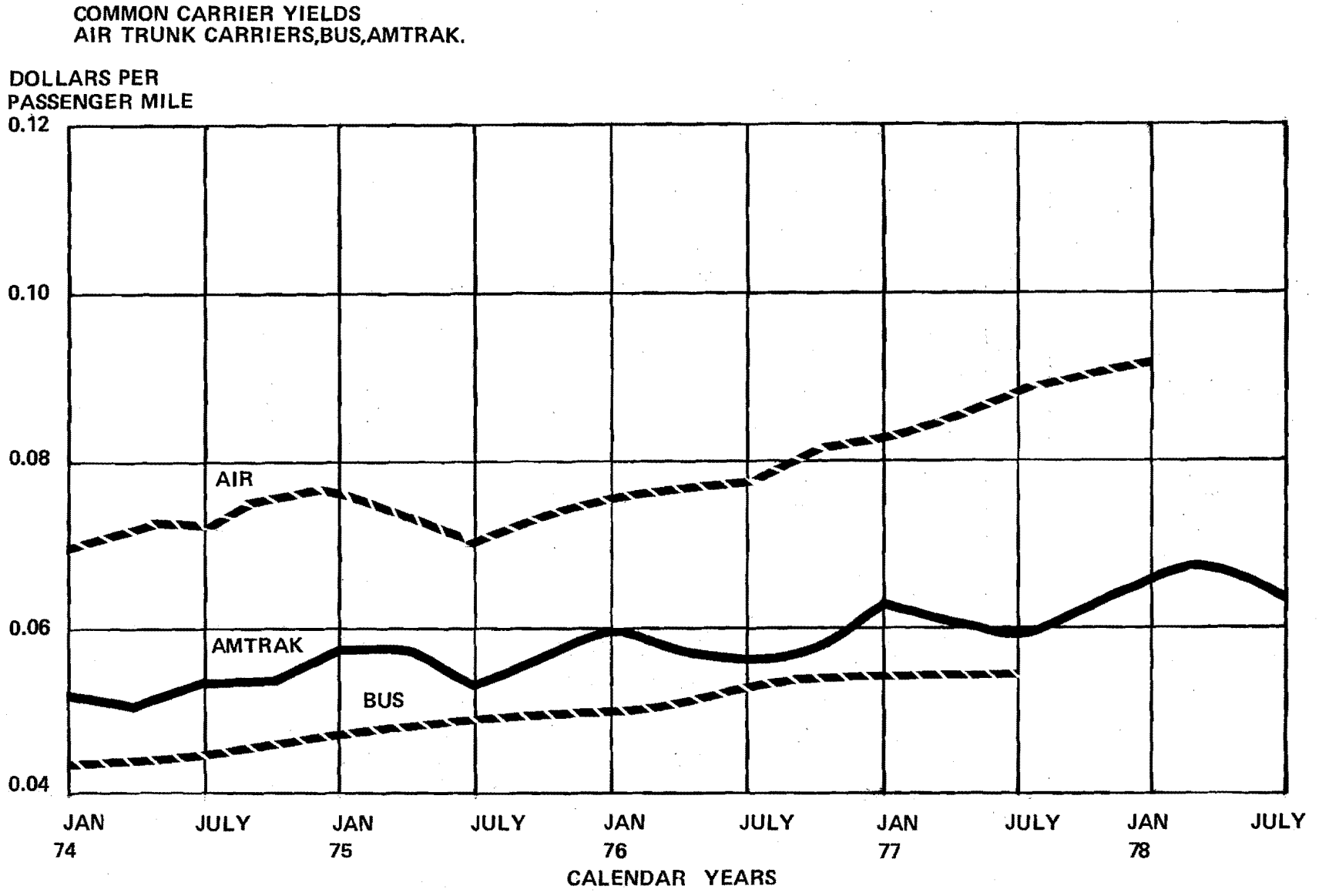
[1]The Amtrak Mission Statement, Amtrak Board of Directors, December 13, 1978.

[2]Analysis of Amtrak's Costs; Temple, Barker and Sloane, Inc.

Figure 2-6

RELATIONSHIP OF AMTRAK YIELDS TO OTHER MODES



SOURCE: Amtrak Marketing Department

Table 2-3

GENERAL CAUSES OF COST INCREASES
1972 to 1977
(millions of dollars)

	Amount	Percent
Total Operating [1] Cost Increase	$489.7	100.0
Causes:		
Inflation	219.1	44.7
Volume	77.5	15.8
Combined [2] Inflation and Volume	41.0	8.4
Total Inflation and Volume	337.6	68.9
Infrastructure	58.3	11.9
Railroad Billings	37.5	7.7
New Types of Work	5.6	1.1
Other Explained Causes	16.7	3.4
Unexplained	33.7	6.9

1/ Operating expenses as used here exclude depreciation and interest.

2/ The combined effect is equivalent to inflation on the increased volume.

Source: Analysis of Amtrak's Costs; Temple, Barker and Sloane, Inc.

costs have increased at a faster rate, so that in all years except 1973, the gap between costs and revenues has widened. Revenues equalled 50 percent of Amtrak's total expenses (including depreciation) in 1972, but only 35.1 percent of those expenses in 1978.[1] There has been no source of funds to cover this steadily rising deficit other than subsidies from the Federal Government. Between Fiscal Years 1972 and 1978, deficit per revenue passenger-mile on Amtrak more than doubled, rising from 5.5 cents in 1972 to 14.3 cents in 1978.

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[1]The revenue-cost relationship discussed here includes depreciation as an expense. A similar revenue-cost relationship measure is discussed on page 3-3 except that depreciation, which is a non-cash item, is not treated as an expense in that context, so that the direct effect upon the funding provided by both Amtrak customers and the Federal Government can be determined.

Chapter 3

POLICY AND RECOMMENDATIONS

Amtrak provides a primary transportation service to a limited number of persons. To a significantly larger group it provides a transportation alternative that may be used only occasionally. To many other people it represents a national resource that they value even though they rarely, if ever, travel by train. Thus, continuing Federal assistance for intercity rail passenger service is a policy that is supported by a far greater proportion of the American public than the share which actually uses Amtrak's services regularly. This is not an uncommon circumstance, since many public assistance programs draw support from a broader range of the populace than those who receive direct benefits.

On the other hand, many citizens have been concerned with the high and increasing levels of Federal financial assistance that have been necessary to subsidize Amtrak, particularly in an era marked by high inflation, chronic budget deficits and strong resistance to higher taxes. The Congress has recognized these concerns by calling for the reexamination of the intercity rail passenger route system that is embodied in this report.

Assessing and balancing these conflicting views on Amtrak is a task best accomplished by government, rather than Amtrak itself. The Executive Branch and the Congress, together, with expert advice from Amtrak and input from the public, should designate which basic intercity rail passenger services Amtrak should provide and the amount of public resources that are to be made available to support them. Amtrak, on the other hand, should concentrate principally on operating the designated intercity rail passenger system as efficiently and cost-effectively as possible. Within budget ceilings, Amtrak should be able to make incremental changes to the designated system of routes and services that make the system more efficient.

Over the past year the Department, at the request of Congress, has assessed the costs and benefits of intercity rail passenger service, considering its current value as a transportation option, its contribution to energy conservation, its social and historical value and its future potential. The Department's analyses point overwhelmingly to the conclusion that the current system can be trimmed substantially and still maintain a large portion of its ridership and public service benefits.

This is true because Amtrak's system expansion since 1971 has resulted in the inclusion in the Federally subsidized national system of a significant number of lightly patronized routes and services that are primarily regional in nature. The added routes and services have proven to be a major drain on Amtrak's financial and management resources. These routes have contributed

significantly to the decline in Amtrak's financial performance and a corresponding increase in its need for public subsidies and, by commanding a disproportionate amount of management attention, they have diverted management's efforts from improving the quality and performance of Amtrak's more promising services.

The Department believes the trimmed down route system recommended in Chapter 4 will contribute substantially to creating a stable operating environment that will permit Amtrak to concentrate on improving its financial performance and the quality of services it provides to the public. The Department recognizes that an assured source of funds, along with multi-year authorizations, is also necessary for establishment of that stable environment. The Department therefore recommends that the Congress authorize funding for Amtrak for three-year periods commencing with Fiscal Year 1980. The initial three-year authorization should be based on the financial projections contained in this report. Before the end of each three-year authorization period, and in the sequence prescribed in the normal budget process, the Department, with the assistance of Amtrak, would submit to the Congress proposed authorizations for Amtrak for the next three-year period. Those authorizations would reflect the Department's views, developed with advice from Amtrak, as to the scope and nature of the system that should be operated during each subsequent period. They would be based upon continuous analysis of the merits of the then-current system and Amtrak's management of that system. Appropriation of funds would be annual, following the normal budget process.

Within the funds provided by Congress for each three-year period, Amtrak's Board and management should have considerable flexibility in operating the system and in making it more efficient. In accordance with the Amtrak Improvement Act of 1978, this report recommends only the end points and principal intermediate points to be served by the new system. The specific routings between those points, which are shown for display purposes, are not required by law and should be viewed by Amtrak as advisory. To the extent that Amtrak identifies intermediate routings which are preferable to those shown, and which can be operated within appropriated funds, those routings should be implemented. In addition, once the new system is in place Amtrak is also free to change frequencies and specific routings between designated end points and principal intermediate points, as management continues its economic evaluation of the system and as it is determined that such changes will provide for a more efficient system and will serve Amtrak's customers better. The Route and Service Criteria, which were developed by Amtrak in response to requirements in the Rail Passenger Service Act, should be used for any route additions or discontinuations, and for any extensions of service beyond the designated end points.

KEY POLICY GOALS

During the initial three-year authorization period, the Department believes Amtrak must strive to achieve the following major objectives:

- Amtrak must meet a greater portion of its expenses with revenues collected from its customers. In Fiscal Year 1978, Amtrak's revenues covered just 36.8 percent of its expenses (excluding depreciation). The balance of those expenses were paid from the Federal treasury. The financial projections for operating the recommended system, contained in Chapter 5 of this report, assume significant improvements in that relationship. Amtrak management has agreed that a reasonable goal to be achieved by the end of the first three-year authorization period in Fiscal Year 1982 is for revenues to cover at least 44 percent of such expenses. For long-range planning purposes, the Department believes an appropriate goal is that revenues should cover at least 50 percent of such expenses by not later than the end of the second three-year authorization period in Fiscal Year 1985. Upon that goal being achieved, revenues paid by Amtrak's customers would equal operating subsidy contributions from the Federal Government.[1]

- Amtrak must further improve the quality of railroad passenger service offered to the public. The Corporation should report on its progress toward that goal with its annual budget submission to the Department, beginning with the Fiscal Year 1981 submission. In connection with that first report, Amtrak should develop criteria for measuring the quality of its service, together with a specific quantitative goal for each of these criteria and a schedule for meeting each goal. The criteria should cover both Amtrak's direct functions and functions for which it contracts with private railroad companies. In developing the goals Amtrak should carefully consider the cost-effectiveness of their implementation. In weighing Amtrak's budget request against requests for other transportation programs, the Department will consider improvements in the quality of service as one measure of the public benefit of Amtrak's services.

- In putting the recommended route system in place, the Corporation should implement the best routings between the end points and key intermediate points designated in the recommended route structure as quickly as possible. All efforts must be made to implement these modified routings by October 1, 1979. Service on all routes that are not included in the recommended route system should be terminated on October 1, 1979. In the event that agreements allowing

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[1] In measuring the relationship between revenues and annual expenses in the context of establishing this goal, depreciation has been excluded. This is contrary to the historical measurements used in Chapter 2, which resulted in a revenue to expense relationship (including depreciation) of 35.1 percent in Fiscal Year 1978. Depreciation has been excluded in this context since the intent of the goal is to increase the contributions from Amtrak's customers in relation to the contribution from the Federal Government, and depreciation is a noncash expense item which does not effect that relationship in any given year.

the Corporation to operate commuter service pursuant to section 18 of the Amtrak Improvement Act of 1978 are not in place on routes requiring such agreements on October 1, 1979, service on those routes should be also terminated. The financial projections for Fiscal Year 1980, which are contained in Chapter 5, are premised upon the savings that can be realized by achievement of this objective.

