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Intercity Bus Transportation

NATIONAL TRANSPORTATION POLICY STUDY COMMISSION

INTERCITY BUS TRANSPORTATION

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PREFACE

The National Transportation Policy Study Commission (NTPSC) was created by Congress under the Federal-Aid Highway Act of 1976 to investigate U.S. transportation needs and institutions and to recommend new transport policies for the country through the year 2000. The NTPSC, chaired by Representative Bud Shuster, was composed of 19 members--6 serving from the U.S. Senate, 6 named from the House of Representatives, and 7 members appointed by the President.

The Final Report of the Commission to the Congress and to the President was completed in June 1979. The report (National Transportation Policies Through the Year 2000, Washington, D.C.: U.S. Government Printing Office: June 1979) is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, as is a short Executive Summary. The stock number for ordering the Final Report is: 052-003-00669-3; for the Executive Summary the stock number is: 052-003-00684-7.

In the process of its research, the staff prepared various research papers for the use of Commission members, including some papers that were published by the Government Printing Office in small editions and distributed as "NTPSC Special Reports." The Special Reports are being edited and reprinted by the Institute of Urban and Regional Research of the University of Iowa in the interest of providing wider distribution of the research work performed by NTPSC staff.

This NTPSC Special Report deals with a forum of transportation, the intercity bus, that enters all of the transport markets that were the subject of the NTPSC's policy research. The Commission's research was organized to consider the following four markets: intercity, urban, rural and international transportation. The intercity bus industry serves all of these markets, carrying both passengers and freight, and providing common carrier, charter, commuter, local, and package express services.

The NTPSC's report builds upon several excellent reports completed recently by researchers at the Interstate Commerce Commission (ICC), the U.S. Department of Transportation (DOT), and at several state DOTs and universities on virtually all aspects of the intercity bus industry. Additional studies are now underway. This NTPSC special report is meant to complement that research. Among the reasons for completing the NTPSC study are:

- To summarize the NTPSC analysis of the problems facing the U.S. transportation system, and the role of the intercity bus industry in coping with these problems;

- To describe the NTPSC policy recommendations that seek to improve U.S. transportation in general and the intercity bus industry in particular;

- To report NTPSC forecasts of importance to the bus industry, its employees and its users between now and the year 2000;

- To provide an up-to-the-minute synopsis of the results of ongoing and recently completed research, policymaking, and program implementation at the Federal and state government levels and within the private sector;

- To prepare an annotated bibliography of important intercity bus research materials;

- To analyze the possible impacts of implementing the policies recommended by the NTPSC in contrast to status quo policies, especially regarding quality of service to smaller communities and with respect to the financial well-being of smaller intercity bus firms;

- To report the results of the NTPSC's cooperative study with the State of Michigan regarding that state's program of financial assistance to intercity bus firms; and

- Finally, to provide a guide to sources of basic data on the industry's economic structure, levels of service, future capital needs, competitive relationships, and earnings.

This special NTPSC report begins with a discussion of the current economic structure and performance of the intercity bus industry, with special emphasis on recent trends and sources of data. Next, the NTPSC forecasts are given, based on a continuation of status quo policies and programs. The subsequent section summarizes important current and future transportation issues involving the intercity bus industry and its competitors. This sets the stage for the discussion of alternative policies that follows. First the policies recommended by the NTPSC are discussed and their predicted impacts are reported. ICC policy proposals are then examined, in the context of its existing body of regulations. Preliminary U.S. DOT policy and program proposals are reported. The policies and programs of several states are examined, with emphasis on economic and social regulations, financing and planning activities affecting the industry. Policy and program proposals of the intercity bus industry itself, as expressed by trade groups, corporate officers, and owners are discussed next.

The concluding section summarizes the essential findings of the analysis. Three appendixes follow: one describes the NTPSC staff analysis of ICC data filed by Class II and III intercity bus firms for the years 1975 and 1977; the second reports the results of the cooperative NTPSC-State of Michigan study of that state's programs to provide financial assistance for upgrading intercity bus service; and the third provides an annotated bibliography.

This report was written by Richard K. Taube, NTPSC Director of Policy Development, with editing by John W. Fuller. The following persons contributed to the research effort, but are not responsible for any judgements or errors in the report: Janice Bain, Sam Colwell, Jean Kuebbeler, Bruce Lederer, Arnie Levine, Annemarie Riemer, Ben Ritchey, and Susan Schwamkrug. In addition, a research team from Michigan State University, led by William C. Taylor, prepared material from which Appendix II was derived.

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INTRODUCTION

This report is designed to place the specific problems of the intercity bus industry in a broader national transportation policy perspective. The emphasis is on updating information available elsewhere in published form, rather than recapitulating the findings of others. Where research is underway, but not yet published, preliminary findings are indicated here. It is hoped that this report will serve as a useful companion document to the NTPSC Final Report.

The first section gives data on the deteriorating performance of the intercity bus industry. The industry, although heavily regulated, generally has not achieved strong operating results for its regular-route passenger service. Special services, such as charters and package express, have been much more profitable.

The outstanding structural characteristic of the industry is its dominance by Greyhound Lines, Inc., and the existence of only one other relatively strong carrier (Trailways, Inc.).

The next section reports the NTPSC forecasts of the future performance of the industry, if existing policies and programs are continued. The results indicate no improvement for the industry. If the U.S. desires a stronger intercity bus industry, in the sense of profitability and levels of service, it is clear that new policies are required.

The next section reports a set of 25 key transportation issues determined in the course of NTPSC research. Each issue is examined with respect to the implications for the intercity bus industry of its causes and proposed cures. The exercise demonstrates that transport policy, to be effective, cannot be viewed as a loose collection of ad hoc responses to the problems of individual modes or interest groups. Rather, the policy solutions must be integrated and applied as a national set, just as the problems themselves are tangled and complex.

The next section discusses proposed policy solutions to intercity bus problems, in the context of existing policies and programs. After all, continuing to apply the status quo

policies is certainly a choice available to policymakers. First, the policies recommended by the NTPSC are reviewed. Their distinguishing feature appears to be that they are, in fact, devised to be a national transportation policy. That is, they appear as an interrelated set of policy solutions, of which intercity bus policies are an integrated component.

The regulatory policies of the ICC are shown to be experiencing a particularly wrenching metamorphosis. Financial policies of the Federal government are also in flux. States, too, have entered the fray with their own financial and regulatory procedures which themselves are experiencing pressures for change. Finally, proposals for new policies from representatives of the intercity bus industry itself are considered. To some extent these tend to be predictable: freedom from certain regulation and financial support with few strings attached. However, a diversity of wishes within the industry is also apparent.

Following a brief concluding section, three appendices appear. The first is an NTPSC compilation of Class II and III intercity bus operating results derived from statistical reports filed by these smaller carriers with the ICC. A comparison with estimates of the American Bus Association (the industry's trade association) shows some discrepancies for these carriers earning less than $3 million annually. The lack of accurate data about their operation is particularly vexing, considering the renewed U.S. interest in service to rural areas and small communities.

The second appendix reports in detail on the programs of assistance to intercity bus operators within the State of Michigan. The state's program has elements similar to those under consideration by Congress for application nationwide. The results of the Michigan programs do provide examples of what to avoid--especially with respect to subsidizing the operating costs of route expansion.

The third appendix is an annotated bibliography. It lists major reports, articles, legislation, and testimony considered in the development of the NTPSC's policy recommendations, and in the preparation of this report.

Although the style of presentation in this special report is meant to be objective and unbiased, the preponderance of evidence is, in the opinion of the NTPSC Commissioners and staff, that less regulation and subsidy, and more equitable user fees and proper investment analysis, can be expected to materially improve the performance of the U.S. intercity bus industry.

It also seems clear that the application of policy remedies to the problems of the intercity bus industry must be part of a national policy cure for the ailments of the entire transport system (both passenger and freight).

INDUSTRY FACTS AND TRENDS

Sources of Information

This section provides some basic information about the characteristics, structure, and performance of the U.S. intercity bus industry. Additional detail is given throughout the report. The emphasis here is on expanding and updating information available elsewhere, with enough detail to facilitate understanding of the issues, forecasts, policies and programs discussed in later sections.

Several excellent sources of information exist about the intercity bus industry. The American Bus Association (ABA) publishes an annual compilation of data and events of importance to the industry.[1] The ICC releases (semi-annually) financial and operating statistics as reported by the Class I carriers.[2] Although the lower-revenue Class II and III carriers file annual reports with the ICC, these are not summarized and published by the ICC, although they are available for inspection by the public. The Transportation Association of America (TAA) releases annually (with quarterly supplements) its Transportation Facts and Trends.[3] TAA data include both for-hire and private transport modes.

It is impossible to divorce discussion of the private intercity bus industry from the government policies and programs that help to shape that industry's structure and performance. Nonetheless, this section will concentrate on describing the industry itself, while subsequent sections provide more detail on Federal and state regulations and financial assistance. There are available several excellent descriptions of Federal and state programs and policies affecting the intercity bus industry.[4]

The Current Situation

Most observers of the U.S. intercity bus industry regard it as providing inexpensive, ubiquitous service to passengers that do not have access to automobiles. Profitability of the industry, and quality of service, are felt to be low; yet, the existence of the industry giants (Greyhound Lines, Inc. and Trailways, Inc.) gives an aura of monopoly power to the highly regulated industry.

The U.S. intercity bus industry consists of about 1,050 carriers serving over 15,000 communities.

The bus industry carried about 330 million passengers in 1978, serving 1.6 percent of total intercity passenger-miles. The TAA reports a total of 25.1 billion intercity passenger-miles served by intercity bus in 1978, compared to 1,297.7 billion by auto, 10.3 billion by rail, and 204.3 billion by air.[5] Considering only public modes, intercity buses carry about half the passenger trips.

Class I carriers are defined by the ICC as carriers having operating revenues in excess of $3 million per year; Class II carriers have operating revenues betwee $1 and $3 million; and Class III carriers have revenues of less than $1 million.

The average Class I intercity bus passenger load in 1978 was 20.1, compared to average bus capacity of 43.1, for an average load factor of 46.6. Total seat-miles provided by the Class I carriers were 25.0 billion. Average trip length was 126 miles.6/

Passenger fatalities of Class I intercity buses numbered 6 in 1977, or 0.04 per 100 million passenger-miles. This compares to an auto fatality rate of about 1.35 deaths per 100 million passenger-miles.7/ The bus fatality rate has been quite steady over the past 10 years.