As a critical aspect of achieving the major objectives described above, the Department recommends that the Amtrak Board of Directors develop policy directives regarding the major aspects of each. Based upon those directives, specific practices and policies to be followed in implementing them should be developed. Those practices and policies will be useful in guiding management decisions as well as in structuring Amtrak's annual business plan. They should be reviewed regularly, taking into account any changes in Board policy and in the Corporation's operating and marketing environments.

The balance of this chapter is divided into three sections: (1) specific recommendations to Amtrak regarding ways in which it might improve its relationship of revenues to costs, both by increasing its revenues and by reducing its costs; (2) the Department's policy recommendations on issues raised by the Congress apart from the reevaluation of the route structure; and (3) the Department's response to the principal recommendations provided by the Interstate Commerce Commission's Rail Services Planning Office (RSPO) in its evaluation of the Department's Preliminary Report.

IMPROVING THE RELATIONSHIP BETWEEN REVENUE AND COSTS

To help stabilize the financial condition of Amtrak and create a firm base for the long-term improvement of intercity rail passenger transportation, Amtrak must coordinate all the activities involved in operating the Corporation and must specifically consider the effect that decisions made about each of those activities have on the need for Federal assistance. In particular, marketing and pricing decisions must be made only with a full understanding of the financial and operating consequences of those decisions. Each category of passengers solicited to use the system should, when all the incremental costs and revenues that arise from carrying those passengers are taken into account, contribute to meeting the financial goal for the Corporation that is outlined above. It is encouraging that Amtrak, on the initiative of its new management, recently began an analysis of its system and operations that is designed to achieve these ends. The Department believes that this analysis is an important first step if Amtrak is to stabilize its financial condition. The Department's specific recommendations on actions that might be taken to improve the financial performance of the Corporation are set forth below.

Revenue-Related Suggestions

The related issues of what services to provide and what prices to charge are fundamental to achievement of the Corporation's objectives. Amtrak should continue to conduct research that will improve its understanding of the specific reasons that people choose to ride trains, what portion of the traveling public represents Amtrak's potential market, and the sensitivity of

the rail passenger market to changes in price. The Department recommends that Amtrak continue and extend its program of research into the characteristics of the market for rail passenger transportation, focusing on the segmentation of that market and the sensitivity of each segment to changes in prices and services. That research should form the basis for long-term marketing policies and practices, and the foundation for the development of operating plans and a long-term equipment program.

Amtrak derives the bulk of its revenues from the sale of tickets for transportation and accommodations and from the sale of food and beverages aboard its trains. The Department and Amtrak believe that gains can be made in receipts from both activities.

Since 1971, Amtrak's fare level has increased at approximately the same rate as the consumer price index and somewhat less than the rate of increase in the Corporation's own expenses. In addition, Amtrak's systemwide yield[1] has increased at a rate well below its rate of fare increase. This divergence between fare levels and yields, coupled with a deteriorating financial condition, has drawn attention to the need for a new Amtrak fare policy. Both the Congress and the Executive Branch have recognized that need. In the Amtrak Improvement Act of 1978, the Congress provided that:

- In developing this report, the Department consider ". . . fare structure alternatives and the impact of such alternatives on ridership, revenues and expenses of rail passenger service."

- Amtrak be "operated and managed as a for-profit corporation."

In addition, the Conference Report accompanying the Act states that "[t]here is a serious need on the part of Amtrak, to increase its revenues in order to reverse the rising level of Federal financial support for operations.... The conferees strongly feel that Amtrak fares must be altered to reflect, more appropriately, the true cost of providing passenger services."

At its January 24, 1979 meeting, Amtrak's Board of Directors adopted the following corporate policy which will govern the setting of fares:

> Amtrak's primary business policy objective in the long term is to optimize Amtrak's financial condition. This is to be accomplished by maximizing long-term net revenues while providing acceptable levels of service on routes Amtrak is directed or authorized to operate by the United States Government.

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[1] Yield is the average amount of revenue per passenger-mile that Amtrak actually realizes after its available discounts are factored in.

The Department believes this is a sensible policy and endorses it. The new policy should permit the Corporation to raise fares and carefully control discounts in a manner which assures that systemwide revenues increase at a rate greater than the rate of growth in the Corporation's expenses. In implementing the policy, the Department believes Amtrak should take full advantage of its pricing flexibility. In less price-sensitive markets Amtrak should increase fares at a higher than average rate of increase, and should further restrict discounts. In more price-sensitive markets it should hold down fare increases and should allow discounts which are carefully tailored to attract additional riders who will contribute to net revenue. This approach may result in the loss of some existing or potential riders but should aid significantly in achieving Amtrak's financial goal by increasing revenues at a rate greater than the growth rate of expenses.

The Council on Wage and Price Stability has reviewed and supports the fare-related policies enunciated in this report. It is recognized that Amtrak fare increases may well exceed the existing inflation rate as the Corporation moves toward an improved revenue-expense relationship. However, Amtrak understands that it is expected to remain in compliance with the President's anti-inflation program. The impact of working toward the 50 percent relationship will be to reduce the burden on the taxpayer while requiring the intercity rail passenger to assume a fairer share of the costs of his or her travel. Hence, to the extent that fare increases are offset by tax decreases the overall impact would not be inflationary.

Within the Corporation's overall fare policy, the Department specifically suggests that Amtrak consider the following immediate pricing actions which can be taken to increase revenues:

- Increasing peak period yields through a combination of much more restrictive discount pricing and/or surcharges.

- Applying carefully controlled off-peak discounts designed to better use available capacity by adding passengers who contribute to net revenue, but not be attractive to passengers who would otherwise pay full fare. The Department is encouraged by the fact that Amtrak has recently taken steps to better control the extent of discounts offered. The Department supports those actions.

- Setting route-specific prices in conjunction with operating and capacity decisions, with the objective of increasing net revenue.

- Increasing prices for selected services to reflect more properly the cost of providing those services.

The Department also believes that fares for premium services (e.g., daytime parlor car service and first-class sleeping cars), should be increased to cover the incremental cost between those services and standard services. The Department considers the provision of economy sleeping car service to be an integral part of standard service on overnight trains. However, the Department recommends that the Interstate Commerce Commission immediately revise its regulations governing on-board services to permit Amtrak to discontinue those premium parlor and sleeping car services for which there is

insufficient demand after their prices are adjusted to cover their incremental costs. The Department will also propose legislation to discontinue this and all other service regulations of Amtrak by the Interstate Commerce Commission.

During Fiscal Year 1978, Amtrak earned approximately $20 million from the sale of food and beverages aboard its trains. Amtrak's cost accounting system attributes about $65 million in FY 1978 costs to these services. However, these costs do not include the cost of owning and maintaining the lounge and dining cars or any added costs or revenue losses associated with providing sleeping accommodations for the crew on overnight trains. One rationale for setting prices for food and beverages substantially below costs might be to attract additional riders, whose fares exceed the incremental costs of their transportation by enough to cover the losses incurred in providing on-board services. In the face of large deficit operations, however, heavily subsidized on-board amenities cannot be justified.

The Department believes that information must be collected which defines the market value of on-board services as a component of the customer's decision to purchase rail transportation, the fare the customer will pay for that transportation and the amount the customer will pay for those on-board services. Further, the information must be developed for each major category of Amtrak riders. For example, first-class passengers on a long-distance train may be very sensitive to the quality of available dining service and may even be willing to pay more for a rail ticket and a meal if the dining service is outstanding, whereas short-distance or price-sensitive passengers on the same train may be entirely indifferent to the quality, or even the existence, of a dining service. This information should provide the basis for a specific strategy for substantially reducing losses from on-board services. Amtrak agrees with the need for changes in the area of on-board service pricing and has informed the Department of plans to implement selected price increases this year and to examine its policies governing on-board services carefully. The Department suggests that this examination include an evaluation of the impact and costs of Amtrak's contracting for dining and beverage services with firms that specialize in that field, including the labor protection implications of such a decision.

Cost-Related Suggestions

Since 1972, Amtrak's operating expenses have more than doubled. A study conducted for the Department was able to attribute components of the increase in large part to the direct assumption by Amtrak of many operations for which it was contracting in 1972, plus inflation and the growth of the Amtrak system.[1] The study was unable, however, to analyze the increase or the absolute level of costs in relation to productivity, due to the absence of a system of detailed functional standard costs for Amtrak.

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[1] Analysis of Amtrak's Costs; Temple, Barker & Sloane, Inc.

A standard cost system is an essential element in effective management. Standard costs measure the amount a specific unit of work or a product should cost at a given, expected level of corporate activity. Comparison of these costs with actual costs as they are incurred highlights both efficiencies and inefficiencies, and provides a basic understanding of the costs that is useful in budgeting and cost control.

Standard costs may be determined in three ways. First, they may be derived from the costs associated with similar work in similar companies. Second, they may be estimated by studying the actual, historical costs of the company involved. Finally, they may be constructed through detailed economic and engineering studies. The last approach is generally preferable because it avoids perpetuating costs resulting from past inefficiencies and because the process used to compute the standards provides the most useful information. The analyses undertaken as a part of economic and engineering studies highlight the cost components needed to produce the desired output; i.e., the specific amounts of labor, contract services, materials consumed and the portion of overhead costs that should be allocated. The absence of comparable companies and accurate historical data makes economic and engineering studies the only practical method of constructing standard costs open to Amtrak.

The study of costs conducted for the Department noted that engineered standard costs could be developed for many of Amtrak's functions. Specifically, maintenance of equipment, station operations, reservations, commissary and crewbase operations, and Northeast Corridor maintenance-of-way and train dispatching would all appear to be candidates for standard costing. Once established, the standards could serve as a mechanism for evaluating the efficiency of Amtrak's own operations and the operations of its contractors and as an important tool for Amtrak management in reducing the rate of growth in the Corporation's expenses.

The Department is encouraged by the fact that Amtrak management has recently initiated a review of productivity and plans to develop and implement appropriate strategies for improving the productivity of the Corporation and reducing the rate of growth of its expenses, employing, where applicable, a system of standard costs. The Department recommends that this standard cost system be developed as quickly as possible.

Equipment Expenses

Amtrak continues to commit large amounts of capital for new or upgraded passenger cars and locomotives. Maintaining this equipment accounts for the Corporation's largest single operating expense. Unfortunately, the Corporation has experienced difficulties in the design, manufacture and maintenance of equipment. These difficulties were complicated by the absence of a highly developed passenger car building industry and a current program of passenger car research and development in the United States in 1971.

The Amtrak Board of Directors, in its recently developed mission statement, addressed the Corporation's equipment problems. The statement noted a pressing need not only for modernization and standardization of the fleet, but also better maintenance of the equipment. The Board indicated the need for long-range, comprehensive equipment planning to provide a well-documented case for the capital funding that would be required for any future equipment requirements.

The Department agrees with the Board that long-range equipment planning is necessary and believes that, prior to making its Fiscal Year 1981 budget request, Amtrak should develop a formal, long-range plan related directly to its route-by-route marketing plan. This plan should relate the size of the expected, route-specific market for coach, dining, lounge, sleeping car and other services, as well as the expected useful life of Amtrak's existing equipment, to the Corporation's future equipment requirements. Amtrak management has indicated it intends to develop such a plan.

The Department also recommends that Amtrak implement the recommendations of a recent study of Amtrak's car maintenance and utilization practices, which was funded jointly by Amtrak and the Department.[1] That study recommends the establishment of a program of preventive maintenance and a set of procedures for improved cycling of passenger cars and maintenance scheduling. Implementation of these recommendations should both increase passenger comfort and decrease operating expenses by reducing equipment failures on standardized types of equipment and on standardized components, resulting in the need for less reserve equipment. The net result should be a smaller, better maintained and better utilized fleet. Capital expenses will also be reduced as a result of reductions in the total number of passenger cars required to operate the system.

Capacity and Load Factors

Equipment needs and expenses are directly related to policies governing system capacity. Regulations of the Interstate Commerce Commission currently require Amtrak to provide equipment to meet peak demand. The Department believes the ICC should rescind these regulations. Purchasing, operating and maintaining sufficient equipment to meet the crush of peak period demand has proven expensive and results in an inefficient use of resources. The cost per seat-mile of providing equipment to accommodate the additional ridership in the peak is much greater than providing equipment that can be used on a year-round basis. A study for the Department found that the cost of providing an additional seat or berth to accommodate a peak season traveler is about twice the cost of providing that space to a traveler during other times of the year.[2]

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[1] Study to Develop an Intercity Passenger Car Maintenance and Utilization Program: Peat, Marwick, Mitchell & Co.