Approximately 38,000 persons were employed in the intercity bus industry in 1978, out of over 1.5 million nationwide engaged in transport service occupations.8/ Comparable bus industry totals were 47,000 in 1950, 41,000 in 1960, and 43,000 in 1970.9/

The TAA estimates that in 1976, about $1 billion was spent for intercity bus services. This comprised about 7 percent of the intercity for-hire transportation bill, or about 0.5 percent of the total transportation bill, including private and for-hire modes. In 1960, the total intercity bus bill was $559 million (17 percent of the intercity for-hire bill and 1 percent of the grand total), and in 1970 the figures were $799 million, 10 percent and 0.7 percent respectively.10/

A common measure of the performance of intercity bus firms is known as the operating ratio (operating costs divided by operating revenues). Operating ratios for Class I carriers have steadily deteriorated since 1971, from 87.6 percent in that year to 96.3 percent in 1978. Return on equity for these carriers stood at 16.1 percent in 1971; by 1977 the figure was 8.42 percent.11/

The situation for smaller intercity bus firms is harder to determine, although widely believed to be more dismal than that facing the Class I carriers, when only regular route service is considered. Yet, the ABA estimates operating ratios have stayed fairly steady, between 96 and 97 since 1971, as the number of these smaller carriers has grown from 929 to 1,004 by 1977.12/

Detailed data are available on annual reports filed by Class II and III carriers with the ICC, but these are not compiled. The ABA uses an estimating procedure. The NTPSC examined the annual reports of all Class II and III carriers

that filed ICC reports for 1975 and 1977. The operating ratios for the smaller carriers were found by the NTPSC to be 94.7 in 1975 and 97.8 in 1977. The ABA estimated these ratios at 97.0 and 96.6 respectively for 1975 and 1977. The ICC itself sampled 211 firms for 1975, determining the operating ratio of 60 of these engaged primarily in intercity regular route service to be 97.1. The ICC notes that the bulk of Class II and III carriers reporting to the ICC are engaged principally in local or charter service, rather than intercity common carrier service.13/

The Decline

The discussion above indicated that intercity bus operating ratios have deteriorated and that the industry receives a share of the U.S. transportation bill. Employment was seen to drop, but the industry's safety record remained admirable. Most other measures of performance, as discussed below, have also deteriorated during the 1970s.

The ABA reports a decline in the number of buses operated by Class I carriers. In 1970 the total was 10,100 buses operated by 71 firms; in 1977 the total was 8,300 buses operated by 46 firms. Considering Class I, II, and III carriers, 22,000 buses were operated by 1,000 firms in 1960, compared to 20,100 buses operated by 1,050 firms in 1977.14/ The same source reports declines in average speed from 60.2 mph in 1971 to 55 mph at present, and a reduction in the number of points served and the frequency of service.

Average revenue per passenger-mile has grown, for Class I carriers, from 1.71 cents in 1947 to 5.06 cents in 1977, an increase of 296 percent. On the other hand, consumer prices grew 272 percent over the period.15/

Passenger-miles served by intercity bus have declined in comparison to competing modes. For example, in 1960 buses carried 19.3 billion passenger-miles, 2.5 percent of the total, and in 1970 they carried 25.3 billion passenger-miles, only 2.1 percent of the total, compared to the 1978 level of 25.1 billion passenger-miles, 1.6 percent of the total.16/

Considering passengers carried, in 1960, the intercity bus total was 366 million (48.9 percent of all for-hire modes), and in 1970 the total was 401 million (or 47.7 percent of the for-hire modes), compared to the 1978 level of 330 million passengers.17/

A major factor in the widely perceived decline of profitability of the intercity bus industry is the cost side of its operations. Both capital and operating costs are increasing. In particular, wages, fuel expenses, and bus prices are increasing rapidly. For example, wages and salaries paid by Class I carriers grew from $333.9 million in 1971 to

$451.9 million in 1977, despite labor force declines from 34,700 in 1971 to 29,600 in 1977. When measured in constant 1971 dollars, however, the wage bill actually declined to $302 million in 1977.[18]

On a per employee basis, earnings were shown by the ICC to have held steady at about $9,600 in constant 1971 dollars from 1971 through 1976. Drivers constitute about half of the work force of Class I carriers. From 1971 through 1976, both bus miles and number of drivers declined, with bus miles per driver declining slightly (to 51,738 in 1976 from 52,758 in 1971).[19]

The ICC reports that Class I carriers spent about 78.6 percent of their $80 million total capital budget in 1976 on buses (at about $90,000 per bus); 3.0 percent on land, 12.2 percent on structures, and the remaining 6.2 percent on other items.[20]

In 1972, Greyhound acquired 381 buses for $26.1 million, and Trailways-affiliated carriers added 235 for $14.3 million. In 1978, Greyhound acquired 404 buses for $39.9 million, while Trailways had steadily reduced its bus acquisitions to 19, for $1.8 million.[21] On the other hand, Trailways increased its expenditures on structures from $0.8 million in 1974 to $2.9 million in 1976, while Greyhound reduced such expenditures by $0.9 million during that period. Together, the two carriers accounted for 97.6 percent of total capital expenditures on structures during the period.

The ICC analyzed the financial health of the industry in 1978, and found that bus firms had relied, throughout the early 1970s, on internally generated cash flow to finance capital expenditures. Relatively little debt financing was used (although the financial practices of Greyhound heavily influence the findings).

Halting the Decline

Declining levels of service, ridership, and revenues, together with accelerating capital and fuel costs, have shown no real signs of abating, when regular route passenger service is considered. Carriers have experimented with marketing, such as unlimited ride passes or reduced fare promotions.

In 1977 Greyhound, Trailways, and 13 other carriers began marketing programs designed to increase long-distance ridership through drastic fare reductions. For example, at one point a $50 maximum fare for a one-way bus trip anywhere in the U.S. existed. At the time, average trip lengths were 138 miles for Trailways and 153 miles for Greyhound, compared to about 112 miles for the average Class I carrier. One study[22] suggests the experiment did serve to increase long-distance ridership and revenues, at least temporarily. The ICC concurs.[23] However, in addition to lower fares, increased bus-miles were

observed, and not held constant in the study. The subsequent intensive discount fare promotions of the airlines, and of Amtrak, served to counteract any relative price advantage buses may have enjoyed in the heavily traveled, long-distance corridors.

Despite the long-term downward trend in intercity bus ridership and profitability, some believe energy shortages will halt the slide. Indeed, recent operating results, reflecting fuel shortages of the summer of 1979, are encouraging. Operating revenues of the 10 largest carriers rose 18.7 percent, ridership rose 12.1 percent, net operating income rose 63 percent, and net income rose 35 percent in the April-June quarter of 1979, compared to the same period a year ago. The 10 largest carriers earn about 75 percent of the revenue of all 50 Class I carriers.

For the 12 months ended on June 30, 1979, compared to the previous 12 months, the 10 largest carriers showed increases in operating revenues of 7.9 percent, but declines in net operating income of 32 percent, although all the 9 firms other than Greyhound experienced increases of 33 percent in net income. For the year, the rate of return on shareholders' equity declined to 3.96 percent, from 6.09 percent in the previous year.24/

It should be remembered that the industry enjoyed only a temporary increase in regular route ridership during the 1974 energy shortage.

Although some studies suggest that some regular-route intercity bus service is unprofitable,25/ the firms providing this service also provide other services that enjoy much more favorable operating results. For example, a bus carrying passengers can also haul package express. The incremental costs to handle the freight are small, given the fact that the scheduled trip must be made for the sake of the passengers. Another special service that is generally highly profitable is that of charters. Such contract trips enjoy high load factors, longer average trip lengths, and can utilize equipment otherwise idle during off-peak periods.26/

Demand for regular route service is seasonal, peaking in summer months and around holidays. Thus, the provision of charters provides a mechanism to use excess capacity during off-peak periods.

In fact, Class I carriers have steadily earned a declining share of operating revenues from intercity regular route service since 1960. In 1960, 76.6 percent of revenues came from that source, but the figure was only 66 percent by 1977. Other categories grew, notably package express from 7.0 percent to 15 percent, and charter from 7.8 percent to 14.7 percent.27/

Some believe that the revenues from package express and charters cross-subsidize losses from regular route service, and are necessary to insure the continued provision of common carrier service. According to a Greyhound official, Gerald R. Troutman, only 11 percent of its routes are profitable (including those between New York and Boston, New York and Washington, D.C., Chicago and Detroit, and Seattle and Portland). He blames the ICC.[28]

Package Express

Package express service has expanded in importance for Class I carriers. In 1971, such revenues totaled $104.1 million (13.7 percent of total revenues); by 1977, $154.1 million in revenues came from this source (15.7 percent of the total). Earnings have grown 48 percent over the period.[29]

Table 1 gives comparative data regarding the package express service provided by intercity bus firms and other carriers. Bus service is seen to be quite competitive with that provided by other modes, in terms of prices and delivery times.

Intermodal freight services are also available. For example, Continental Airlines and Trailways began in June 1978 a bus-air freight-interchange program to enable shippers and forwarders to move shipments of up to 150 pounds into 1,500 communities within 48 hours for less than $55. A systemwide flat rate of $23 is charged for the air portion for a shipment of less than 75 lbs. plus $10 to $11 for the bus portion. Trailways will provide the customer pickup and delivery service in 100 cities at an extra charge. Airborne Air Freight has a similar arrangement with Greyhound Lines, but as of June 1978, customers could not deal directly with the air carrier.[30]

Charter Service

With respect to charters, this form of service appears to be much more vital to the Class II and III carriers, which typically do not enjoy strong package express business.[31] In addition, the nationwide market for charter service appears to be less highly concentrated than is that of regular route service.

Greyhound's share of Class I intercity regular route passenger-miles and passenger revenues is about 60 percent, with Trailways contributing about 20 percent.[32] Where charter service is considered, the market is much more competitive. For example, a study done by Booz-Allen-Hamilton for Trailways, Inc. showed that in 1976, Class I intercity carriers provided 39 percent of the charter miles and earned 35 percent of the charter revenue; Class II and III carriers had 39 percent and 36 percent respectively, Class I suburban/local carriers had 9 percent and 10 percent; and urban public transit systems had 8 percent and 6 percent, among others.[33] Charter revenues of Greyhound comprised 12.8 percent of the total; Trailways had 8.4 percent.[34]

TABLE 1. Comparison of Express Parcel Service.

FIRM	PRICE $			TRANSIT TIME			LIABILITY LIMIT	SIZE RESTRICTION
	Regular	Expedited	Other	Regular	Expedited	Other		
American Airlines	22.05*	28.67*	32*	1-2 days	next flight	reserved flight	$272/$750	less than 90 in. total
Burlington Northern	31.75	103.25	--	next day	next flight	--	usually $25,000/$500	maximum 50 lb. and 30 in. one dimension
Emery Air Freight	51.80	--	--	By 11 a.m.	--	--	up to $5,000	maximum 70 lb. and 108 in. total
Federal Express	30.27	51.80	--	2 days	by noon	--	$2,000/$5,000	maximum 70 lb. and 108 in. total
Greyhound	18.45*	36.90*	--	3 days	2½ days	--	$250	maximum 24x24x45 in. and 141 in. height
Trailways	31.16	--	19.20*	48 hr.	--	48 hr.	$250	maximum 150 lb. per piece; 3 pieces
UPS	8.50	18.00	18.00	4 days	--	2 days	actual value/ $1,000	maximum 150 lb. per piece; 108 in. L&G
U.S. Postal Service	29.00	39.30	22.80*	22 hrs.	same day	same day	$500 merchandise; $50,000 document. Will reconstruct.	maximum 70 lb. per piece; 100 in. L&G

*Pickup and delivery not included.

SOURCE: Handling and Shipping Management, June 1979, pp. 70-1.