[2] Sleeping Car and Other Auxiliary Services on Amtrak Long-Distance Trains. Transmark, Ltd.

Amtrak's pricing flexibility offers a means of reducing peak-period demand to optimal capacity levels. The Department recommends that Amtrak use the concept of peak-pricing discussed earlier in this chapter to adjust the peak-period demand in each market. In establishing such pricing, Amtrak should consider and fully document the incremental revenues and costs associated with adding equipment to the normal consist. Such a policy would contribute materially to Amtrak's ability to stabilize the relationship of revenues to costs in the near-term and to improve that relationship in the long-term. Amtrak will also be able to concentrate its efforts on increasing the quality of those services it continues to provide.

This policy would reduce Amtrak's expenses by the amount required to own, operate and maintain the equipment and facilities that are now used only to meet peak demand. It would further reduce the operating expenses for those trains on which a reduction in the number of cars assigned will permit a reduction in the number of locomotives and crew members required. On some trains the latter savings can be substantial. Labor input is the largest single item traditionally taken as a given. However, Amtrak's current method of paying for work units contributes to the high costs of providing rail passenger service. The relationship between basis of pay, work rules, and operating costs must be carefully reconsidered. The Department recommends that Amtrak vigorously pursue improvement in the labor cost function and specifically recommends that Amtrak management and labor undertake joint initiatives to reduce these unit costs.

Load factor policy is also a significant consideration in determining equipment needs. During Fiscal Year 1978 the system load factor averaged slightly less than 45 percent. There is clearly room for improvement. Careful control of the number of cars assigned to each train, coupled with proper pricing and reservation practices, should lead to a reduction in expense for owning and maintaining cars. Such efforts, supported by an analysis of locomotive assignment practices, could yield a modest increase in energy efficiency, since the amount of fuel consumed varies with the number of cars and locomotives on a train.

The Department notes that the Amtrak Board and management have begun a comprehensive review of the cost and revenue implications of Amtrak's current load factor experience and related practices and believes that the review should culminate in a policy governing the number of locomotives and cars to be assigned to Amtrak's trains.

Operating Performance

Amtrak's lack of operating reliability poses difficult problems. Some aspects of operating reliability, such as air conditioning performance, are largely within Amtrak's direct control. Others, notably on-time performance and delay due to freight train interference, are principally outside Amtrak's direct control, since Amtrak's trains are operated by private freight railroads under contract. While there are no easy solutions to these problems, the Department believes Amtrak should use the existing laws giving passenger trains preference over freight trains to improve on-time performance. In addition, by formulating and publishing goals for improvements in operating reliability, Amtrak can focus attention on all operating problems and the ways in which they can be overcome.

OTHER ISSUES RAISED BY CONGRESS

Several other Amtrak-related issues have been raised by the Congress in recent legislation. These include the potential for improved intermodal operations, additional corridor services, and the role of Amtrak in the operation of commuter services and mail and express services.

Coordination of Amtrak with Other Modes

The potential exists for Amtrak to expand its effective service area through improved coordination with other modes of transportation, both intercity and local. For communities served by Amtrak, coordination with local bus and rapid transit, commuter rail and taxi services improves the residents' access to intercity rail passenger services and hence makes existing rail service more attractive. For communities not a part of the Amtrak system, coordination with intercity bus services is an efficient means of establishing a link with the nation's intercity rail passenger system and is far less expensive than the establishment of direct rail service.

Coordination between Amtrak and the various local modes of transportation can be achieved with relative ease and without incurring major costs. Local buses might stop at the Amtrak stations as a part of their normal schedules or special shuttle bus services might be operated between Amtrak stations and a limited number of major bus route terminals. Amtrak and local passenger rail operations frequently share station facilities and can be coordinated more fully by simply improving directional signs and increasing the availability of schedule information. Standing zones for taxis should be established and directional signs should be installed to make taxis more accessible. The responsibility for improving coordination between Amtrak and local transportation operations must be shared by Amtrak and the communities it serves. The Department recommends that Amtrak establish as a goal to be accomplished during Fiscal Year 1979 the drafting and implementation of plans to improve its coordination with local transportation services in each community in the recommended Amtrak system.

Improved coordination between Amtrak and intercity bus services can be achieved in a variety of ways, each of which possesses its own service and cost characteristics. Buses can be chartered by Amtrak on an intermittent or continuing basis to provide service dedicated to transporting rail passengers to and from points not in the Amtrak system. Amtrak currently contracts for two such dedicated services -- one between Oakland and San Francisco, California, and another between Petersburg and Norfolk, Virginia. As an alternative, Amtrak services can be coordinated with existing regular route intercity bus service. Amtrak and the intercity bus industry have been expanding the number of services coordinated in this manner and there are approximately thirty such route connections currently in effect. These and alternative methods of improving intercity rail and bus coordination are more fully analyzed in a 1976 report to the Congress by the Department.[1]

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[1] The Potential for Integrating Rail Service Provided by the National Railroad Passenger Corporation with Other Modes, U.S. DOT, May 1, 1976.

The establishment of multimodal station facilities can assist in coordinating Amtrak and other modes. However, simply placing several modes of transportation under the same roof with Amtrak, while lowering one of the more obvious physical barriers to improved coordination, does nothing to lower the many other barriers, such as those relating to schedule information and coordination, ticketing and baggage handling. Construction of major multimodal facilities is a very expensive means of improving coordination between Amtrak and other modes. On the other hand, where new facilities are needed to replace old and inefficient facilities, perhaps as a portion of a major urban revitalization project, careful analysis of the costs and benefits of a multimodal facility should be made. The Department recommends that all Amtrak plans to undertake major improvements to existing stations or to construct new stations include an evaluation of the feasibility of and costs associated with including facilities to accommodate other modes (e.g., bus loading and unloading docks, taxi stands, and additional ticket counter space), and the willingness of other parties to share such costs.

High Speed Rail Passenger Corridors

The Department's Preliminary Report reviewed several studies of the potential for additional high-speed passenger corridors outside of the Northeast Corridor. While the Department acknowledges that these studies did not fully consider the public costs involved, or the benefits or advantages of rail service over transportation modes in those corridors, it notes that none of the existing studies show that there is any economic justification for major investment in those other corridors.

The RSPO report indicated limited public support for investment in these corridors. Some witnesses were concerned that, as taxpayers, they ultimately would be supporting operating losses in the Northeast Corridor without receiving any rail passenger service in their states. Others, using the Northeast Corridor as an example, suggested that Amtrak consider setting up similar corridor operations in other regions.

The Department does not recommend Federal funding for track upgrading for rail passenger service outside the Northeast Corridor until the Northeast Corridor project has been completed and evaluated and unless additional, more extensive studies indicate that the public benefits of such upgrading will outweigh the public costs. This policy should not discourage investments by states or private railroads that find the benefits to them justify such expenditures.

Commuter Services

The Rail Passenger Service Act, as amended by the Amtrak Improvement Act of 1978, prohibits Amtrak from operating commuter service in metropolitan or suburban areas unless a State, local or regional transportation agency agrees to reimburse the Corporation for no less than the avoidable cost of operating such service.

At present, Amtrak operates scattered commuter-type rail services. These services fall into three categories, incidental service, supplementary service and sole service.

(a) Incidental Service is the carriage of limited numbers of commutation ticket holders on trains patronized largely by single fare, intercity passengers. Northeast Corridor conventional trains between Boston and Washington are an example of this type of service.

(b) Supplementary Service is the operation of Amtrak trains, patronized largely by commutation ticket holders, on the same line with commuter trains operated by other railroads. Many of the "clockers" operating between Philadelphia and New York fall in this category due to commuter traffic from stations in New Jersey to Newark and New York.

(c) Sole Service is the operation of Amtrak commuter trains with no paralleling non-Amtrak services. The Amtrak train between Jackson and Detroit, Michigan, is an example of this type of service.

At present, Amtrak is not reimbursed for the full costs it incurs in providing commuter services, and it generally does not receive compensation for even its avoidable costs. The Amtrak Board of Directors, in its December 13 Mission Statement, took the following position regarding commuter-type service:

> The basic mission of Amtrak is to operate intercity rail passenger service. The provision of commuter service will degrade Amtrak's basic service. Should a public policy decision be made to impose commuter operations on Amtrak, compensation for the full costs must be provided.

The Department supports the view of the Amtrak Board. We are strongly opposed to cross-subsidization between intercity and commuter rail passenger service. The Department views the legislative requirement for reimbursement of avoidable costs as setting a minimum standard for compensation to Amtrak. Moreover, the Corporation should require whatever level of cost reimbursement is necessary to prevent cross-subsidization of commuter services by intercity passengers.

In estimating the amounts of Amtrak's future operating subsidy appropriations, which are presented in Chapter 5, the Department has assumed that the commuter-related costs of operating trains which provide either supplementary or sole commuter services will not be borne by Amtrak. Therefore, in order to continue operation of such trains beyond October 1, 1979, the cost of these trains must be recovered by Amtrak, either by increasing commutation ticket fares or by a state or local agency subsidy. The Department has included the operating costs of basic intercity trains which carry a limited number of commutation ticket-holders in incidental commuter service in its estimates in Chapter 5. However, Amtrak should stop accepting discount commutation tickets after October 1, 1979 unless the passenger or a state or local agency agrees to pay the difference between the commuter rate and the normal Amtrak fare.

Mail and Express Services

Section 19 of the Amtrak Improvement Act of 1978 directed Amtrak to "utilize all feasible means, including taking into account the needs of the postal service, in establishing schedules to attract and service the bulk mail needs of the United States Postal Service."

The Department's views on the issue of mail and express services are the same as those expressed in the Preliminary Report, which concluded that those services would have an improved potential for increasing Amtrak's net revenues if: (1) fully depreciated equipment were used, (2) adding baggage/mail cars did not require added locomotive power or displace passenger equipment generating greater net revenues, and (3) containerization of mail were used where economically justified. Amtrak's current baggage car capacity appears to be sufficient to carry additional mail and express currently being projected over the next five years.

There is a potential net benefit to be gained through selected increases in mail, baggage, and express service using the existing fleet. Accordingly, Amtrak should continue to pursue the carriage of mail and express to the extent it will improve net revenue and not have an adverse impact on passenger carrying capabilities.

PUBLIC HEARINGS ON THE PRELIMINARY REPORT

Following publication of the Department's Preliminary Report in May 1978, the Rail Services Planning Office (RSPO) of the Interstate Commerce Commission held public hearings in 51 cities to gather public comment. On September 30, 1978, the RSPO submitted its report, summarizing the public comment and offering recommendations to the Department. Pursuant to Section 4(d) of the Amtrak Improvement Act of 1978, the Department has thoroughly reviewed and considered the material submitted by the RSPO. The principal recommendations of the RSPO report and the Department's responses are set forth below.

RSPO Recommendation: "The Secretary's final route structure recommendations should be based on the social criteria set forth in the Amtrak Improvement Act of 1978 rather than on the criteria used in the development of the preliminary recommendations."

DOT Response: The Department believes rail passenger service serves multiple objectives, including some that might be characterized as "social criteria," and for that reason the Department favors continued public financial support for Amtrak at responsible levels. The Department believes that the best way to guarantee that Amtrak can continue to deliver service to the public is to implement a system that does not require enormous annual increases in financial support from the taxpayers. Moreover, section 4 of the Amtrak Improvement Act of 1978 clearly calls for the development of an Amtrak route system based upon population and market requirements, giving consideration to the net deficit anticipated for the system and other factors. The statute manifestly did not require nor favor replacement of

quantitative financial performance factors with the abstract notion of social needs. Indeed, the Congress expressly declared that Amtrak should be operated and managed as though it were a profit-making business.

The Department has not been selective in responding to the Congressional mandate. The recommended system described in this report represents a balanced response to all of the criteria and considerations established by Congress.

RSPO Recommendation: "A permanent funding process for Amtrak should be established, employing performance-incentive features designed to encourage efforts to increase ridership, passenger-miles, and other service-oriented factors."

DOT Response: The Department has reservations about this recommendation. As stated earlier in this report, longer term assurance of funding is needed by Amtrak. At the same time, pursuit of increased ridership and passenger-miles, without regard to the absolute cost of doing so, would only lead to uncontrolled and unwarranted annual increases in the amount of funds Amtrak requires from the Federal Government. This has been the experience of the past seven years, and it must change if we are to have a rail passenger system that is a source of pride. Incentives properly conceived may be useful, but in the event incentives are established, the Department strongly believes they must be based on <u>both</u> improved service to the public and improved financial results.