The Competitive Structure

Consideration of industry averages can hide the great variation in operating results among individual firms, and among regions. For example, for calendar year 1978, 43 Class I carriers reported total passenger operating revenues of $661 million. Of this amount, Greyhound Lines accounted for almost $412 million, while remaining carriers operating in the eastern district earned $95.6 million; in the west, $104 million; and in the south, $48.7 million.

All 43 Class I intercity passenger carriers enjoyed net income after taxes of $40.1 million for 1978. Of the total, Greyhound earned $15.7 million, eastern carriers lost $1.2 million, western carriers earned $19.8 million, and southern carriers earned $3.6 million.35/

Additional consideration of variations in performance among firms and regions is given in the 1978 ICC study of the industry. In 1976, for example, the ICC found Class I operating ratios to vary from 97.7 to 89.2 among regions, and Class II and III ratios to vary from 97.2 to 88.7.36/

The simple fact about the structure of the industry is that there exists one very large firm providing nationwide service together with a second, less powerful firm and about 1,000 other much smaller firms. Greyhound dominates any statistical examination of Class I carriers, and Class I carriers overwhelm Class II and III aggregates.

ICC policy has been to permit Greyhound to grow through mergers and acquisitions, presumably so as to improve service to customers and to realize cost advantages of through-service. To counter Greyhound's market power, the ICC has nurtured Trailways, Inc. and the National Trailways Bus System.37/

Trailways, Inc. is based in Dallas, Texas. The Trailways, Inc. system includes Trailways, Inc. and 15 wholly-owned subsidiaries of TCO, Inc., each of which reports separately to the ICC. TCO, Inc., in turn, was owned by Holiday Inns, until August 1979. The National Trailways Bus System (NTBS) includes the Trailways, Inc.-system plus 16 additional independently owned companies. The NTBS is a voluntary, non-profit association to facilitate ticketing, routing, and equipment usage among the members.38/

Greyhound owns or controls 6 of the 43 Class I predominantly intercity carriers.39/ Greyhound is the largest domestic manufacturer of buses used for intercity service, and has recently expanded into the production of intermediate-size coaches for urban transit use. Trailways purchases its buses from Eagle International, an unrelated firm.

In 1978, Greyhound Lines, Inc. earned $728 million in revenues, compared to $4.4 billion earned by the parent firm (including meat packing, consumer products, and financial services).[40] Until sold by Holiday Inns in August 1979, Trailways, Inc. was part of a conglomerate that included Delta Steamship Lines, Inc., lodging, food service, and entertainment enterprises. Trailways had revenues of $248 million in 1978. The third largest carrier, Carolina Coach Company, earned $19 million.[41]

Together, Greyhound and Trailways earn about 60 percent of total intercity bus industry revenue and 75 percent of its regular-route passenger revenue. Greyhound operates about 115,000 route miles; Trailways operates 70,000.

The ICC, in its 1978 study of the industry, audited Greyhound and Trailways to determine the financial interrelationships between parent and subsidiary firms, and the impacts on intercity bus service. Among the ICC findings were:

(1) The prices paid by Greyhound Lines, Inc. for buses manufactured by its sister company appear to be comparable to prices paid by non-affiliates;[42]

(2) In 1969, Greyhound Lines, Inc. issued $73 million in debt, the proceeds of which were advanced to the parent corporation. By 1976, the firm was reimbursed by the parent, with interest. However, while the loan was outstanding, the reported levels of debt of the intercity bus industry were, in effect, distorted.[43] Earlier transactions between Greyhound Lines and its parent had required the bus firm to absorb interest costs; and

(3) With respect to Trailways, the ICC found most non-carrier subsidiaries of its TCO, Inc. holding company (which, in turn, was controlled by Holiday Inns) depended almost entirely on bus company earnings for their survival. Specifically: Had the operations of these affiliates (many of which were created from bus company profits) not been segregated from that of the carriers, the carriers' earnings would be significantly higher.[44]

Conclusions

The above review of the conditions and performance of the intercity bus industry suggests some conclusions that should be kept in mind as transport issues and policies are developed in the subsequent sections.

There is no doubt that the industry has been performing poorly, when regular-route service is considered. The relationship between Greyhound and Trailways and their corporate parents, and the paucity of Class II and III data, make acceptance of published operating results somewhat risky. Nonetheless, it is clear the industry faces severe intermodel

competition (e.g. from autos, airplanes, and to a limited degree from Amtrak). Yet, intramodal competition has been slight, with a highly concentrated market structure for regular route service (less so for package express and charters). This conclusion is supported by the findings of a regression analysis using data from the New England region. In the sample, the presence of rail competition lowered significantly the average intercity bus fare, while bus competition alone did not.45/

Bus trip lengths are declining. The strength of the bus is not long-distance service; rather, interconnections with the air mode must be stressed. Passenger surveys conducted in Wisconsin and Michigan, and national transportation survey data, reveal that typical intercity bus passengers are likely to be very young or old, female, have low family income, and be traveling to visit friends or attend school, compared to the average traveler. However, the make-up of the passenger market can vary greatly with the type of service provided. Some intercity bus firms have even successfully provided luxury express service (airline-type seats, attendents, cocktails, etc.) aimed at the well-to-do business traveler.46/

Given the preponderance of intercity travel by automobile in the U.S. (98 percent of passenger-miles), for the intercity bus industry to enjoy any major resurgence of regular route travel nationwide, external events or U.S. policies must be directed to reducing automobile travel. Nonetheless, other strategies can alleviate certain industry problems, to help develop markets that are profitable. Reduced regulatory impediments to competition seems to be one such strategy, as discussed below.

The next section shows the forecasts of future transportation activity provided by the NTPSC. The forecasts reinforce these conclusions--without substantive policy changes, the intercity bus industry will, at best, stabilize at relatively low performance levels.

NTPSC FORECASTS

The NTPSC forecasting process was used in conjunction with its issue identification, policy development, and impact analysis activities. Forecasts were made for all modes and markets, through the year 2000. The findings of particular importance to the intercity bus industry are reported below. It should be remembered, however, that the performance of the intercity bus industry (e.g. ridership, levels of service, profitability, energy use) is crucially dependent on the performance of the other components of the U.S. transportation system. For this reason, the entire set of NTPSC models is described in the next section. Details of the forecasts are reported in the NTPSC's Final Report, especially chapters 9, 10, and 11.

The Modeling Process

The NTPSC staff developed a system of 13 models that, combined with scenario development and technology assessment, provided a means for forecasting future transportation and energy needs under status quo policies. These models and the baseline forecasting results have been described in detail in the NTPSC Final Report. Basically:

1. Scenarios were developed, reflecting a range of economic variables, such as GNP, population, disposable per capita income, government expenditures and labor productivity. The three basic scenarios are labeled high growth, medium growth, and low growth.
2. An auto model was used to simulate changes in the fleet due to natural aging and addition of new cars with known fuel economy and emission properties. Its outputs were the stock of autos, vehicle miles traveled (VMT), gasoline consumed and other related values.
3. An input-output model was applied to disaggregate final demands into industrial components. Its outputs were sales in constant dollars for 200 sectors and employment for 96 sectors.
4. A transportation submodel to the input-output model gave more detail concerning the transportation industries of particular concern to the NTPSC. These included railroads; overseas water; domestic water; for-hire trucking; air carriers; pipelines; local transit; transportation services and warehousing; private trucking; private automobiles; private ships; general aviation; and private buses; in addition to intercity buses. The submodel gave national results, considering 48 commodity classes.
5. A regionalization process was used, employing current data on population, 1975 commodity flows, and forecasts of population and industrial activity by Bureau of Economic Analysis (BEA) zone, in order to divide the GNP and other economic activity into regions.
6. A national transportation planning model (NTP) was used, taking as inputs such parameters as time and cost per person-mile or per ton-mile for passenger and freight transport. Passenger and commodity flows between BEA zones were forecast for 17 commodities.
7. For the urban market, a model taking external data such as population, area, freeway miles, bus fleet size, transit fares and parking charges, was applied to forecast average highway speed, transit load factors, fatalities, and benefit-cost ratios of investment by class of investment. The urban model worked with six city-size groups.
8. An international air process was used that took forecasts of passengers and tons and calculated passengers and tons leaving and entering the U.S. Output was not differentiated by U.S.-flag vs. non-U.S.-flag carriers.

9. The NTPSC used an international maritime process that took parameters from the scenarios and produced estimates of dollar values of imports and exports by direction (east, west and south). The process used a forecasting package which had as a major component a fleet forecasting model. It showed port-specific, commodity-specific data.
10. Rural passenger travel was estimated from a knowledge of population in rural areas and the VMT per capita results from the urban model.
11. Rural freight (truck only) was estimated in ton-miles as a function of GNP.
12. Urban freight was modeled as a function of GNP.
13. A national energy model (NEM) focused on various fuels which are expected to be used in the future. It employed price-quantity relationships (demand curves) and provided market-clearing quantities and prices of fuels. In addition, it gave data of interest on production quantities, flows of fuels through transmission links and capacities of the conversion processes. Embedded in the NEM were alternative technologies and fuels, together with their costs of production.

The 13 components were used by the NTPSC as an integrated whole. For example, projected flows of selected commodities (such as grain and coal) were checked to see if they are feasible on linked models with quantified capacity. Special attention was paid to overloaded and underutilized links.

The results of the NTPSC technology surveys were used as inputs to the models to change some parameters. Examples are increasing fuel efficiency in the auto and airline sectors.

The Results

The results of the NTPSC forecasts are discussed below, in three sections. First, future activity levels are presented. Second, required capital, labor, and energy inputs are given. Finally, future revenues and relative prices are shown, using the concept of the transportation bill.

Future Activity.47/ A central theme of the NTPSC forecasts is that future transportation activity, considered as a whole, will grow more rapidly than population. More households and rising real incomes should stimulate personal travel.

For intercity passenger trips (defined as those greater than 30 miles and with a destination outside the urban or rural locality of origin) all modes were projected to exhibit absolute growth. The auto and air modes continue to dominate, together capturing 97 percent of intercity passenger trips in the year 2000. The most significant shift between modes may be from auto to air. Under all three NTPSC scenarios, the

intercity bus industry will experience a small absolute increase in passenger trips and in passenger-miles, but no significant change in relative share.

TABLE 2. NTPSC Forecast Intercity Passenger Miles and Person Trips by Intercity Bus, by Scenario, 1975 to 2000 (billions).

	Passenger Miles			Person Trips		
	1975	1985	2000	1975	1985	2000
Low-Growth Scenario	25	25	25	0.239	0.243	0.244
Medium-Growth Scenario	25	27	31	0.239	0.268	0.412
High-Growth Scenario	25	30	34	0.239	0.294	0.334

SOURCE: NTPSC forecasts shown in NTPSC Final Report, Tables 27 and 28.

TABLE 3. Percent Share of NTPSC Forecast Intercity Passenger Miles and Person Trips Carried by Intercity Bus, Medium-Growth Scenario, 1975 to 2000 (%).

	Passenger Miles			Person-Trips		
	1975	1985	2000	1975	1985	2000
Intercity Bus Share	1.9%	1.6%	1.3%	1.8%	1.6%	1.6%

SOURCE: NTPSC forecasts.