RSPO Recommendation: "State assistance under Section 403(b) of the Rail Passenger Service Act for those routes and services which are local in nature should be encouraged as a means of assuring that rail passenger service meets the needs of the public, without burdening the national system with the deficits incurred by local services. DOT should clearly present its recommendations for State-assisted routes in its final recommendations."

DOT Response: The Department supports cooperative funding of routes supplementing the national system under the provisions of Section 403(b) of the Rail Passenger Service Act. The recommended system includes all existing 403(b) services, provided State support for them continues.

RSPO Recommendation: "The development of final recommendations for those services with optional routings should rely on the public comments to identify the social and environmental needs of the communities and the individuals that would be affected."

DOT Response: In choosing between alternative routes, the Department has followed the direction of the Congress and has created a primarily population and market-based system by selecting the route that would generate the most use as measured in passenger-miles per train-mile. The Department's route selections also considered the other factors delineated in section 4 of the Amtrak Improvement Act of 1978, as well as capital costs and operating feasibility. In selecting the preferred route between options that were presented in the Preliminary Report, the Department has paid attention to public comments. In the case of service between Chicago and Seattle particularly, the public comments, weighed primarily by environmental concerns, influenced the Department not only in the choice of the routing, but also in the basic decision to provide any service.

RSPO Recommendation: "The Secretary should initiate efforts to assure the continuation of the essential services provided by the bus industry, which is an important element in the surface transportation network of the United States."

DOT Response: While the Department is deeply concerned with trends in the intercity bus industry and appreciates the important role it plays in providing intercity passenger transportation, a substantive discussion of that industry is outside the scope of this report. Operating Amtrak without regard to actual costs can only work to the detriment of the bus industry.

Chapter 4

THE RECOMMENDED ROUTE SYSTEM

The Department's development of a recommended route structure for Amtrak was initiated in response to a November 8, 1977 request from the Appropriations Committees. The request was repeated in the Conference Report accompanying the Supplemental Appropriations Act, 1978, (P.L. 95-240), and its substance was embodied in section 4 of the Amtrak Improvement Act of 1978 (P.L. 95-421).

The first step in developing the recommended route system was the preparation of the Department's Preliminary Report, which was submitted to the Congress in May 1978. In that report the Department defined five system concepts, distinguished by the scope and nature of the services offered, and then developed a specific route structure for each system concept. These concepts included:

- Short-distance daytime services only, based in major population centers, and with no national linkage.
- A Primary National System.
- A Primary National, Interregional System.
- A Modified Current System. (No Conceptual Service Pattern-Removal of Inefficient Routes).
- A Primary National, Interregional System plus Secondary, Local Services.

The five alternatives represented distinct concepts. They were not designed to represent simply various funding levels, although, of course, the cost of operating a network of rail passenger service is clearly a function of the size of the system and the levels of service offered.

In preparing the specific route structures included in the Preliminary Report, the Department followed the Congressional specification that the study be based primarily on population and market requirements. Population guided the initial selection of end point cities and principal intermediate points. However, the Department found that since an extensive highway network and frequent air and bus service are available in those parts of the country where the population is most dense, population and total travel desire alone do not necessarily reflect the market for rail service. Thus, rail ridership projections do not necessarily show a one-to-one correspondence with total population. For this reason, rail market requirements received primary attention.

The routes considered in the various alternative route structures included all current Amtrak routes and numerous potential new routes proposed by Amtrak, the public and Department staff. Potential new routes included some operated prior to the establishment of Amtrak as well as some that were never operated due to operational, institutional or other constraints.

The five representative alternative route systems presented by the Department for public consideration included:

- Alternative A: A minimal system of short-distance, daytime services in corridors originating in New York, Chicago and Los Angeles, with no railroad passenger service connecting them. This minimal service system could be operated without significant capital investment and at a much reduced deficit. The fixed cost associated with the isolated corridor services, however, would make such services very uneconomical in terms of the deficit per passenger carried. Extending this system to include other isolated short-distance services would be even more uneconomical. Further, the huge labor protection payments associated with cutting back to this system would, for the next several years, require very substantial appropriations. For these reasons, this system was not recommended in the Preliminary Report.

- Alternative B: A system including the same corridors comprising Alternative A, plus a single east-west service linking the corridors and a basic level of north-south service along the East and West Coasts and between the Great Lakes and the Gulf Coast. This alternative would provide a minimal level of national interconnected service and would enable travelers to reach the corners of the country via rail connections. It would have had significant potential for fare adjustments. The Department's analysis indicated, however, that the revenue to cost ratio of this system would be less than for larger systems, and the system would not provide the desirable direct interregional and national linkage provided by larger systems. Additionally, it would require substantial appropriations for labor protection payments. For these reasons, this system was also not recommended in the Preliminary Report.

- Alternative C: A system including the same services as Alternative B, plus an additional group of services connecting major regions of the country and providing service to major population centers. This alternative also included several additional short-distance services. The national, interregional concept represented by this alternative was recommended to the public in the Department's Preliminary Report. It was then the view of the Department that it would provide improved utilization of the train services offered, leading to improved Amtrak financial performance and improved energy

efficiency, and would be a more manageable system that would enhance Amtrak management's ability to improve the Corporation's performance and operation.

- Alternative D: A system based upon the current Amtrak route structure, with minimal adjustments to provide complete national and interregional service. This alternative made minimal modifications to the existing Amtrak system and eliminated only those routes and services that were extremely poor performers or largely duplicated other services. Many of the services provided by this system would be highly uneconomical. Further, many of the services would be of primarily local interest, and would not, in the Department's view, be appropriate for full Federal funding. Such services should be provided by the States involved, in cooperation with Amtrak, either through section 403(b) of the Rail Passenger Service Act or on some alternate cost-sharing arrangement. For these reasons, this system was not recommended in the Preliminary Report.

- Alternative E: A system including the services of Alternative D, with the addition of new interregional and intraregional services as well as modifications to existing routes that would require substantial capital expenditures. This alternative built upon Alternative C by adding a substantial number of intraregional services, all of which would be appropriate candidates for state funding participation. The alternative also included reroutings of existing services, involving heavy capital expenditures for track improvements. Given the current financial condition and quality of intercity passenger service, the Department strongly opposed this system.

Following publication of the Preliminary Report, the Rail Services Planning Office (RSPO) of the Interstate Commerce Commission conducted hearings in 51 cities to gather public response. On September 30, 1978, the RSPO submitted to the Secretary of Transportation its report, which summarized the testimony and offered recommendations.[1] That report found that public reaction to the alternate concepts advanced by the Department in the Preliminary Report was sharply divided. The Department has studied and considered the public comments carefully, together with the recommendations offered by the RSPO. A discussion of the RSPO's principal recommendations is contained in Chapter 3.

The Department continues to believe that the national/interregional concept represented by Alternative C in the Preliminary Report would provide the best intercity railroad passenger concept for the nation at this time. Therefore, the Department has concentrated on identifying those adjustments

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[1] Evaluation Report of the Secretary of Transportation's Preliminary Recommendations on Amtrak's Route Structure, Rail Services Planning Office, Interstate Commerce Commission.

that should be made to Alternative C. These adjustments, still within the context of the national/interregional concept, reflect many suggestions and criticisms made by the public, although the Department realizes they will not satisfy those who advocated expanded railroad passenger service. The adjustments are based on the financial and environmental analyses which the Department and Amtrak continued after publication of the Preliminary Report.

THE RECOMMENDED ROUTE SYSTEM

The Department's recommended route system is described in Table 4-1 and displayed in Figure 4-1. Figure 4-1 includes the end points and principal intermediate points to be served. The specific routings between these points portrayed in Figure 4-1 are not required by Section (4)(b)(1), and therefore should be viewed as advisory. To the extent that Amtrak identifies intermediate routings which are preferable to those depicted in Figure 4-1, and which can be operated with the funds appropriated, such routings should be implemented.

The recommended route structure serves 22 of the nation's 25 largest population centers, 39 of the largest 50 cities and 40 states. It provides a basic national service grid, with east/west routes in the northern, central and southern regions of the country and north/south routes along the Eastern Seaboard, in the Midwest and on the West Coast. The national service grid is supplemented by a system of short-distance trains linking major population centers and feeding passengers into the national service grid. All currently operating state-supported 403(b) services are included in the recommended route system, provided there is continued state support for them.

The recommended route structure contains 43 percent fewer route-miles than the current Amtrak system (including the Southern Crescent) and during Fiscal Year 1980 it will produce 34 percent fewer train-miles than the current system would have produced in that year. However, the recommended system will retain approximately 80 percent of the passenger-miles that the current system would have produced in Fiscal Year 1980, and it will continue to serve 91 percent of the passengers who would have used the system during that year. The recommended system will also produce an improvement of 32 passenger-miles per train-mile compared to what the current system would have produced in Fiscal Year 1980, reflecting the elimination of the very weak routes and the restructuring of other routes.

	Current System	Recommended System
Route-miles (Thousands)	27.5[1]	15.7
Passengers (Millions)	19.6	17.9
Passenger-miles (Billions)	4.6	3.7
Train-miles (Thousands)	32.6	21.5
Passenger-miles per Train-mile	141	173

[1]As of February 1, 1979. Includes the Southern Crescent in the Amtrak system and excludes the portion of the Niagara Rainbow west of Niagara Falls, New York that is to be terminated on that date.

Figure 4-1

RECOMMENDED AMTRAK ROUTE SYSTEM

NOTES: Dashed lines indicate State assisted services.
Capitalized city names indicate route end points and principal intermediate points.
Other city names indicate points within routes at which some trains turn or diverge.

Table 4-1

TRAIN-BY-TRAIN COMPARISON OF EXISTING
AND RECOMMENDED SYSTEM
(NON-NORTHEAST CORRIDOR ONLY)

Train Name	Train Route	Recommendation	Comments
Adirondack	NYG-MTL	Continue	If 403(b) funding provided.
Palmetto	NYP-WAS-SAV	Continue	
Niagara Rainbow	NYG-BUF-NIA	Continue	
Empire State Express	NYG-BUF-NIA	Continue	
Henry Hudson	NYG-ALB	Continue	
Washington Irving	NYG-ALB	Continue	If 403(b) funding provided.
Dewitt Clinton	NYG-ALB	Continue	
Salt City Express	NYG-SYR	Continue	
Twilight Limited	CHI-DET	Continue	
Blue Water Limited	CHI-PTH	Continue	If 403(b) funding provided.
Saint Clair	CHI-DET	Continue	
Wolverine	CHI-DET	Continue	
Michigan Executive	DET-JXN	Continue	If Section 18 funding provided.
Turboliners	CHI-MIL	Continue	
North Star	CHI-MSP-DUL	Continue	Operate north of MSP only if 403(b) funding provided.
Inter-American	CHI-STL-DAL-LDO	Restructure	Operate north of St. Louis only.
State House	CHI-STL	Continue	If 403(b) funding provided.
Ann Rutledge	CHI-STL	Continue	
Black Hawk	CHI-DUB	Continue	If 403(b) funding provided.
Southwest Limited	CHI-KCY-ABQ-LAX	Restructure	Combine with S.F. Zephyr and reroute via Denver.
Illinois Zephyr	CHI-QUI	Continue	If 403(b) funding provided.
Illini	CHI-CHM	Continue	If 403(b) funding provided.
Panama Limited	CHI-MEM-NOL	Continue	
Shawnee	CHI-CAR	Continue	
Empire Builder	CHI-MSP-HAV-SEA	Continue	Tri-weekly in off-peak
Coast Starlight	SEA-PDX-OAK-LAX	Continue	
San Diegans	LAX-SAN	Continue	Three of six frequencies contingent on continuation of current state assistance.
Colonial	BOS-WAS-NPN	Continue	
Broadway Limited	NYP-PHL-PGH-CHI	Restructure	Reroute via Pittsburgh, Cleveland and Toledo.
	WAS-PHL-PGH-CHI	Restructure	Combine with Shenandoah and reroute via Cumberland.
Shenandoah	WAS-CUM-CIN	Restructure	Combine with Washington leg of Broadway and reroute to Pittsburgh.