Table 3 shows that the intercity bus industry can expect a gradual decline in its relative share of passenger-miles and person-trips under existing policies.

For purposes of comparison, Table 4 shows other projections of intercity bus passenger-miles.48/

TABLE 4. Projections of Intercity Bus Passenger-Miles (billions).

SOURCES	1975[e]	1980	1985	1990	1995	2000
1. Project Independence (FEA)[a]						
Oil Price $4/barrel	25.4	30.0	33.	37.8		
Oil Price $11/barrel	25.4	31.0	34.4	38.3		
2. Trends and Choices (T&C)[b]	25.4			38.3		
3. Transportation Projections (JFA)[c]						
Low Scenario	25.4	24.7	24.1	23.5	23.0	22.5
Most-Likely Scenario	25.4	25.4	25.4	25.4	25.4	25.4
High Scenario	25.4	26.7	27.9	29.5	31.0	32.5
4. NTPSC Projections[d]						
Low-Growth Scenario	25.4		25			25
Medium-Growth Scenario	25.4		27			31
High-Growth Scenario	25.4		30			34

SOURCES:

a Federal Energy Administration, Project Independence Blueprint Final Task Force Report, Vol. 2, Transportation Sections, November 1974.

b U.S. Department of Transportation, National Transportation: Trends and Choices (to the Year 2000), Washington, D.C.: Government Printing Office, January 1977.

c Jack Faucett Associates, Inc., Transportation Projections 1985, 1995, 2000, February 1978, p. 90.

d NTPSC staff projections.

e Transportation Association of America, Transportation Facts and Trends 1978, Washington, D.C.: 1978, p. 18. The 1975 passenger-miles base number is shown for purposes of comparison. The JFA projections did use the T.A.A. figure as a base.

The Federal Energy Administration (FEA) projections were determined by calculating simple linear regressions for the years 1960 to 1972, and extrapolating these regressions to project per capita GNP, population, and per capita passenger-miles for all modes of transportation. Intercity bus demand projections were based on the assumption that the bus portion of the modal share would continue its recent modest growth. The growth of 1973 and 1974 has not continued, however, so that these projections have proven to be too high to date.

The Trends and Choices (T&C) forecast of 38.3 billion passenger-miles by 1990 is also relatively high, equal to that of FEA's 1990 projection. The T&C projection was determined using a method similar to the FEA's; economic growth, price of petroleum, demographic factors, and the availability of petroleum were all considered. However, T&C did include some additional factors, such as rising income levels and changing demand from long-distance bus trips to alternative modes (i.e. air transport). T&C also discussed the potential to increase intercity bus passenger-miles further by improved (premium) service and regulatory reform.

The Jack Faucett Associates (JFA) projections present zero growth in intercity bus passenger-miles as the most-likely scenario. The high scenario is estimated to have an annual growth of 1 percent, while the low scenario is estimated to have an annual growth rate of -0.5 percent.

The NTPSC projections show, for the medium-growth scenario, intercity bus passenger-miles growing at almost 1 percent annually. NTPSC's high-growth scenario yields about a 2 percent growth, while the low-growth scenario shows no change. The slight increase in the medium-growth scenario (considered by the NTPSC to be most likely) assumes that a severe shortage of petroleum will not occur, and that other crises will not emerge.

Required Capital, Energy and Labor Inputs

Capital. The amount of capital investment by the intercity bus industry needed to meet the forecast activity levels is projected by the NTPSC to increase. The medium-growth scenario shows investment in equipment from 1976 to 1985 as $667 million in 1975 dollars, yielding an annual equipment investment of $66.7 million. From 1986 to the year 2000, the total is $1,045 million with an annual investment of $69.7 million. The total projected investment from 1976 to the year 2000 is $1.7 billion. Equipment represents the largest area of investment by the bus industry. Table 5 illustrates this steady increase.

TABLE 5. Intercity Bus Industry Equipment Investment, by Scenario, 1976 to 2000 (millions of 1975 dollars).

	Expansion	Replacement	Total
Low-Growth Scenario			
1976-1985	$107	$461	$568
1986-2000	$163	$683	$846
TOTAL	$270	$1,144	$1,414
Medium-Growth Scenario			
1976-1985	$195	$472	$667
1986-2000	$271	$774	$1,045
TOTAL	$466	$1,246	$1,712
High-Growth Scenario			
1976-1985	$168	$508	$776
1986-2000	$322	$810	$1,132
TOTAL	$590	$1,318	$1,908

SOURCE: NTPSC forecasts shown in Table 47 of the NTPSC Final Report.

The projected investment levels for facilities are shown in Table 6. The medium-growth scenario investment in facilities from 1976 to 1985 is $146 million in 1975 dollars, yielding an annual average of $14.6 million. From 1986 to the year 2000, the investment level is $245 million, with an average annual requirement of $16.3 million. The total projected investment in facilities is less than one-quarter of the projected equipment investment level in the year 2000.

TABLE 6. Intercity Bus Industry Facilities Investment, by Scenario, 1975 to 2000 (millions of 1975 dollars).

	Expansion	Replacement	Total
Low-Growth Scenario			
1976-1985	$33	$67	$100
1986-2000	$71	$102	$173
TOTAL	$104	$169	$273
Medium-Growth Scenario			
1976-1985	$73	$73	$146
1986-2000	$129	$116	$245
TOTAL	$202	$189	$391
High-Growth Scenario			
1976-1985	$106	$77	$183
1986-2000	$140	$126	$266
TOTAL	$246	$203	$449

SOURCE: NTPSC Forecasts shown in Table 47 of the NTPSC Final Report.

Combining the investments shown in the two previous tables, expected investments would be as shown in Table 7.

TABLE 7. Total Forecast Intercity Bus Capital Investment, by Scenario, 1975 to 2000 (millions of 1975 dollars).

	1976-1985	1986-2000	Total
Low-Growth Scenario	$668	$1,019	$1,687
Medium-Growth Scenario	$812	$1,290	$2,103
High-Growth Scenario	$959	$1,398	$2,357

SOURCE: NTPSC forecasts shown in Table 47 of the NTPSC Final Report.

Although the absolute levels of required capital investment may seem quite large, compared to the total investment needs of the U.S. transportation system through the year 2000, the intercity bus industry retains a share of only about one-half of one percent. This is shown in Table 8.

TABLE 8. Intercity Bus Capital Investment Forecasts as a Percent of Total Transportation Capital Investment Forecasts, 1975 to 2000 (percent).

	1976-1985	1986-2000	Total
Medium-Growth Scenario[a/]	0.06%	0.05%	0.05%

[a/] The low- and high-growth scenarios show the same percentages.

SOURCE: NTPSC forecasts shown in the NTPSC Final Report, Table 38.

Of course, investments in highways are also required so that intercity bus service can be provided. These investments are not made directly by the intercity bus industry. Rather, governments build and maintain the nation's highways. User fees do cover a substantial portion of these costs, although general revenues are also used. The NTPSC forecasts reveal accelerating highway needs, especially for maintenance, with no corresponding increase in user revenues under existing policies. Therefore, either deteriorating levels of service on U.S. highways will occur, or new policies will be required to generate additional revenues or to ration demand on existing facilities.

The NTPSC projects that, depending on the scenario, from $856,971,000,000 to $930,339,000,000 in constant 1975 dollars will be needed for highway capital investment over the period from 1976 through 2000. Further details are shown in NTPSC Final Report, Table 38.

While governments will be building and maintaining highways and bridges used by the intercity bus industry, facilities and equipment will also be provided for modes that compete with intercity buses. For example, as shown in Table 39 of the NTPSC's Final Report, the NTPSC forecasts government capital investment for Amtrak to total $4,900,000,000 in 1975 dollars for all three scenarios; for motor transport to vary from $50,059,000,000 to $51,867,000,000 depending on scenario; and for air transport from $36,258,000,000 to $48,929,000,000, all for the period 1976 through 2000.

Energy. To provide the service forecast by the NTPSC, the intercity bus industry will consume the energy indicated in Table 9. These amounts vary from 0.7 percent to 1.0 percent of the total transportation energy consumed by all modes in the intercity passenger market.

TABLE 9. Annual Energy Consumption by the Intercity Bus Industry, and Its Modal Share for the Intercity Market, by Scenario, 1975 to 2000, Btus (quads) and Percent.

	1975	1985	2000
Low-Growth Scenario			
Intercity Bus (quadrillion Btus)	0.03	0.03	0.03
% of Total Intercity Market	0.9	1.0	0.9
Medium-Growth Scenario			
Intercity Bus (quadrillion Btus)	0.03	0.03	0.04
% of Total Intercity Market	0.9	0.8	1.0
High-Growth Scenario			
Intercity Bus (quadrillion Btus)	0.03	0.04	0.04
% of Total Intercity Market	0.9	1.0	0.7

SOURCE: NTPSC forecasts shown in NTPSC Final Report, Table 29.

Comparing fuel use in Table 9 with activity forecasts in Table 4 shows that intercity buses are projected to provide service that decreases relative to the industry's share of fuel used. For example, by the year 2000, the NTPSC forecasts about 1.3 percent of intercity passenger-miles to be provided by intercity buses, while the industry may use 1.0 percent of the

fuel used by intercity modes under the medium-growth scenario. In 1975, the industry provided 1.9 percent of the intercity passenger-miles, using 0.9 percent of the fuel consumed in all intercity passenger travel. On the other hand, the personal automobile is projected to gain in relative energy efficiency as a result of federally mandated fuel-efficiency programs.

Labor. Employment is projected in the medium-growth scenario to reach 50,900 by 1985 and 56,900 by the year 2000. Table 10 gives more detail.

TABLE 10. NTPSC Intercity Bus Employment Projections, by Scenario (thousands of employees).

Year	Low Growth	Medium Growth	High Growth
1975	46.7	46.7	46.7
1985	46.3	50.9	55.2
2000	46.3	56.9	61.7

SOURCE: The NTPSC staff computed employment figures based on historical data obtained from the I.C.C. in 1978. Shown in NTPSC Final Report, Appendix Table 47.

Combining passenger-mile (PMT) projections and employment forecasts, intercity bus average labor productivity estimates can be derived, as shown in Table 11. Productivity is listed, by scenario, in thousands of PMT per employee. For two scenarios, small productivity increases are forecast, but for the medium growth scenario, a decline is shown.

Future Revenues and Relative Prices

The ability of the intercity bus industry to improve its profitability and service in the future will depend on trends in demand and costs compared to those experienced by competing modes. The NTPSC projected future expenditures for transportation for all modes and markets, using the concept of the transportation bill. The U.S. transportation bill is defined as the sum of revenues of for-hire carriers (e.g. intercity bus firms), plus the annual costs (including capital) of private transportation (e.g. personal automobiles), plus net government subsidies (e.g. expenditures for highways net of highway user-fee revenues).

TABLE 11. Forecast Intercity Bus Labor Productivity by Scenario, 1975 to 2000 (PMT per employee per year).