Table 4-1

TRAIN-BY-TRAIN COMPARISON OF EXISTING
AND RECOMMENDED SYSTEM
(NON-NORTHEAST CORRIDOR ONLY)
(CONTINUED)

Train Name	Train Route	Recommendation	Comments
Silver Star	NY-WAS-JAX-STP NY-WAS-JAX-MIA	Continue	Operate via Orlando; split at Auburndale to Tampa and Miami.
Lake Shore Limited	NY-BUF-CLE-CHI BOS-BUF-CLE-CHI	Restructure Restructure	Reroute via Niagara Falls and Detroit.
Blue Ridge	WAS-MAR	Continue	Weekend only; weekday if section 18 funding is provided.
San Francisco Zephyr	CHI-DEN-OGD-OAK	Restructure	Combine with Southwest Limited and reroute via Kansas City.
Sunset Limited	NOL-HOU-PHX-LAX	Continue	
Pioneer	SLC-OGD-PDX-SEA	Discontinue	
National Limited	NY-PHL-PGH-KCY	Discontinue	Service will remain available between New York and Pittsburgh via the Broadway Limited.
Montrealer	WAS-NYP-MTL	Discontinue	Corridor portion still operates. NYG-MTL service will remain available via the Adirondack if 403(b) funding is continued.
Silver Meteor	NYP-WAS-JAX-MIA	Discontinue	Service will remain available between most cities via either the Palmetto or the Silver Star.
Champion	NYP-WAS-JAX-STP	Discontinue	Service will remain available via the Silver Star.
Cardinal	WAS-CIN-CHI	Discontinue	WAS-CHI service via rerouted Broadway.
Hilltopper	BOS-WAS-PTB-TSS	Discontinue	Corridor portion still operates. Service will remain available between Washington and Petersburg.
North Coast Hiawatha	CHI-MSP-BIL-SEA	Discontinue	Service will remain available to some cities via the Empire Builder.
Lone Star	CHI-KCY-DAL CHI-KCY-HOU	Discontinue Discontinue	Service will remain available between Chicago and Kansas City via the Southwest Limited.
Southern Crescent	NYP-NOL	Discontinue	Corridor portion still operates.
Floridian	CHI-BHM-JAX-STP CHI-BHM-JAX-MIA	Discontinue Discontinue	
San Joaquin	BAK-OAK	Discontinue	
Mount Rainer	SEA-PDX	Discontinue	Service will remain available via the Coast Starlight.
Pacific International	VAN-SEA	Discontinue	

In developing the recommended route system in the Preliminary Report and in refining it for this report, the Department primarily used the population and market criteria specified in section 4(a) of the Amtrak Improvement Act of 1978. That section directs that the recommended route system be optimized on the basis of "current and future market and population requirements." To use those criteria, the Department first determined the number of passenger-miles per train-mile each route under consideration has generated and estimated the ridership each would generate. As discussed in the Preliminary Report, the Department considers passenger-miles per train-mile to be a valid primary measure of market and population requirements. The number of passenger-miles per train-mile represents the number of passengers, on the average, aboard a train at any given moment during its journey.

The Department then analyzed short-distance and long-distance services to determine whether a single passenger-mile per train-mile standard could be used for both kinds of service. The analysis showed that the passenger-mile per train-mile levels for two trains can be directly compared only when the trains possess common characteristics. For instance, when comparing financial viability using passenger-miles per train-mile as an estimate, it is not valid to compare directly long-haul trains, which have relatively high costs due to their dining, lounge car and sleeping car services, with short-distance trains that, on the average, have much lower costs. Similarly, a short-distance train, with its relatively dense seating pattern and little space devoted to food and beverage service, will, at any given level of ridership, achieve greater energy efficiency than will a long-distance train, with its more spacious coaches and low density sleeping, dining and lounge cars. Based upon those considerations, the Department evaluated short-distance and long-distance routes separately, and selected for the recommended route system those routes in each category that had the highest number of passenger-miles per train-mile.

The Department then considered the future market and population requirements for each route and found that two adjustments should be made to the measures of passenger-miles per train-mile. First, Amtrak's experience in introducing new Amfleet and Turboliner cars showed that ridership increases after the new equipment is in place. To reflect this phenomenon, the Department increased its passenger-mile per train-mile projections for routes that are expected to utilize new equipment that Amtrak currently has on order. These are primarily Western, long-distance routes. Second, the Department considered the impact that the sharply reduced airline fares, brought about by regulatory reforms of the airline industry, have had and might be expected to have on train patronage. The Department found, not surprisingly, that Amtrak's long-distance markets are more vulnerable to the impact of reduced air fares than are its short-distance markets. The Department reflected these impacts on the passenger-mile per train-mile levels of some long-distance services by restructuring some key long-distance markets to include a greater potential for carrying added passengers between major intermediate points.

In addition to the population and market criterion, Section 4(a) of the Amtrak Improvement Act of 1978 also stated that in developing the recommended route system the Department should consider the following factors:

- Any unique characteristics and advantages of rail service as compared to other modes of transportation;

- The role that rail passenger service can play in helping meet the nation's transportation needs while furthering national energy conservation efforts;

- The relationship of the benefits of given intercity rail passenger services to the costs of providing such services, computing the benefits and costs in terms of passenger-miles and train-miles.

- The transportation needs of areas lacking adequate alternate forms of transportation and the adequacy of the transportation modes serving the same points to be served by the recommended route system; and

- Frequency and fare structure alternatives and the impact of such alternatives on ridership, revenues and expenses of rail passenger service.

In analyzing the unique advantages of rail service, the Department found that most advantages, such as the ability to view scenery in a relatively spacious environment and the opportunity to converse comfortably with other passengers, were common to all routes and thus did not assist in evaluating one route against another. The Department's analysis did indicate, however, that rail passenger transportation has a unique all-weather capability that is more important on routes located in relatively isolated areas with severe winter weather than it is in mild regions with more highly developed highway systems.

Public testimony and an evaluation of environmental considerations both indicated that the Empire Builder route between Chicago and Seattle traverses areas with isolated communities, served by a relatively meager highway system, that experienced very severe winter storms. For example, public testimony during a hearing at Havre, Montana, indicated that the major highway in that area is a two-lane road that was completely closed due to inclement weather 13 days during the 1977-78 winter season. Partially on the basis of those considerations, and in response to the Congressional directive that the availability of alternate modes and tourism be considered, the Department included the Empire Builder route in the recommended system.

In considering Amtrak's role in furthering national energy conservation efforts, the Department employed passenger-miles per train-mile as an indicator of relative energy efficiency within each category of service. In maximizing the system average passenger-miles per train-mile, the Department sought to maximize the contribution of the Amtrak system to energy conservation. Amtrak's services in the Northeast Corridor, which south of New Haven are provided by electric self-propelled cars and trains hauled by electric locomotives, have a unique ability to contribute to energy efficiency in that their

power can be derived from fuels other than petroleum. The Department has recommended that virtually all services in the Northeast Corridor be included in the restructured route system (except, as noted earlier, that each service carrying commuters on anything but an incidental basis must have a section 18 funding agreement in place prior to October 1, 1979). In addition, the Department is recommending investing a total of $2.5 billion to upgrade the track and facilities in the Northeast Corridor to attract additional passengers, including $267 million to extend electrification from New Haven to Boston and $746 million to improve the track and stations along the route. To improve the operation of this service, Amtrak, with the Department's support, plans to invest a total of about $215 million to rehabilitate 34 electric self-propelled Metroliner cars and purchase approximately 60 new electric locomotives.

Passenger-miles per train-mile is a direct measure of the usage of a given service. It is also a good surrogate measure of a service's revenues and net financial results. In maximizing passenger-miles per train-mile, the Department sought to optimize the relationship between the benefits and costs of rail service on a per train-mile basis. Detailed statistics on the performance of each route are presented in Table 4-3 below.

The Department's analysis showed that alternate transportation is available between most of the cities served by Amtrak and that this characteristic is generally common to all of Amtrak's routes and thus does not assist in distinguishing one from another. A special analysis conducted for the Department concerning alternate transportation to cities located on current Amtrak routes that are not included in the recommended route system found that, with one exception, adequate alternate transportation is available.[1] The exception occurs on the Empire Builder route between Chicago and Seattle where air and bus transportation is infrequent and routings are often indirect. The analysis found that 40 percent of the passengers who rode the Empire Builder during Fiscal Year 1978, or 80,000 people, would have had no other reasonable public transportation available to them if the train had not operated. As noted above, based in part upon this analysis the Department included the Empire Builder in the recommended route system.

The Department devoted considerable analysis to the impact of frequencies and fare policy on total ridership and financial performance. In analyzing frequencies, the Department, in cooperation with Amtrak, developed a methodology for estimating the number of passenger-miles per train-mile that would be generated on a route at various frequency levels. Due to a lack of data, however, the Department believes the methodology is valid only under very limited circumstances. Improving the validity of the methodology will require collection of carefully structured data. Until that is done, the Department concluded that the risks involved in altering frequencies on the basis of limited data outweighed any possible savings that might accrue. Therefore, in most cases the Department recommended that the current number of train frequencies be continued on each route. The Department departed from this decision only twice. These are explained in the sections concerning the New York-to-Florida and Chicago-to-Seattle services that appear in the route-by-route discussion at the end of this chapter.

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[1]Environmental Impact Assessment of the Recommendations for the Amtrak Route System: DeLeuw, Cather/Parsons and Associates.

In analyzing the impact of fare policy on ridership and financial performance, the Department's ability to quantify these impacts was hindered somewhat by a lack of detailed, market-specific data. In Chapter 3, the Department recommends that Amtrak begin immediately to collect such data through a combination of statistical analysis and carefully controlled experiments. In the meantime, however, the Department's analysis of the impact of systemwide fare structure alternatives on ridership and financial performance found that a series of pricing actions, which are recommended in Chapter 3, including increasing peak-period prices, can generally be expected to improve the Corporation's financial performance.

In addition to the considerations outlined in section 4(a) of the Amtrak Improvement Act of 1978 and discussed above, section 4(d) of the Act states that the Department should consider the impact of the recommended route system upon existing tourism markets and the potential for future tourism. In evaluating the impact of the recommended route system on tourism, the Department found that many of Amtrak's non-Northeast Corridor trains provide a service that is used primarily by non-business travelers. Therefore, many of the Corporation's trains can be thought of as contributing to tourism. Once again, in maximizing the level of passenger-miles per train-mile in the recommended route system, the Department sought to maximize the positive impact of the system on tourism. In addition, the Department analyzed each route to determine whether it served any particular tourist attraction, and particularly any national park, directly or exclusively. This analysis played a part in the decision to include in the recommended route system the Colonial (which serves Williamsburg, Virginia), the Empire Builder (which traverses Glacier National Park and stops at two gateways to the Park including a park lodge) and weekend service on the Blue Ridge (which carries tourists to the Harper's Ferry National Historical Park and the Chesapeake and Ohio Canal National Historical Park). An analysis conducted for the Department found that the Department's decision to exclude certain current Amtrak routes from the recommended route system will not have a significant negative impact on tourism.[1]

Section 4(b) of the Amtrak Improvement Act of 1978 directs the Department to include in this report recommendations on:

(1) A restructured route system, identifying end points and principal intermediate points to be served;

(2) The quality and type of service best suited to each route, including frequency, speed and classes of service offered;

(3) The ranges of projected operating expenses, ridership, and revenues, by route, including a measure calculated by loss or profit per passenger-mile and separated for non-state-supported routes and state-supported routes;

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[1]Environmental Impact Assessment of the Recommendations for the Amtrak Route System: DeLeuw, Cather/Parsons and Associates.

(4) The equipment and facilities necessary to support the recommended system;

(5) Coordinating passenger rail service at points on the system with other modes of transporation serving such points; and

(6) Operating and capital appropriations required to operate the system for Fiscal Years 1980 through 1984.

The information required by section 4(b)(1) is contained in Figure 4-1 and Table 4-1.

The detailed description of the quality and types of service required by section 4(b)(2) is embodied in Table 4-2. The Department expects that the Corporation will adjust the frequency and service offered, based upon further analysis, to improve ridership potential and financial performance within the limits of available funding.

The route-specific information required by section 4(b)(3) is contained in Table 4-3. The estimate of the equipment and facilities needed to operate the recommended system in Fiscal Year 1980, required by section 4(b)(4), is shown in Table 4-4.

The Department's recommendation on intermodal services, required by section 4(b)(5), is contained in the policy discussion of such services in Chapter 3.

The system operating and capital projections required by section 4(b)(6) are contained in Chapter 5.