	PMT (billions)	Employment (thousands)	Productivity in thousands of PMT per employee per year
Low-Growth Scenario			
1975	25	46.7	535.3
1985	25	46.3	540.0
2000	25	46.3	540.0
Medium-Growth Scenario			
1975	25	46.7	535.3
1985	27	50.9	530.5
2000	30	56.9	527.2
High-Growth Scenario			
1975	25	46.7	535.3
1985	31	55.2	561.6
2000	34	61.7	551.1

SOURCE: NTPSC Forecasts shown in NTPSC Final Report, Table 48.

Overall, the NTPSC projects the U.S. transportation bill to grow from $322,980,000,000 in 1975 to $709,126,000,000 in the year 2000 for the medium-growth scenario, expressed in constant 1975 dollars. Additional detail is given in the NTPSC Final Report, Table 82. For example, for the medium-growth scenario, the intercity passenger transportation bill is projected to grow from $95,414,000,000 in 1975 to $162,503,000,000 in the year 2000. The projections for the intercity bus industry are shown in Table 12.

In 1975 there were virtually no direct government subsidies for intercity bus transportation. By 1985, it is projected that, given recent actions by some states and by Congress to subsidize some routes and terminals and to refund certain fuel taxes and exempt the industry from certain excise taxes, the net subsidy should be about $141,000,000 annually in constant 1975 dollars.[49/] For the medium-growth scenario in 1985, this $141 million net government subsidy for the intercity bus industry will represent about 0.3 percent of the total net government subsidy for all transport modes, or about 1.0 percent of the net subsidy to intercity passenger transportation. By the year 2000, the subsidy to intercity buses is projected to shrink to about 0.2 percent of the total transportation subsidy, or 0.6 percent of the net subsidy to intercity passenger transportation.

TABLE 12. NTPSC Projected Transportation Bill for Intercity Buses, and Intercity Buses' Share of Total Bill and Intercity Passenger Bill, by Scenario, 1975 to 2000 (millions of 1975 dollars and percent).

	1975			1985			2000		
	Revenues	Government Subsidy	Total	Revenues	Government Subsidy	Total	Revenues	Government Subsidy	Total
Low-Growth Scenario									
Intercity Bus Bill	$1,016	0	$1,016	$1,220	$141	$1,361	$1,614	$141	$1,755
% of Total Bill	0.3%	-	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%
% of Intercity Passenger Bill	1.1%	-	1.1%	1.1%	1.0%	1.1%	1.2%	0.6%	1.1%
Medium-Growth Scenario									
Intercity Bus Bill	$1,016	0	$1,016	$1,339	$141	$1,480	$1,984	$141	$2,125
% of Total Bill	0.3%	-	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%
% of Intercity Passenger Bill	1.1%	-	1.1%	1.2%	1.0%	1.2%	1.4%	0.6%	0.3%
High-Growth Scenario									
Intercity Bus Bill	$1,016	0	$1,016	$1,454	$141	$1,595	$2,149	$141	$2,290
% of Total Bill	0.3%	-	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%
% of Intercity Passenger Bill	1.1%	-	1.1%	1.2%	1.0%	1.2%	1.2%	0.6%	1.2%

SOURCE: NTPSC forecasts.

Extrapolating Bureau of Labor Statistics price indices for intercity bus fares shows expected increases of about 21 percent by 1985 and 60 percent by the year 2000.[50] In comparison, the NTPSC projects real prices for commercial air travel and for owning and operating personal automobiles to decrease, although unit costs of intercity rail passenger travel are projected to increase.[51]

The wage component of the intercity bus industry's projected cost increases is substantial. Presently, drivers at the large firms are paid either on a per-mile or hourly basis. Drivers faced with congested, stop-and-go driving, as is true for commuter runs, are normally compensated on an hourly basis. If highway congestion is permitted to grow in the future, a greater shift to hourly compensation is possible.[52]

The NTPSC forecasts relative changes in time spent in travel. For intercity travel in general, assuming that the combined forces of facility development, traffic growth, and technological change result in no net change in average travel speeds, travel time in the future would remain at 22 minutes per trip per day. As additional trips occur, however, total time spent in intercity travel is projected to grow by 37 percent from 1975 to 1990. For the intercity bus mode, additional detail is given in Table 13. The table shows that time spent traveling by intercity bus per capita is projected to decline, because passenger-miles are not expected to grow as rapidly as population.

TABLE 13. Travel Time Expenditures for the Intercity Bus Mode, 1975 and 2000, Medium-growth scenario.

Years	Passenger Miles Traveled (billions)	Speed (mph)	Person-Hours Traveled (billions)	Hours per Capita (annual)	Minutes per Capita (daily)
1975	25	55	0.5	2.3	0.4
2000	30	55	0.6	2.1	0.3

SOURCE: NTPSC forecasts shown in NTPSC Final Report, Table 100.

Conclusions

The NTPSC forecasts for the future of the intercity bus industry under existing policies are not optimistic. Despite growth in overall transportation activity that greatly exceeds population growth, the intercity bus industry can expect small absolute growth in passenger-miles and person-trips, with a declining share of intercity travel. Capital needs for

equipment and facilities will require investment by the bus industry of between $1.6 and $2.3 billion through the year 2000. In addition, either more revenue must be found to maintain and improve our nation's highways and bridges, or users such as the intercity bus industry will experience declining levels of service.

Increased wages with only modest improvements in productivity, soaring fuel costs, and needs to finance equipment and structures, combine to suggest relative increases in future intercity bus costs. In contrast, the projected fares for commercial air travel and the implicit costs of owning and operating personal automobiles are projected to decline relative to intercity bus fares, and in some cases, even to fall absolutely, as measured in constant 1975 dollars. These changes should occur, despite the provision by 1985 of about $141 million in annual net government subsidies by all levels of government for intercity bus travel.

In addition to monetary costs, travelers must incur time costs. With the 55 mph speed limit, possible increases in highway congestion and deteriorating highways and bridges, users of intercity buses may find the relative time costs of their travel increasing compared to other modes, especially commercial aviation.

Other future influences on relative costs include adherance to Federal air and noise pollution mandates. For example, the Environmental Protection Agency (EPA) has commissioned estimates of the costs of complying with various possible restrictions, as shown in Table 14.

TABLE 14. Estimated Annual Costs of Noise Reduction for Compliance with Hypothetical Regulatory Limits (1975 $).

Vehicle Type	Regulatory Level	Total Population	Annual Production	Extra Production Cost Per Vehicle	Additional Annual Operating Costs Per Vehicle	Total Costs (millions)
Intercity Bus	83dBA	23,000	2,500	$237	$ 39	$0.7
	80dBA	23,000	2,500	$393	$ 97	$1.2
	75dBA	23,000	2,500	$909	$276	$3.0
Automobiles	70dBA	--	10,949,000	$ 1	--	$ 10.9
	67dBA	--	10,949,000	$ 15	--	$164.2
	65dBA	--	10,949,000	$ 30	--	$328.5

SOURCE: National Research Council, Noise Abatement: Policy Alternatives for Transportation, Analytical Studies for the U.S. E.P.A., Vol. VIII, Washington, D.C.: National Academy of Sciences, 1977, pp. 177-179.

The net result of these positive and negative influences should be a constant share of the overall transportation bill for the intercity bus industry through the year 2000, and of the intercity passenger transportation bill.

ISSUES

NTPSC Key Issues

The discussions above of the existing structure and performance of the intercity bus industry and of the NTPSC forecasts for its future, have highlighted a number of issues. These are basic problems or symptoms that may require treatment with policy remedies. The major issues confronting U.S. transportation policymakers are presented in this section, while alternative policy proposals are given in the succeeding section.

In its study of the U.S. transportation system, the NTPSC identified 25 key transportation issues. These are shown in Table 15. These 25 issues were gleaned from a process of issue identification that included literature searches, interviews, surveys, public hearings and seminars. Other sources included the policy research and development activities of the NTPSC and its forecasting process.53/ The list of issues reflects the consideration of all modes and markets, but each issue involves, to some degree, the intercity bus industry. Each issue is discussed in turn, with the implications for the intercity bus industry highlighted.

TABLE 15. NTPSC Key Transportation Issues, 1978.

1. Federal Economic Regulatory Reform
2. Air Carrier Regulation
3. Motor Carrier Entry
4. Rail Abandonment
5. Standard Highway Rules and Regulations
6. Public versus Private Ownership of Transportation
7. Proliferation of Government Agencies
8. Consolidation of Transportation Regulatory Agencies
9. Federal Transportation Planning Assistance
10. Federal Subsidies
11. Modal-Intermodal Trust Funds
12. Block Grants to State and Local Governments
13. Maritime Trades Support
14. Waterway User Charges
15. Financing Urban Mass Transportation
16. Maintenance, Repair, and Upgrading of Highway Facilities
17. Transportation Industry Capital Formation
18. Coal Slurry Pipelines
19. Energy Conservation
20. Transportation and the Environment
21. Highway Accident Reduction
22. Labor-Management Relations
23. Stimulation of Employment through Transportation Facility Construction
24. Regional and Community Development through Transportation Policy
25. Mobility Rights

SOURCE: National Transportation Policy Study Commission, Current Transportation Issues in the United States, Volume I: Executive Summary, Special Report No. NTPSC/SR-79/01A, Washington, D.C.: 1978, pp. 7-81.

1. Federal Economic Regulatory Reform. Passenger airlines have been effectively deregulated according to a schedule established by Congress.54/ Amtrak is exempt from most ICC control.55/ Intercity buses remain subject to detailed control by the ICC of entry, exit, routes, quality of service, ticketing, baggage handling, and fares, for charters, common carriage of passengers, and package express.56/ Yet, the ICC has acted to relax certain economic controls; some changes are temporary in response to energy shortages, while others are permanent.

The extent to which intercity buses should be protected from competition and, in exchange, required to adhere to traditional common-carrier obligations is at issue. The existence of two very large intercity bus firms together with hundreds of smaller firms, all required to provide

interconnecting service, raises questions about the nature of costs in the industry. First, would economic deregulation permit the intercity bus industry as a whole to improve its performance through competition with other modes? Second, what would be the result of competition among intercity bus firms within the industry? Both Congress and the ICC are seeking answers to these questions, as discussed below.

2. Air Carrier Regulation. Airline deregulation has been accompanied by some significant changes in traditional airline routes, fares, and practices. One noticeable event has been a deluge of merger proposals. The CAB, which will lose its authority to rule on proposed airline mergers with its scheduled demise by January 1, 1985, has approved certain mergers, and vetoed others. Given discontinuation of service to some cities by trunk or local-service carriers, commuter air carriers have expanded operations. It is too soon to measure the net consequences of airline deregulation, but many persons believe that the results have been largely positive, as predicted, and should result in a stronger domestic air carrier industry.

The consequences of these improvements for the intercity bus industry could be detrimental. To the extent that improved long-distance air service at lower fares occurs, buses can expect to lose passengers. As commuter air carriers expand their operations, short feeder trips that otherwise might be made by intercity bus could be lost. On the other hand, crowded airplanes and airports and substitution of service by small commuter aircraft for that previously provided by spacious jets, may permit the intercity bus industry to share in the growth of air travel through judicious marketing (which might include the use of through-ticketing with airlines, for example).