ROUTE-BY-ROUTE DISCUSSION

The recommended route system differs in some respects from the route system that was recommended in the Department's Preliminary Report published in May (the Preliminary Report). The specific differences are described below.

Long-Distance Routes

(1) East Coast-to-Chicago Service. The Preliminary Report continued the current Amtrak East Coast-to-Chicago service pattern, with one New York-Chicago train operating via Buffalo and Cleveland and the second operating via Philadelphia and Pittsburgh. Further examination of the possible routings for these services indicated that the route that will yield the largest number of passenger-miles per train-mile runs from New York through Buffalo and Detroit to Chicago. This route will generate an estimated 228 passenger-miles per train-mile, compared to an estimated 163 via Buffalo and Cleveland and an estimated 204 via Philadelphia and Pittsburgh. In addition, based upon the track improvement programs currently being undertaken by the States of New York and Michigan, it shows the greatest prospect for future improvements in

Table 4-2

SERVICE RECOMMENDATION FOR TRAINS
OUTSIDE THE NORTHEAST CORRIDOR[1]

Train Name	Train Route	Frequency	Average Speed[2] (mph)	Service Offered
Adirondack	NYG-MTL	Daily	44	Coach
Palmetto	NYP-WAS-SAV	Daily	56	Coach
Niagara Rainbow	NYG-BUF-NIA	Daily	47	Coach
Empire State Express	NYG-BUF-NIA	Daily	51	Coach
Henry Hudson	NYG-ALB	Daily	51	Coach
Washington Irving	NYG-ALB	Daily	51	Coach
Dewitt Clinton	NYG-ALB	Daily	51	Coach
Salt City Express	NYG-SYR	Daily	53	Coach
Twilight Limited	CHI-DET	Daily	51	Coach
Blue Water Limited	CHI-PTH	Daily	51	Coach
Saint Clair	CHI-DET	Daily	51	Coach
Wolverine	CHI-DET	Daily	51	Coach
Michigan Executive	DET-JXN	Weekdays Only[3]	44	Coach
Turboliners	CHI-MIL	27 Round-trip/Wk.	57	Coach
North Star	CHI-MSP-DUL	Daily	44	Coach/Sleeper
Inter-American	CHI-STL	Daily	52	Coach
State House	CHI-STL	Daily	52	Coach
Ann Rutledge	CHI-STL	Daily	52	Coach
Black Hawk	CHI-DUB	Daily	43	Coach
Southwest Limited	CHI-KC-DEN-OGD-LAX	Daily	50	Coach/Sleeper
San Francisco Zephyr	OGD-OAK	Daily	46	Coach/Sleeper
Illinois Zephyr	CHI-QUI	Daily	56	Coach
Illini	CHI-CHM	Daily	52	Coach
Panama Limited	CHI-MEM-NOL	Daily	50	Coach/Sleeper
Shawnee	CHI-CAR	Daily	55	Coach
Empire Builder	CHI-MSP-HAV-SEA	3/Week - Daily[4]	49	Coach/Sleeper
Coast Starlight	SEA-PDX-OAK-LAX	Daily	42	Coach/Sleeper
San Diegans	LAX-SAN	6 Round-trips/Day	49	Coach
Colonial	BOS-WAS-NPN	Daily	46	Coach
Broadway Limited	NYP-PHL-PGH-CLE-CHI	Daily	48	Coach/Sleeper
Shenandoah	WAS-CUM-PGH	Daily	38	Coach/Sleeper
Silver Star	NYP-WAS-JAX-MIA/TPA	Daily	48	Coach/Sleeper
Lake Shore Limited	NYG-BUF-DET-CHI	Daily	49	Coach/Sleeper
	BOS-ALB	Daily	40	Coach/Sleeper
Blue Ridge	WAS-MAR	Daily[3]	43	Coach
Sunset Limited	NOL-HOU-ELP-PHX-LAX	3/Week	47	Coach/Sleeper

[1]The Northeast Corridor Improvement Project Redirection Study, January 1979, discusses future services, frequencies and speeds for trains operating in the Northeast Corridor. Pending implementation of these future services, the recommended system includes continuation of current services in the Northeast Corridor.

[2]Amtrak current schedule time, including station stops, on existing routings and estimated schedule time on new routings.

[3]Weekday service is contingent on execution of a section 18 agreement.

[4]Three times per week during off-peak periods; daily during peak periods.

Table 4-3

ESTIMATED PERFORMANCE OF RECOMMENDED SYSTEM
IN FISCAL YEAR 1980

	Route	Passenger Miles (PM) (millions)	Train Miles (TM) (millions)	PM/TM	Revenues (millions)	Cost[1] (Millions)	Loss Per Passenger Mile (cents)
	NATIONAL SERVICES						
	OVERNIGHT						
	Los Angeles-Seattle	234.16	1.013	231	$14.076	$ 50.705	15.6
2	NY-Savannah-Florida	501.07	1.500	334	36.393	73.550	7.4
	NY/Bos-Chi via Det.	198.49	.871	228	13.636	39.004	12.8
	NY/Wash-Chi via Cle.	198.59	.884	225	13.772	44.019	15.2
	Chicago-New Orleans	105.31	.674	156	5.956	22.845	16.0
	Chicago-LAX/Oakland	444.38	2.387	186	27.795	117.012	20.1
	New Orleans-LAX	126.03	.633	199	7.285	24.517	13.7
	Chicago-Seattle	199.0	1.032	193	11.605	36.775	12.6
3	Chicago-Duluth	82.43	.417	198	5.355	16.159	13.1
	DAYTIME						
	Chicago-Milwaukee	21.76	.248	88	1.553	8.358	31.3
4	Boston-Newport News	16.83	.139	121	1.262	3.900	15.7
	Washington-Martinsburg	8.12	.053	153	.409	2.786	29.3
	Chicago-Detroit	59.36	.611	97	4.405	16.159	19.8
	Chicago-Carbondale	19.18	.226	85	1.252	5.015	19.6
	NYC-Syracuse	16.73	.209	80	1.167	6.129	29.7
	NYC-Niagara Falls	64.64	.679	95	4.506	20.616	24.9
5	NYC-Albany	26.93	.313	86	1.878	8.915	26.1
6	Los Angeles-San Diego	78.65	.561	140	5.046	19.502	18.4
5	Chicago-St. Louis	48.54	.618	79	3.449	16.159	26.2
	STATE-ASSISTED						
	Chicago-Dubuque	5.51	.133	41	.355	2.786	44.1
	Chicago-Champaign	5.68	.094	60	.371	2.229	32.7
	Chicago-Pt. Huron	16.52	.232	71	1.087	6.129	30.5
	Chicago-Quincy	15.17	.192	79	1.033	4.458	22.6
4	Detroit-Jackson	3.08	.039	79	.143	1.672	49.6
	NYC-Montreal	25.29	.274	92	1.752	7.801	23.9
	TOTAL NON-NEC	2521.5	14.0	180	165.5[7]	557.200	14.9[8]
	NEC	1190.0	7.5	159	143.3	320.000	14.8
	OTHER NON-NEC REVENUE	N/A	N/A	N/A	16.4	N/A	N/A
	SYSTEM TOTAL	3711.5	21.5	173	$325.2	$877.200	14.9

[1]Costs shown represent each route's share of total system costs (excluding depreciation).
[2]Includes a daytime New York-Savannah train.
[3]Includes a state-assisted service between Minneapolis and Duluth.
[4]Includes significant commuter ridership.
[5]Includes one state-assisted frequency.
[6]Includes three state-assisted frequencies.
[7]Includes only transportation, food and beverage, and mail revenue.
[8]Includes the effect of other non-NEC revenue.

Table 4-4

ESTIMATED EQUIPMENT AND FACILITIES NEEDED FOR RECOMMENDED SYSTEM IN FISCAL YEAR 1980[1]

EQUIPMENT

Locomotives - 245 Self-Propelled - 147 Cars - 1,045

FACILITIES

Location	Type of Facility				
	Equipment Overhaul	Locomotive Maintenance	Car Maintenance	Commissary	Crew Base
Beech Grove	X				
Boston		X	X	X	X
Chicago		X	X	X	X
Denver		X			
Hialeah		X	X		
Jacksonville			X		
Los Angeles		X	X	X	X
Miami				X	X
Minneapolis					X
New Orleans		X	X	X	X
New Haven		X			
New York		X	X	X	X
Oakland			X	X	X
Philadelphia			X	X	
Rensselaer		X	X		
Seattle		X	X	X	X
St. Louis					X
Washington		X	X	X	X
Wilmington	X	X	X		

1 As of October 1, 1979. Some facilities may be closed as capital improvements at other facilities are completed.

running time. To avoid delays caused by customs formalities, the train should operate on a "closed door" basis through Canada. The route will provide improved overnight service between New York and Detroit and new direct service between Boston and Detroit. For all of these reasons, the Department recommends the route via Buffalo and Detroit as the premier New York-to-Chicago route.

In examining the remaining routes for operation of a second train between New York and Chicago, the strongest route was found to be via Philadelphia, Pittsburgh, Cleveland, Toledo and South Bend. This route, which will generate an estimated 225 passenger-miles per train-mile, will include connecting service between Washington and Pittsburgh, using the route of the current Shenandoah as far as Cumberland, Maryland. Cars to and from this service will connect with the main New York-Chicago train at Pittsburgh. The new routing, which will require a one time capital investment for connections and track upgrading between Cumberland and Cleveland, will provide new service between Washington, Pittsburgh and Cleveland and between Philadelphia and Cleveland.

(2) New York/Washington to Kansas City. Service on this route is currently provided by the National Limited, and this service was included in the Preliminary Report. In November 1978, the Comptroller General of the United States issued a report to the Congress[1] that found service on this route to be among the most unprofitable and energy inefficient in the Amtrak system. Amtrak's route performance statistics indicate that service on the route generated only 89 passenger-miles per train-mile in Fiscal Year 1978, which is far less than any long-distance train included in the recommended system. The Department, based upon this latest data, concurred with the finding of the Comptroller General that service on this route would remain highly unprofitable, and the Department's environmental review found no significant environmental benefits would be gained by continuing service on the route. Therefore, the route is not included in the recommended system.

(3) Washington to Chicago via Cincinnati. Service on this route is currently provided by the Cardinal. This train was included in the Preliminary Report as the only direct service between Chicago and Washington, and all of the end-to-end traffic between those points was assigned to it. However, with the restructuring of the East Coast-to-Chicago service in the recommended system described above, this trip can now be accomplished 2.4 hours faster via Pittsburgh and Cleveland than via the Cardinal. The Department believes that this time advantage would divert most of the ridership which was assigned to the Cardinal in the Preliminary Report between these points away from that train. Without this ridership, the route would experience a decline in its existing ridership level of 67 passenger-miles per train-mile, which is already well below the level generated by any long-distance train in the recommended system. This would make the route more uneconomical and energy inefficient. For these reasons, the route is not included in the recommended system.

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[1] Should Amtrak's Highly Unprofitable Routes be Discontinued? Report of the Comptroller General of the United States.

(4) Washington to Montreal. Service on this route is currently provided by the Montrealer, and this service was included in the Preliminary Report. However, the Comptroller General's November report found service on this route to be among the most unprofitable in the Amtrak system. Amtrak's route performance records show that service on the route generated 148 passenger-miles per train-mile in FY 1978, which is below any of the long-distance routes in the recommended system. The Department's analysis also showed that the cost of operating this train in Fiscal Year 1977 was significantly higher than the Amtrak system average for long-distance services on a cost per mile basis, and that this cost was due in part to unusually high operating and terminal charges in Canada. The Department's environmental review noted that all points on the route south of Springfield, Massachusetts, have alternate railroad service. North of Springfield, the train's route is generally paralleled by Interstate Highways for its entire distance. All city-pairs on the route have alternate direct bus service available and 16 percent of city-pairs have direct air service. The environmental review concluded that no significant environmental benefit would be gained by continuing to operate this service. Moreover, service between New York City and Montreal is available on the Adirondack, a train supported by the State of New York. Diversion of traffic from the Montrealer to this train could strengthen the Adirondack and lessen the financial burden it imposes on both Amtrak and the State. For these reasons, service over the route of the current Montrealer is not included in the recommended system. Any future Amtrak operation of this service should not only be contingent on funds being available within the budget, but also upon Canadian authorities agreeing to fund a reasonable portion of the loss.

(5) Chicago to the West Coast. Among the most difficult problems faced by the Department in restructuring the Amtrak system was how best to provide service between Chicago and the West Coast. The trains on these routes are oriented toward tourism, a factor which the Department was required to consider under the terms of section 4(d) of the Amtrak Improvement Act of 1978. They require unusually costly on-board services, travel vast distances through sparsely populated areas and, therefore, incur very substantial operating deficits.

The services provided between Chicago and Seattle over both the northern and southern routes were identified in the Comptroller General's November report as among the most unprofitable and energy-inefficient routes in the Amtrak system. The Department's Preliminary Report had recommended that service be provided over either the southern or the northern route, but not both. Public testimony during the RSPO hearings indicated strongly that the Chicago to Seattle services, while poor performers financially, might possess the following other qualities:

- An all-weather capability that might constitute a route-specific, unique benefit of rail service within the meaning of section 4(b)(1) of the Amtrak Improvement Act of 1978.

- A transportation service to areas lacking adequate alternate forms of transportation within the meaning of section 4(b)(4) of the Amtrak Improvement Act of 1978.

- Direct service to a major national park and other tourism potential within the meaning of section 4(d) of the Amtrak Improvement Act of 1978.

As has been mentioned, the Department's environmental analysis found that the northern route between Chicago and Seattle, served by the Empire Builder, experienced substantial weather problems due to its extreme climate and the fact that the route is served only by a two-lane highway with difficult alignment. The analysis also found that 40 percent of the patrons who rode the Empire Builder during 1978, or 80,000 people, made trips for which no adequate alternative service would have been available. Further, the analysis found that the tourist attractions between Havre, Montana, and Whitefish, Montana, including Glacier National Park, have no adequate alternate bus service. Moreover, National Park Service ranger-naturalists ride the train during part of its trip through Glacier National Park, providing an interpretive resource to passengers on the train.

By contrast, the analysis found that the southern route between Chicago and Seattle is paralleled for virtually its whole distance by both an Interstate Highway and a major intercity bus route, has frequent commercial air service, and that 82 percent of the city-pairs on the route enjoyed direct bus service. While the North Coast Hiawatha, which operates on this route, passes near Yellowstone National Park, it does not serve the park directly.

Based primarily upon the environmental analysis, as well as the considerations outlined in sections 4(b)(1), 4(b)(4) and 4(d) of the Amtrak Improvement Act of 1978, the Department concluded that the Empire Builder route should be included in the recommended system despite its relatively weak economic performance. By operating less frequent service during off-peak periods, as Amtrak has done for several years in the Chicago-to-Seattle market, and diverting those Chicago-to-Seattle passengers currently using the North Coast Hiawatha to the Empire Builder, the Department concluded that the route would generate an estimated 193 passenger-miles per train-mile.

Upon concluding that the Empire Builder route should be included in the recommended system, the Department sought to identify the route that would provide the most efficient possible service between Chicago and California. The Preliminary Report recommended that this market be served by the current Southwest Limited route, with branch services to Denver and San Francisco. However, subsequent study showed that heavy freight traffic on the branch routes was likely to lead to unreliable on-time performance and hence to delays at the connection points. Also, the Southwest Limited, which traverses very sparsely populated areas between Kansas City and Los Angeles, relies heavily on end-to-end ridership that is particularly vulnerable to diversion to air transportation, particularly given the lower air fares brought about by airline regulatory reforms. Ridership on the route declined 15 percent during Fiscal Year 1978. For these reasons, the Department decided not to recommend this route. The Department's analysis then showed that, of the remaining possible routes, the route between Chicago and California with the greatest projected ridership in Fiscal Year 1980 and the greatest potential ridership in subsequent years would be via Kansas City and Denver to Los Angeles, with a through service to San Francisco branching from the main train at Ogden, Utah.

This route is included in the recommended system. With the new equipment in place, it will generate an estimated 242 passenger-miles per train-mile, and will also provide new service to Las Vegas and new overnight service between Denver and Kansas City and between Denver and Los Angeles.

As a point of clarification, local service in the San Joaquin Valley was provided in the Preliminary Report only in connection with the then-recommended branch service from the Southwest Limited to San Francisco via Barstow. Since service to San Francisco is provided in the recommended route system via Ogden and Reno, Nevada, and Amtrak's local service in the San Joaquin Valley was identified in the Comptroller General's report as among the most unprofitable in the Amtrak system, the recommended route system does not include that local service. The Department believes this type of short-distance intercity service is most appropriately addressed through section 403(b) of the Rail Passenger Service Act, which provides for partial State funding of passenger services.

(6) Chicago to Houston. This route, which is currently served by the Lone Star, was included in the Preliminary Report. Subsequent analysis of this route indicated that its level of usage, which was already one of the lowest among Amtrak's long-distance routes, declined 17 percent in Fiscal Year 1978, to 94 passenger-miles per train-mile, which is well below the level generated by any long-distance service in the recommended system. Moreover, the Southwestern cities located along this route produce less ridership per capita than the national average, indicating a particularly strong affinity for other modes of transportation. The area has a highly developed highway system and an extensive system of trunk and intrastate airline service that is highly competitive. In addition, the Department's environmental analysis found that no significant environmental benefit would be realized by operating this train. For these reasons, the Chicago to Houston route was not included in the recommended system. The portion of this route between Chicago and Kansas City will continue to be served by the Chicago-to-California train.

(7) Los Angeles to New Orleans. This route, which is served by the Sunset Limited, was included in the Preliminary Report and the Department recommended that it operate on a daily basis. The Sunset Limited currently makes three round trips a week. Subsequent to publication of the Preliminary Report, analysis of Fiscal Year 1978 traffic data by the Department showed ridership had decreased significantly. The analysis also found that the Sunset Limited would generate an estimated 199 passenger-miles per train-mile in Fiscal Year 1980 if it operated three round trips a week, compared to an estimated 179 passenger-miles per train-mile if it operated on a daily basis as recommended in the Preliminary Report and that daily service would incur a subsidy of approximately twice that which tri-weekly service will incur. Therefore, while the route is still included in the recommended system, it is now recommended that the service to be provided consist of three round trips per week.

(8) New York to Florida. Points on this route are currently served by four trains. One train carries cars for both coasts of Florida, the second serves only the East Coast, the third serves only the West Coast and the fourth serves points between New York and Savannah, Georgia. The Preliminary Report recommended that three trains serve the route. The New York-to-Florida route is among the most intensely patronized in the Amtrak system but, because of its volume of expensive sleeper, lounge and dining services, the four

trains combined incurred a greater deficit than any other route during Fiscal Year 1978. The Department's analysis found that very extensive alternate transportation exists on the route, including alternate rail service provided by the Autotrain Corporation between the Washington area and Florida, new air services with prices competitive to rail that have been made possible by airline deregulation and an extensive highway network. Therefore, the Department recommends that one train consisting of cars for both Miami and Tampa operate each day between New York and Florida via Columbia, South Carolina, and that a second train operate between New York and Savannah via Charleston, South Carolina. This service pattern will continue to accommodate 81 percent of the passengers who currently travel to points on the route.

As was discussed in Chapter 3, the sensitivity of passengers on individual Amtrak routes to changes in price at given levels of service is not sufficiently understood. The Department recommends that Amtrak carefully test that sensitivity on the New York-to-Florida route to determine whether the amount of revenue gained from fares can be increased sufficiently to extend the New York to Savannah service to points in Florida within the budget amount recommended for the route in this report.

(9) New York to New Orleans. When the Preliminary Report was published, this service was provided by the Southern Railway rather than by Amtrak. Subsequently, the Interstate Commerce Commission granted the Southern Railway permission to discontinue service on the route and Amtrak agreed to assume the service effective February 1, 1979. In agreeing to assume the service the Amtrak Board of Directors recognized that this route restructuring report was being prepared and that the train might not be included in the Amtrak system beyond October 1, 1979. The Board indicated that it was willing to assume operation of the Crescent despite its uncertain future because (1) the Southern Railway would pay Amtrak an amount equal to the expected losses for the period prior to October 1, 1979; (2) Amtrak would incur no residual obligation beyond October 1 if the train was not included in the recommended route system, and (3) service would have been costly to reinitiate on October 1 if the Crescent was discontinued by the Southern Railway and the route was then included in the recommended system.

The Department's analysis indicates that this train, operated as Amtrak plans to operate it on February 1, would have generated an estimated 117 passenger-miles per train-mile in Fiscal Year 1977, a level well below any long-distance trains included in the recommended system.

The Department's analysis also found that there is frequent bus service directly linking all the stations on this route between Washington and Atlanta; adequate bus service directly linking all the stations between Atlanta and New Orleans, and reasonable bus connections available to passengers wishing to travel from points north of Atlanta to points south of Atlanta. In addition, the route is paralleled for its entire length by Interstate Highways, and frequent direct air service is available between major points on the route. Indirect air service is available between 21 of the 30 cities served by the Southern Crescent. An environmental study published in June 1978 by the Interstate Commerce Commission in connection with the Southern Railway's petition to discontinue its service on the route found that "the abandonment

proposed would not significantly affect the quality of the human environment."[1] The Department's environmental analysis confirmed the conclusions of the Interstate Commerce Commission study. For these reasons, the route is not included in the recommended system.

SHORT-DISTANCE SERVICES

(1) San Diego to Los Angeles. The Preliminary Report included five daily round trips on this route. Amtrak currently operates six round trips, two of which are partially funded by the State of California pursuant to section 403(b) of the Rail Passenger Service Act. The sixth train is fully funded by the State. The Department has been persuaded by the view of the RSPO that, rather than increasing the national system deficit for local short-distance services, state assistance for such services should be encouraged. Accordingly, the recommended route system continues these services as presently funded.

(2) Chicago to Milwaukee. The Preliminary Report raised the question whether the service on this route should operate via the Milwaukee Road or the Chicago and North Western Railway. Public comment favored the Chicago and North Western route, and further study found the route feasible if funds are invested in construction of a new connection at Chicago and the upgrading of portions of the track north of Kenosha. However, the Chicago and North Western has opposed use of its railroad, suggesting that Amtrak service might interfere with commuter services it provides under contract to the Chicago Regional Transportation Authority and raising certain issues regarding the real estate necessary to construct a needed connection. At this time, the question of transferring the service to the Chicago and North Western hinges on the resolution of these issues. Since the recommended route system does not designate any key intermediate points between Chicago and Milwaukee, Amtrak may operate over either route depending on the outcome of negotiations with the Chicago and North Western and upon analysis of the economic effects of the outcome of those negotiations.

(3) Minneapolis to Duluth. Service on this route is currently provided by the North Star, a train which is partially supported by the State of Minnesota pursuant to section 403(b) of the Rail Passenger Service Act. The Preliminary Report included this route in the Federally-supported system. As with the San Diego to Los Angeles service, the recommended route system continues operation of the existing service as presently funded through state contributions.

(4) Washington to Newport News. Service on this route, which is provided by the Colonial, was not included in the Preliminary Report. It is, however, included in the recommended route system because ridership has recently improved significantly. In addition, the Colonial serves the tourist area at Williamsburg, Virginia, and its inclusion is consistent with section 4(d) of the Amtrak Improvement Act of 1978.

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[1]Environmental Threshold Assessment Survey, Southern Railway Company Discontinuance of Trains 1 and 2, the Southern Crescent, between Washington and New Orleans, FD 28697.

(5) Washington to Martinsburg, West Virginia. Service on this route, which is provided by the Blue Ridge, was not included in the Preliminary Report on the basis that it was essentially a commuter operation that should be funded by the States of Maryland and West Virginia. The Department still believes that Amtrak should not operate the train on weekdays unless the States of Maryland and West Virginia agree to reimburse Amtrak pursuant to section 18 of the Amtrak Improvement Act of 1978, and this operation was included in the recommended system on the assumption such funding will be provided. On the weekend, however, the Blue Ridge operates in a reversed pattern, carrying tourists from Washington, D.C. to Harper's Ferry, West Virginia, and other points along the Chesapeake and Ohio Towpath. Inclusion of the weekend operation of the Blue Ridge in the Federally-supported system is responsive to section 4(d) of the Amtrak Improvement Act of 1978 and is not in conflict with section 18 of that Act. Therefore, weekend service on the Blue Ridge is included in the recommended route system.