There are some parallels between the current condition of the intercity bus industry and that of the domestic airline industry before it was deregulated. In each case, load factors were low. Regulated fares led to competition in service, not prices. In both cases, barriers to entry and exit were largely regulatory, given the availability of credit to acquire equipment, and the ready resale value for airplanes and buses.

3. Motor Carrier Entry. This issue explicitly involves the intercity bus industry, as the ability to serve particular routes without fear of entry by another bus firm is regarded by some as essential to the preservation of regular route intercity bus service. The argument is as follows: If, for example, Greyhound enjoys lower costs and monopoly powers in the industry due to its nationwide route system, it should be prevented from entering new markets in which competitors, such as Trailways, may be providing profitable service. This argument also stresses that, in general, intercity bus routes

are experiencing declining ridership, and that regulatory authorities have required intercity bus firms to continue service on routes that may not be profitable, so long as the firms are able to achieve a satisfactory overall rate of return. This policy of cross-subsidy requires, in return, protection from "cream-skimming."[57]

Counter to this belief that regulatory protection from entry is required, are arguments that regulation itself accounts for the apparently monopolistic position of Greyhound, because no significant economies of scale, nor other market failures, are believed to exist that would prevent the coexistance of firms of all sizes in an unregulated industry. For example, one author who studied industry costs regards the bus industry as a "lop-sided duopoly,"[58] while another study concludes that "there does not seem to be evidence of greatly increasing returns to scale that would justify the current policy."[59] The latter study is based on a regression analysis using a Cobb-Douglas production function.

4. Rail Abandonment. The reluctance of the ICC to permit light-density rail lines to be abandoned, despite the general ill health of the rail industry and deteriorating service on many of these lines, may have precipitated congressional action to rationalize the rail abandonment process.[60] There are lessons in this process for the intercity bus industry, which also may be asked by state and Federal regulatory authorities to continue certain low-density service at unremunerative rates, despite industry requests to be permitted to discontinue service.[61] Federal policy toward rail abandonments has involved preempting state regulations, speeding up the abandonment process, requiring national and statewide planning, and subsidizing continued service on otherwise uneconomic branch lines. These elements appear in many proposals to reform Federal policies toward the intercity bus industry.[62]

5. Standard Highway Rules and Regulations. Intercity buses are subject to many forms of regulation (in addition to economic types) at the Federal, state, and local levels. Among the Federal non-economic regulations are those that restrict speeds on Federal-aid highways to 55 mph;[63] that permit, at state option, the operation of intercity coaches of up to 102 inches in width on the Interstate Highway System;[64] that limit hours of duty by bus drivers;[65] that identify safety-related equipment;[66] and many others.[67]

At issue is the necessity of this myriad of detailed and restrictive Federal regulation in accomplishing the objective of ensuring safety of passengers, employees, and motorists that share the highways. Also at issue is the lack of uniformity among states. States are given flexibility to choose their own levels of regulation within broad Federal limits for interstate travel, and to impose their own highway rules on non-federally

funded highways, on intrastate intercity bus service, and on motor vehicles registered within a state. Local units of government may also regulate service and equipment of intercity buses and terminals within their jurisdictions.[68]

6. Public Versus Private Ownership of Transportation. Amtrak, although not officially a Federal agency, enjoys a special relationship with the Congress that provides capital and operating subsidies, reviews its budget, and often alters its route structure without regard for the existence of approved Amtrak route criteria. The private railroads are paid to operate Amtrak-owned equipment over private rights-of-way (except for the Northeast Corridor, which is owned by Amtrak).

Many airports are publicly owned. Most highways are owned and maintained by the states.

Although the intercity bus industry remains privately owned, the increased availability of government subsidy for uneconomic routes, and for the development of terminals, may presage a trend to public ownership and operation of equipment and terminals.

Certainly the perceived competition between publicly funded Amtrak and largely unsubsidized intercity bus firms has stimulated a large body of research.[69]

7. Proliferation of Government Agencies. More agencies have led to more programs and regulations, often with little regard for gaps or conflicts with already existing programs and regulations, or for the effects on the private sector.[70] The Department of Energy is an often-cited example of bureaucracy gone awry, but multi-state, state, and local agencies have also proliferated.[71] They may each seek to achieve their own, limited set of goals, at the expense of the overall efficiency of the transport system.

In many states the transportation planning, regulating, and financing activities affecting intercity buses are split between two, or even three, different departments. Rarely will all three functions be the responsibility of a single agency employing a balanced approach.

8. Consolidation of Regulatory Agencies. Given the proliferation of agencies applying regulations to the private sector, proposals are made to consolidate agencies in order to unify policies and programs. Regarding economic regulation, Congress has acted to phase out the CAB, with residual functions to be transferred to executive agencies. Court rulings have verified Congress' intention that states should not be able to impose regulations through their individual regulatory bodies that would conflict with Congress' efforts to restore economic freedom to the air carriers. In January 1979,

the CAB sought Federal court action in San Francisco to force the California Public Utilities Commission (PUC) to stop its attempt to hold down certain intrastate air fares. In March 1979, the court ruled against the California PUC, and in June 1979, in a related action, the judge struck down the entire set of California laws regulating airline rates, routes, and services as being unconstitutional.72/

Applying these precedents, should Congress choose to act to deregulate railroads, trucking, and intercity buses, it seems likely to preempt certain state regulatory authority as it did in the case of airline deregulation. If the ICC is also abolished, virtually no separate economic regulatory agency would remain at the state or Federal levels. Some argue that so long as some controls on fitness and safety are needed, a continued independent regulatory presence is essential. Others reason that any residual regulatory controls could be administered within the U.S. DOT or by state transportation departments.

9. Federal Transportation Planning Assistance. Federal transportation planning programs have been directed largely at urbanized areas.73/ Relatively little planning is actually performed by Federal agencies, except in the restructuring of the nation's railroads.74/ However, some planning assistance is beginning to flow to states for the purpose of statewide planning (e.g., for railroads).75/ Also, coordination among transportation planning bodies is being encouraged, as is consideration in plans of more than one mode.76/

In addition to planning programs funded by Federal transportation agencies, the Department of Energy and the Environmental Protection Agency are involved in energy and air quality planning programs that affect intercity bus transportation.77/

With the proposed funding of special intercity bus programs by Congress, and with the use by states of more general rural transportation programs for intercity bus assistance, it seems likely that intercity bus firms will be called upon to supply increasing amounts of data about their operations to government-funded planners. In several instances, firms within the industry already have been extremely cooperative in this regard.78/

10. Federal Subsidies. Together with regulatory issues, matters involving Federal financing of transportation have generated great controversy in discussions of transportation policy for all modes; intercity buses are no exception. The extent to which one mode (e.g. Amtrak) may enjoy unfair advantage over a second (e.g., intercity buses) because of direct Federal subsidy is at issue. Also, whether indirect subsidies (e.g., tax exemptions or inappropriate levels of user fees) favor one mode or another is debated.79/

The intercity bus industry has devoted considerable effort to urge Congress to reduce support of Amtrak and to begin financial support of the intercity bus industry.80/ This position has been vindicated to some extent in the past two years, as Congress has restructured Amtrak to reduce the growth of its required Federal subsidy,81/ while enacting several programs of benefit to intercity buses.

The Surface Transportation Assistance Act of 1978, Pub. L. 95-599, authorized two new sections of the Urban Mass Transportation Act of 1964, as amended. Section 22 authorized $30 million annually for up to 50 percent of the net cost of state and local government purchase-of-service agreements with private intercity bus companies for service to rural areas and small urban communities. Section 21 authorized $40 million annually for grants to states and other agencies for facilities aiding intermodal use of intercity buses, at an 80 percent matching ratio. In neither case did Congress appropriate funds.

Nonetheless, intercity bus firms do participate through state governments in two other programs. Section 18 of the Urban Mass Transportation Act of 1964, as amended by the 1978 Surface Transportation Act, does provide assistance to public transportation in small cities and rural areas, at matching ratios of 80/20 for capital and 50/50 for operating assistance. Section 147 of the Federal-Aid Highway Act of 1973 (Pub. L. 93-87, 87 Stat. 250) provided about $25 million, jointly administered by UMTA and FHWA, for innovative demonstrations in rural and small urban areas of highway public transportation.

Congress also acted in 1978 to eliminate the Federal excise taxes levied on intercity bus fuel, parts, tires, and equipment, through passage of the Energy Tax Act of 1978, Title II, Pub. L. 95-618.

11. Modal-Intermodal Trust Funds. Given Federal programs of support to various transport modes, and the collection of user fees, the proper accounting mechanism for the revenues is at issue. The device often chosen by Congress is to earmark the revenues of user fees paid by one mode for programs to benefit primarily that mode, and to designate a trust fund to account for the revenues.82/ States also frequently employ trust funds for highway programs.

In addition, Congress has acted to introduce some flexibility in the use of Highway Trust Fund revenues for programs to benefit urban buses, for example, and has supplemented trust fund revenues with general funds to be used for highway-related purposes.

Trust funds do not guarantee that appropriate user fees will be established, that sufficient revenues to meet transport needs will be collected, nor that proper investment decisions will be made using the revenue in the fund.

Proposals to do away with modal trust funds, to establish a unified fund, or to create new modal trust funds[83/] are all of importance to intercity buses. Any new trust fund policy may include changes in the user fees paid by bus firms, and may alter the amount of funds flowing for highway purposes, or the criteria used to evaluate public investments. That all of these issues are technically independent of what device governments choose to account for revenues (i.e., trust funds versus the general fund) does not divorce the matters in public discussion or congressional debate.

12. Block Grants to State and Local Governments. Concern over increased complexity and red-tape involving Federal programs, coupled with fears that revenue sources available to state and local governments may not match their needs, lead to suggestions that increased use of Federal general revenue sharing be used. Or, more flexibility within and between Federal programs may accomplish the same objectives. The continued proliferation of individual Federal programs of importance to intercity buses indicates that present Federal policy favors establishing Federal program objectives, not relying on states and localities to choose how best to spend federally provided funds.

In addition to the several new programs cited above, recent policy proposals by President Carter would involve additional categories of Federal financial assistance. For example, in June 1979 the White House announced rural initiatives that would create more aid for commuter air carriers. Intercity buses were not mentioned.[84/] Also, in 1979 the President proposed that an Energy Security Fund be established, funded by a windfall profits tax on oil, with proceeds used in part to improve public transportation. Intercity buses were mentioned as being under consideration to receive new incentives to expand service.[85/] Many of the rural initiatives and energy proposals require congressional action.

13. Maritime Trades Support. Here, matters of defense and security are paramount. The extent to which continued subsidy is needed to achieve those non-transportation goals is at issue. Although intercity buses are not regarded as essential for defense, subsidy for the mode is justified by some on non-transportation grounds, such as saving energy, protecting the environment, and serving those who might be unable to use private automobiles, especially in rural areas.