(6) Jackson, Michigan to Detroit. Service on this route is provided by the Michigan Executive, a train partially supported by the State of Michigan pursuant to section 403(b) of the Rail Passenger Service Act. The route was included in the Preliminary Report as a 403(b) service. Subsequent analysis demonstrated that the route is used primarily by commuters and therefore should properly be governed by section 18 of the Amtrak Improvement Act of 1978. The route is included in the recommended route system on the assumption that the State will provide funding for those expenses for which it is responsible under the terms of section 18.

(7) Seattle to Portland. Service between these two cities, which is provided in part by the Mt. Rainier, was included in the Preliminary Report. Subsequent to that report, the Comptroller General of the United States reported to the Congress that the Mt. Rainier was among the most unprofitable services in the Amtrak system. The Department's analysis showed that this service primarily serves local riders and that it is the type of service that should be jointly funded by Amtrak and the states involved. It is therefore not included in the recommended route system. Service between Seattle and Portland will continue to be provided by the Coast Starlight, which operates between Los Angeles and Seattle. The States of Oregon and Washington can, if they desire, supplement this service by entering into a contract with Amtrak pursuant to section 403(b) of the Rail Passenger Service Act.

Chapter 5

FUNDING

Section 4(b)(6) of the Amtrak Improvement Act of 1978 requires the Secretary to provide estimates of operating and capital appropriations required for the recommended system for Fiscal Years 1980 through 1984. This chapter presents those estimates as well as a brief description as to how they were developed. More specific descriptions as to the various methodologies used will be available upon request.

The estimates of appropriations for Fiscal Year 1980 through Fiscal Year 1984 needed to support the new system are shown in Table 5-1. They indicate that Amtrak's total Federal funding needs through Fiscal Year 1984 will be $4.59 billion. Total Federal funding required for Fiscal Year 1980 will be $760 million, including a subsidy of $552 million to operate the recommended system and to provide the Federal share of state-assisted services. For comparison purposes, those estimates, as well as the estimates of appropriations necessary for the current system, are presented in Table 5-2. Implementation of the recommended system will decrease the need for appropriations over the five-year period by $1.39 billion.

The total appropriations shown in Table 5-1 include funds (1) to operate the Northeast Corridor, the national system and the Federal share of state-assisted services, (2) to undertake capital improvements, (3) to retire outstanding debt to the Federal Financing Bank, (4) to complete the purchase of the Northeast Corridor, and (5) to make labor protection payments to Amtrak and some railroad employees affected by the recommended route and service modifications. These appropriation levels reflect Amtrak management's estimates of its future cost inflation rates, which the Department agrees are reasonable. They also reflect the impact of legislation which the Department will propose to increase funding for the Northeast Corridor Improvement Project (NECIP) and to make the timetable for completion of the project more realistic and manageable. Capital appropriations reflect the impact of pending regulations dealing with the handicapped. Currently unforeseen legislation or regulations, failure to enact the proposed legislation, or unanticipated changes in the overall competitive environment or rate of inflation could have an effect on the operating and capital projections.

OPERATING APPROPRIATIONS

Northeast Corridor

Funding levels required to operate the recommended Northeast Corridor services are based on the Department's NEC Redirection Study.[1] The ridership revenue and cost forecasts assume that funding requested by the Department for the NECIP is obtained and that expected project completion dates are met. They also assume that the level of freight reimbursement in the NEC continues at current levels.

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[1]The Northeast Corridor Improvement Project Redirection Study, January 1979.

Table 5-1

ESTIMATED OPERATING AND CAPITAL APPROPRIATIONS
REQUIRED TO OPERATE THE RECOMMENDED SYSTEM
Fiscal Years 1980 through 1984
(millions of current $)

	FISCAL YEARS					
	1980	1981	1982	1983	1984	Total
Operating Appropriation	$552	$591	$598	$619	$ 649	$3,009
Capital Appropriation 1/	208	275 2/	306	377	415	1,581
TOTAL APPROPRIATION	$760	$866	$904	$996	$1,064	$4,590

1/ The "capital appropriation" amount in all years represents the total required for physical improvements and additions, debt retirement, NEC purchase, and labor protection. The proper mix of uses of "capital appropriations" in each year is expected to be determined in the budget process. For Fiscal Year 1980, the President's budget has recommended the following mix:

Capital (physical improvements and additions) plus labor protection	$171
Debt Retirement	25
NEC Purchase	12
TOTAL	$208

2/ The "capital appropriation" for Fiscal Year 1981 includes $25 million to retire the outstanding loan for the Corporation's purchase of the Northeast Corridor.

Table 5-2

ESTIMATED FIVE-YEAR SAVINGS
RECOMMENDED SYSTEM VERSUS CURRENT SYSTEM
(millions of current $)

SYSTEM	FISCAL YEARS					
	1980	1981	1982	1983	1984	TOTAL
CURRENT						
Operating Subsidy	$718	$ 790	$ 815	$ 856	$ 908	$4,087
Capital Subsidy 1/	231	359	395	457	452	1,894
TOTAL	949	1,149	1,210	1,313	1,360	5,981
RECOMMENDED						
Operating Subsidy	552	591	598	619	649	3,009
Capital Subsidy 1/	208	275	306	377	415	1,581
TOTAL	760	866	904	996	1,064	4,590
TOTAL SAVINGS	$189	$283	$306	$317	$ 296	$1,391

1/ Capital subsidy, as in Table 5-1, includes not only project related capital, but other nonoperating appropriations for debt retirement, NEC purchase payment, restoration of loan amounts used for previous NEC purchase payment, and, for the recommended system only, labor protection payments.

Operating Costs

Current (FY 1980)

The costs to operate the recommended system during Fiscal Year 1980 have been derived from comprehensive analyses performed by Amtrak. These estimates assume that Amtrak will discontinue non-recommended routes and will be able to begin operations on new recommended routes at current contract rates on October 1, 1979. These estimates have been thoroughly reviewed by the Department and accepted. A detailed analysis of activity levels, and an analysis of the expected Fiscal Year 1980 costs of producing specified units of output, including the extent to which those costs can be reduced by aggressive management action, were conducted. The costs of the transition from the existing system to the recommended system are included. The effects of the policy actions outlined in Chapter 3 have also been considered.

As a first step in estimating costs, Amtrak developed an operating plan, including equipment assignments and support facilities based on the routes and services recommended by the Department. The cost of operating this system was then preliminarily estimated by Amtrak using a refinement of the operating cost model used in the May report. Amtrak management then refined the initial cost estimate with a detailed review of specific individual cost accounts and facilities to ascertain as closely as possible the costs of implementing the specified operating plan.

Projections (FY 1981-84)

Operating costs for Fiscal Years 1981 through 1984 have been projected for the system from the Fiscal Year 1980 base, taking into account expected levels of inflation and cost control measures. The operating cost projections reflect the cost of accommodating increased patronage expected during Fiscal Years 1981 through 1984, including the additional equipment required.

Revenues

Current (FY 1980)

The projected revenues from operation of the recommended system in Fiscal Year 1980 have been derived from a detailed analysis of expected route-by-route ridership and proposed general fare levels. Patronage estimates for markets included in the recommended system were developed using historical ridership information and demand models developed and refined during the course of the study. Where the routes under examination were identical to those operated by Amtrak during Fiscal Year 1977, the Fiscal Year 1977 ridership was analyzed and adjusted to compensate for changes resulting from improved schedules or from changes in frequency. Where the routes under examination involved new markets, the demand models were used to estimate ridership between city-pairs not served by the current system. Where identical city-pairs are served by different intermediate routings (e.g., Chicago-Los Angeles), the amount of that patronage which could be diverted to the new routing was estimated on the basis of proposed schedules and running times.

The model used in the final report was a refinement of the model used in the Preliminary Report. It was stratified to reflect the differences in sensitivity of travelers to changes in frequency of service depending on the current frequency and the distance traveled. In addition, factors were developed to take into account the time of day of service, scheduled connections, and the introduction of new or upgraded equipment and capacity limitations.

Fiscal Year 1980 ridership for the recommended system was derived from Fiscal Year 1977 levels by applying a three-year total growth factor of 2 percent then adjusting each route's estimated patronage growth to account for the introduction of new equipment. Fiscal Year 1980 revenues for transportation and food and beverage service were calculated by first multiplying passenger-miles by the Fiscal Year 1977 yield (revenue per passenger-mile) for each route if it had been part of the Amtrak system, and by a systemwide average yield for new routes. Both products were then adjusted to Fiscal Year 1980 levels using a three-year total growth factor of 11 percent. Mail and express and other miscellaneous revenues were estimated, by account, using expected growth factors for each. The effects of the policy actions outlined in Chapter 3 were also considered.

Projections (FY 1981-84)

Revenue projections for Fiscal Years 1981 through 1984 have been derived from the Fiscal Year 1980 projected amounts by increasing systemwide yields at the same rate as systemwide cost inflation increases, an average of 8 percent per year. The Department and Amtrak estimate that this will result in growth in passenger-miles and total constant dollar revenue on the average of about 1 percent per year, thus contributing to improving the relationship between costs and revenues.

State-Assisted Services

The Fiscal Year 1980 operating subsidy includes amounts needed to provide all existing 403(b) services based on an assumption that the states will continue to fund their 50 percent share of the costs of those services. The projected operating subsidy does not, however, include any funds for the operation of commuter services except the incidental carriage of commuters. The Department strongly endorses the Board's stated policy that Amtrak should require the responsible state or local agencies to fully reimburse the Corporation for losses on all commuter services.

CAPITAL APPROPRIATIONS

Project Related

Current (FY 1980)

Appropriations for physical improvements and additions for Fiscal Year 1980 have been developed on a project-by-project basis, as required to meet the most urgent needs of the recommended system. These include funds for track upgrading for operation of the recommended system.

Projections (FY 1980-84)

The Department and Amtrak have agreed that for planning purposes, $1 billion for capital is required over the five-year period from Fiscal Year 1980 through Fiscal Year 1984. This amount is included in the long range projections subject to development of detailed equipment plans and related facility plans. Those amounts are expected to provide adequate funding for ongoing capital requirements and the equipment and facility improvements necessary to provide high quality service over the recommended system.

Labor Protection

Amtrak is responsible for protection payments to most of its employees in the event those employees are adversely affected by reductions in service, as well as to some of the railroad employees who may be similarly affected by the recommended modifications to the system. These employees are entitled to either a lump sum payment, which would not be reduced even if they obtained other employment, or payments for up to six years covering the difference between their existing salary and that obtained when reemployed. To estimate labor protection payments, it was first necessary to define the services to be operated and the extent of cost savings from the existing system. The Department and Amtrak then estimated total labor protection payments to Amtrak employees, based on estimated manpower reductions, wages, tenure, turnover rates, reemployment rates, and assumptions regarding the type of payment which affected employees will elect. Amtrak's expected labor protection payments to railroad employees were estimated using a similar methodology. Total Amtrak payments are estimated to be $69 million in Fiscal Year 1980, and to total $97 million for Fiscal Years 1980 through 1984.

Debt Retirement

Appropriations for debt retirement are provided to the Corporation to reduce outstanding indebtedness to the Federal Financing Bank. This in turn reduces Amtrak's annual interest payments on those loans. Projections for these payments are $25 million in Fiscal Year 1980 and $475 million for Fiscal Years 1980 through 1984.

NEC Purchase

A $12 million payment in Fiscal Year 1980 will complete the Corporation's current purchase installments on the Northeast Corridor, leaving an outstanding loan of approximately $25 million, which will be funded in Fiscal Year 1981 within the debt retirement program.

COMPARISON WITH CURRENT SYSTEM

To provide the Congress with information on the cost consequences of not implementing the recommended system, estimates were made of the costs and revenues for operation of the system which Amtrak would otherwise operate from

Fiscal Year 1980 through 1984. That system includes all of the existing services, as well as services which the Corporation has planned to operate, including the Southern Crescent and daily service on the northern Chicago-Seattle route.

The costs and revenues for the base case were derived in the same manner as for the recommended system. Due to the presence of weaker trains in this system, the Department and Amtrak estimated overall patronage and prices would increase more slowly than for the recommended system. Patronage was estimated to hold constant at Fiscal Year 1977 levels in Fiscal Year 1980 and to grow thereafter at 0.5 percent per year, while yields were estimated to increase at 7.4 percent from Fiscal Year 1977 to Fiscal Year 1980 and to increase thereafter at 8 percent per year.

The gap in performance between the recommended system and the current system which is quantified for Fiscal Years 1980 through 1984 in this report could be expected to continue to increase in subsequent years. Thus, the ultimate savings for the recommended system will be substantially greater than the amounts reflected in this report.

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