14. Waterway User Charges. Congress acted in 1978 to impose, for the first time, fuel-based fees on users of the nation's inland waterways (at rates starting at 4 cents per gallon in 1980, rising to 10 cents per gallon by 1985).[86] NTPSC forecasts show that these fees will cover much less than the real Federal costs to build, maintain and operate the system. For example, in 1985 user tax revenues are projected to equal only 8.2 percent of outlays; in 1990, 8.9 percent; and in 2000, 6.7 percent.[87]

In the same session, Congress acted to exempt intercity buses from certain highway user fees.[88] The waterway user charge issue highlights the question of possible inequities among the modes with respect to the amounts of Federal aid given, net of user fees collected.

15. Financing Urban Mass Transportation. Federal aid for urban public transit began with the passage of the Urban Mass Transportation Act of 1964, and Federal involvement has grown, more or less steadily, ever since. Declines in transit ridership have been reversed, spurred by energy crises in 1974 and 1979, through extensions of service and by replacement and expansion of subway and bus equipment.[89]

Aids to urban buses, while intercity bus firms did not receive such support, generated controversy. For example, intercity bus firms have complained of unauthorized competing charter service being provided by federally subsidized urban systems. UMTA and FHWA responded to this complaint with policies that restrict charter operations by subsidized urban systems to those reaching agreements that are "fair and equitable" with private operators who are "willing and able" to provide service.[90]

Of course, intercity bus firms may also participate in urban public transit subsidies by providing urban service through such mechanisms as purchase-of-service agreements with local or state governments. UMTA does have a policy to encourage the participation of the private sector in its programs "to the maximum extent feasible."[91]

New programs (e.g. Section 18 of the Urban Mass Transportation Act) for assistance to public transportation in small urban and rural areas explicitly include intercity bus firms as eligible to participate.[92]

16. Maintenance, Repair, and Upgrading of Highway Facilities. Intercity buses use these publicly provided rights-of-way, paying direct and indirect user fees for the privilege (e.g. tolls, fuel taxes, excise taxes). As noted previously, intercity buses were recently exempted by Congress from several Federal fees, but state imposts may remain.[93] Before intercity buses were exempted from Federal fees as a matter of social policy, the issue of cost responsibility

existed. That is, to what extent did intercity buses and their passengers pay, through user fees, for the expenses they imposed on general taxpayers for the use of highways and bridges, for the time costs imposed on other users, and for the environmental costs attendent to building, maintaining, and using such facilities?

NTPSC forecasts have shown tremendous revenue needs through the year 2000 to build and maintain the nation's highway system. For example, under the medium-growth scenario, from 1976 to 1985, highway capital needs total about $294 billion in 1975 dollars; from 1986 to 2000 the figure is about $606 billion.94/ Even needs estimates based on proper economic analysis are substantial (e.g. $322 billion for the period 1975 to 1990 in 1975 dollars).95/ Forecasts based on existing policies show a growing gap between user revenues and needs, reaching $15 billion by the year 2000 in constant 1975 dollars.96/ Either this gap must be funded from general revenues, or user charge policies changed; otherwise levels of highway service (and hence service to intercity bus passengers) will decline.

17. Transportation Industry Capital Formation. NTPSC forecasts show that the intercity bus industry must finance, with or without direct government subsidy, about $2.1 billion in capital investments between now and the year 2000 under a medium-growth scenario.97/ Policies designed to stimulate investment in general (e.g. investment tax credits); government capital assistance (e.g. from Section 18 of the Urban Mass Transportation Act); deregulation to permit more aggressive competition; reduced aid to competitive modes (e.g. Amtrak); and cooperative efforts with government bodies (e.g. statewide planning, joint-use terminal development) might all contribute to meeting these capital needs.

According to a survey of smaller intercity operators, financing vehicles has not been a severe problem. This is because there is a ready resale market so that the vehicle itself can serve as collateral. On the other hand, financing new terminals, upgrading existing terminals, or simply finding a location within a small community to store packages and dispense tickets, are regarded as problem areas.98/

18. Coal Slurry Pipelines. This issue reflects institutional constraints to altering infrastructure to meet changing patterns of transport demand. The increased use of Western coal forecast by the NTPSC will require movements of great masses of material over increasing distances. The NTPSC models show some rail segments may be overburdened.99/ Rights of eminent domain, if granted by the Federal government, would be useful to coal slurry pipeline developers in gaining rights-of-way that often would cross railroad-owned land. Rights to water is another concern.

The implications of this issue for the intercity bus industry include:

(1) If "industrial highways" were to be developed as an alternative to coal slurry pipelines or for other reasons, rights-of-way might also be a constraint. These highways, designed to carry heavy vehicles and to separate vehicles of various sizes for safety reasons, might conceivably carry intercity buses;

(2) Conglomerate ownership is at issue. Railroads might develop their own coal slurry lines to carry coal they own. Indeed, the Southern Pacific Company does own and operate the 273-mile Black Mesa Pipeline. In the intercity bus industry, as noted above, the two largest intercity bus firms were part of corporate bodies with much broader interests. The possible response of such integrated firms to challenges of entrants using new technology is at issue; and

(3) Using coal movement as an analogy, the responsiveness of the intercity bus industry to a sudden influx of new riders (perhaps stimulated by severe energy shortages) that might require substantial new investments is a concern (albeit a remote one in an industry now experiencing downward ridership trends).

19. Energy Conservation. Although intercity buses do enjoy an advantage over personal automobiles when average energy efficiencies are considered,100/ an empty bus operated in congested traffic over hilly terrain need not be superior to a sub-compact auto filled with passengers operating at steady speed on an uncongested roadway. Rather than comparing average efficiency figures, a specific computation of relative changes in energy use that may result from a policy change is often more informative.

Such comparisons are reported by the NTPSC.101/ In one case, the possible energy costs of reducing Amtrak service are analyzed, with various assumptions about diversion of passengers to automobiles and intercity buses. Energy costs from Amtrak cutbacks were found to be slight, but the required assumptions are as informative as the results.

Basically, the intercity bus industry carries a small percentage of intercity passenger-miles, as does Amtrak. Policies to divert significant numbers of passengers from personal automobiles to either public mode solely to save energy might have little immediate energy benefit, and swamp the public systems.

For the longer term, the intercity bus can be made more fuel efficient. For example, the Department of Energy is

funding a three-year demonstration in regular-route service by Greyhound of gas-turbine powered buses. Four vehicles use engines produced by the Detroit Diesel Allison Division of General Motors, and operate between Washington, D.C., Philadelphia, and Boston. They generate about 300 horsepower--approximately the same as existing diesel engines. Initially, the engines will use standard diesel fuel, while at a later date at least one will use pure ethanol.[102]

20. Transportation and the Environment. Diesel-powered intercity buses, on the average, are more environmentally benign than the private automobile.[103] Again, such comparisons based on average emissions are often misleading. The relative change in quantities of emissions and the costs of these emissions must be examined based on an understanding of specific circumstances.[104]

Congress has established emission standards for diesel engines which are being phased-in at the same time that a predicted shift to diesel-powered engines (especially in automobiles) would help meet fuel economy standards.[105] Significantly, present and foreseeable diesel engines may not be capable of meeting Clean Air Act standards for NO_x,[106] which require substantial reductions. NO_x is alleged to be toxic.[107]

The findings of the DOE-Greyhound gas-turbine engine-powered bus demonstration may be instructive regarding relative emissions.

21. Highway Accident Reduction. Intercity buses have an outstanding safety record on U.S. highways.[108] As was true of energy and environmental concerns, however, the relative gains in safety from particular policy changes must be evaluated on a case-by-case basis.[109]

Many agencies are involved in safety programs and regulations. At the Federal level, the ICC imposes certain financial and insurance requirements designed to assure fitness, the FHWA/Bureau of Motor Carrier Safety regulates driver hours and practices, and the National Highway Traffic Safety Administration supports state highway safety enforcement efforts, to name a few.[110]

The matter of insurance has been of particular concern to most public carriers, including intercity bus firms. As those firms begin to participate in less traditional types of service through federally funded programs, their insurers will also be entering uncharted territory.[111]

22. Labor-Management Relations. The intercity bus industry, given one driver per vehicle, and the need for vehicle maintenance, remains relatively labor intensive. Larger vehicles, such as articulated buses, that are beginning

to be used in several cities in the U.S. do not seem practical for widespread introduction into intercity service, given current ridership on most routes. Thus, employee productivity will remain a significant issue.

Smaller firms may employ drivers that are on "wait lists" to work for the largest carrier, Greyhound, and who may be called to Greyhound for seasonal duty. This may contribute to driver turn-over among the smaller carriers, although carriers do not cite labor relations as a significant problem area.112/

An on-board survey of over 6,000 passengers conducted in the State of Wisconsin in 1976 sought opinions on the factors influencing passengers to use intercity buses. Most riders (83.7 percent of the 4,818 responding to the question) agreed that drivers are courteous, with 62.1 percent agreeing strongly. Baggage handling, another function involving intensive employee involvement, was rated as convenient by 64.3 percent of the respondents. An additional 146 passengers added written comments about the helpfulness of drivers, although 67 added negative comments about drivers and depot personnel.113/

23. Stimulation of Employment Through Transportation Facility Construction. Federal programs to encourage the construction of terminals suitable for joint use by several modes, including intercity buses, can have a positive effect on employment.114/ Emergency counter-cyclical aid provided by the Federal government to areas of high unemployment, or continuing economic development grants, encourage state and local governments to build public works projects, which include terminals.115/

In the case of highways, waterways, and railroads, although constructing new facilities will be required in the future, maintenance and upgrading of existing facilities will be a primary concern. Needs for new pipeline systems are foreseen, but these have usually not involved direct government financing.116/

24. Regional and Community Development Through Transportation Policy. The Northeast Corridor Improvement Project, which is to provide up to $2.4 billion in Federal funds to upgrade the high-speed rail corridor from Washington, D.C. to Boston, seeks in part to serve the unique transport needs of the densely populated Northeast.117/ Intercity buses, as rail upgrading continues, have engaged in vigorous fare-cutting competition with Amtrak along the route.

A primary goal of Sections 18 and 22 of the Urban Mass Transportation Act as amended by Congress in 1978, is to preserve and improve service in rural areas and small cities.

Debate over the consequences of increased entry and exit freedom for the intercity bus industry now include development considerations, depending on changes in service to small communities.[118]

25. Mobility Rights. Section 504 of the Rehabilitation Act of 1973 required U.S. DOT to formulate a policy, subject to HEW approval, of how to ensure that federally funded transport services do not discriminate against potential users by reason of physical handicap.[119] The 16(b)(2) program of the Urban Mass Transportation Administration, and the joint section 147 program of UMTA and FHWA, sought to improve service to groups whose mobility might be impaired, by providing grants for capital equipment (and in the case of the Section 147 demonstration program, limited operating assistance).[120]

Intercity buses, although not receiving significant quantities of direct Federal aid, do serve most of the special client groups singled out for remedial treatment by Congress and the executive branch. For example, the 1976 WisDOT survey of intercity bus users showed 61.8 percent to be female; 14.1 percent under 18, 11.2 percent between 55 and 64, and 10.2 percent 65 years of age or above; 30.8 percent students, 5.1 percent unemployed, and 12.2 percent retired; 19.7 percent with no driver's license plus 47.5 percent with no auto available, and 11.1 percent with auto regarded as too expensive; 45.7 percent could not have made their trip without the availability of intercity bus; and 18.8 percent with family incomes below $5,000 and 41.3 percent below $20,000.[121]

Although all respondents in the Wisconsin survey were asked to comment, if they were handicapped, on how service could be improved better to serve them, only 21 such respondents' comments were recorded (out of 1,226 comments received). The 21 comments were:

(1) 15 asked for an assistant and more convenience for elderly and handicapped persons;
(2) 2 asked for traveler's aid services;
(3) 2 sought bilingual personnel to assist travelers;
(4) 1 asked that wheelchair lifts be provided; and
(5) 1 asked that water fountains accessible to handicapped persons be provided.[122]

Conclusions

The above discussion of key issues has highlighted several concerns of the intercity bus industry. These include:

(1) The extent to which economic regulations should be imposed by Federal and state agencies;
(2) The efficiency of cross-subsidy;
(3) The costs of safety, environmental and energy regulations;

(4) Competition with the auto, airplanes, and Amtrak;
(5) Quality of service regulation by several agencies;
(6) Levels of service in rural markets;
(7) Financial subsidies to the bus industry and to competing modes;
(8) Employee productivity;
(9) The equity with which various financial and regulatory programs are administered;
(10) Fare levels, flexibility and structure;
(11) Declining ridership;
(12) The relation between common carrier passenger, charter, and package express service;
(13) Capital formation;
(14) The economic structure of the bus industry; and
(15) The lack of data about certain aspects of intercity bus operations, especially of Class II and III carriers.

These concerns of the industry are part of a much broader set of issues that affect all modes of transportation and all transport markets.

Common elements connect these 25 key issues: regulation (both economic and non-economic); public versus private ownership and operation; financing and pricing; planning and information; and government organization. That is, if policy solutions are offered for these five categories of issues, in a fashion that considers the interactions among the five categories, the solutions should go a long way toward focusing debate on matters that are of fundamental importance to the overall U.S. transportation system. The intercity bus industry has its own particular set of circumstances, and should not be subjected to boiler-plate programs designed initially for other modes under differing circumstances. Nonetheless, as this section about national transportation issues has shown, virtually all key issues have elements of relevance to the intercity bus industry, and proposed solutions to these issues will have repercussions felt by the bus industry.

The next section exmines alternative policies that have been proposed to solve some or all of the issues identified here.

ALTERNATIVE POLICIES AND PROGRAMS

This report to this point has covered past and present structure and performance of the intercity bus industry; trends and forecasts for the intercity bus mode compared to its competitors; and issues involving all modes. The discussion has shown that the policy and program solutions to intercity bus problems must consider the effects on other modes, and occasionally must even work through initial application in other sectors (e.g. revised policies toward Amtrak might

benefit the financial performance of certain intercity bus routes). Conversely, policy prescriptions primarily to benefit other modes must consider the implications for intercity buses.

This section reviews proposed policies, from a number of sources, of direct relevance to the intercity bus industry. The first source is the NTPSC itself.

The NTPSC policy recommendations, given in its Final Report, were prepared as part of a national set of policies. The other sources are less integrated. For example, the ICC does have particular procedures and proposed policy changes affecting intercity buses, but also often considers the bus mode together with motor carriers of freight (trucks). Only rarely does the agency look at its entire set of regulatory procedures.

The U.S. DOT has prepared draft intercity bus proposals to effect regulatory changes, but also considers intercity bus issues as part of overall surface transport deregulation, and as part of the financing of public transit, especially in rural areas.

The states, to the extent that they have attempted all-mode plans, or integrated financing packages, may have considered intercity bus issues in a broader context. More often, however, states seem to consider regulatory and financial problems of the intercity bus industry as part of separate studies.

Finally, representatives of the intercity bus industry itself, in public testimony, have understandably focussed directly on their industry as the center of policy attention.

NTPSC Recommended Policies

The Policy Development Process

The NTPSC studied the existing U.S. transportation system, and ascertained the more important issues that confront policymakers now, and through the year 2000. In addition, the NTPSC used a system of forecasting models that, together with scenario development and technological surveys, provided baseline projections of important transportation variables. These baseline projections assume that status quo policies will be retained, and forecast the consequences through time. Based on this information, which is provided throughout this report, the NTPSC Final Report, the other NTPSC Special Reports, and the NTPSC Working Papers series, the NTPSC developed its recommended policies. The policies are designed to "solve" the problems identified in the earlier process of issue determination. Thus, the important transportation variables modeled by the NTPSC in its baseline forecasts are expected to be "improved" in net terms by implementing these new policies.

To choose the NTPSC policies, the Commissioners' own experiences as transportation professionals or as elected officials were considered. For example, many of the NTPSC's transportation issues have been debated in corporate boardrooms or in trade association sessions. Congressional hearings and legislative debate on transport policy also provided important experiences to influence the thinking of the Commissioners. In addition, information gathered from NTPSC public hearings was considered. Too, research of the NTPSC staff was evaluated, both that presented in support of the overall NTPSC workplan, and that provided in response to specific questions of one or more Commissioners. Finally, in debate over the NTPSC policy proposals, the Commissioners shared and jointly evluated their individual experiences.

Having considered the possible consequences of various policy proposals, and having drafted an initial set of preferred policy recommendations, the NTPSC staff continued to evaluate the impacts of these policies. In some cases, the initial proposals were refined based on new evidence.

NTPSC Recommendations

Regulation. The following discussion is a greatly abbreviated version of the NTPSC policy recommendations contained in its Final Report, especially Chapter 13. Basically, the NTPSC recommended extensive economic deregulation, more equitable application of user fees, creation of a single residual regulatory commission, upgrading the U.S. DOT to be the lead agency in transport policy and programs, and reorganization of congressional committees to facilitate an integrated and balanced view of U.S. transport policy.

The ICC was given authority to regulate the intercity bus industry by the Motor Carrier Act of 1935[123/] and currently regulates bus entry, operations and route changes, exit and fares. In 1948, the Reed-Bulwinkle Act[124/] made joint fare-setting by rate bureaus legal, subject to ICC approval. These Acts provide the basis for most current regulation of intercity buses, and have been slated for reform by the NTPSC.

Major problems in the industry which demand reformed policies, in the view of the NTPSC, are listed below:

(1) Very little intra-industry service competition exists;
(2) The industry appears unable to achieve past rates of return under existing regulation;[125/]
(3) Cross-subsidy may be used by bus companies with the approval of regulatory agencies, to continue to provide service that loses money in one area while making a profit on overall operations; and
(4) Intra-industry rate competition has been discouraged by tariff-filing requirements and certain rate bureau practices.

Long term, the NTPSC recommends complete reform of regulation of intercity bus rates and rate bureau practices, entry (subject to compliance with safety, insurance and financial standards), and exit.

In the interim, these policies have been advocated by the NTPSC for intercity bus regulation:

(1) Increased rate flexibility, including an expanding, no-suspend zone of reasonableness to be established by Congress;
(2) Easier entry of new carriers, or carriers offering new service on existing routes, with an increased burden of proof on protestants; and
(3) Federal, state and local cooperation to subsidize shortfalls temporarily for certain uneconomic routes, only where benefits exceed costs.

These interim policies are designed to give established carriers the opportunity to adjust their operations to become fully competitive, and to permit new entrants where they are financially fit and can demonstrate adherance to safety and insurance rules. The same reforms are proposed by the NTPSC for trucks, and to a large extent, for railroads.

Finance. The NTPSC recommends that users of all transportation modes should be assessed charges that reflect the costs occasioned by their use. This suggests that, in addition to fuel taxes, highway users, including intercity buses, should more often be subject to tolls. These tolls could serve to assess users directly for highway costs, and could serve to reduce congestion, and to address environmental problems such as noise and air pollution.

More flexibility among Federal program categories is recommended. States would be free to allocate Federal funds to fulfill their own priorities, within general Federal guidelines. The NTPSC does urge the retention of the highway trust fund, to be made a permanent feature of Federal financing. However, given more equitable application of user fees among modes, and especially given expenditure decisions based on proper investment analysis, the concept of individual modal trust funds loses much of its controversial nature.

The NTPSC proposes that granting of any future Federal aids to the private sector must be conditioned on benefits (including non-financial benefits) in excess of costs. Thus, Federal subsidies to Amtrak must be reduced, and Amtrak's management should concentrate on segments that can be operated for profit without subsidy. Any Federal subsidy should be regarded as temporary, with continued receipt based on objective performance criteria, established in advance.

Planning. State and local multimodal planning should be encouraged, with plans conducted according to general Federal guidelines, not according to detailed regulations. To encourage more effective transportation planning, and in keeping with the NTPSC's funding flexibility recommendation, all dedicated planning assistance from the Federal government should be eliminated, and any portion of capital or operating assistance, and other categorical or block grants, should be available for planning at state and local discretion.

Federal reporting requirements should be kept to a minimum, be directly related to a Federal objective, and be reviewed periodically.

Impacts. Prior to the 1970s, few bus companies, their competitors, or their riders challenged the ICC's authority to regulate rates, routes, entry and exit. Inflation, Amtrak and a general decline in the intercity bus industry have changed that situation, and several studies, listed in the annotated bibliography (Appendix III to this report) have recently been completed or commissioned. Based on a review of these recent studies and its own research, the NTPSC concluded that regulatory reform of the intercity bus industry will improve service characteristics through more intra-industry competition.

The intercity bus industry is now dominated by two carriers, Greyhound and Trailways, each with coast-to-coast networks. Most of their rural intercity routes feed into the crosscountry network. Two schools of thought exist regarding the impact of deregulation on service. Concern has been voiced that when the large carriers drop most unprofitable, low-density routes (as they almost certainly will when given the chance), communities affected will be left with no public transportation. It has also been argued that carriers will seek to serve only the densest passenger routes, or to provide only charter and package express service that may yield higher returns than common carrier passenger service under existing regulations. Other observers contend that profit in the bus industry is not dependent on economies of scale, and smaller carriers, providing specialized service over a limited route, may well be profitable.126/ In this latter case, deregulation would allow easier entry of these small carriers, with no loss (and perhaps an increase) of service as large carriers leave some markets. A series of small but interconnected route systems might well provide better regional service than the existing networks geared to long-distance travel. Both the smaller and larger carriers, if given increased freedom to offer a variety of price and service options, can become more responsive to consumer demand.

The NTPSC policy recommending limited subsidization of service (on terms similar to those aiding rail branchlines or essential, small-community air service) will prevent mass

abandonment of unprofitable routes in the interim, while removing the need for private carriers (or other passengers through cross-subsidy) to bear the losses. The NTPSC policies would seek to limit subsidies in all modes to those cases in which benefits of subsidy exceed costs, as determined using proper economic analysis.

Buses are, on the average, from two to seven times as fuel efficient as alternative modes (although comparisons based only on averages may be misleading).[127] To the extent that the proposed NTPSC regulatory reform policies encourage bus use at improved load factors, energy conservation will be favored. Similarly, bus safety records have been impressive.[128] But recent projections have demonstrated that demand elasticity for intercity bus is very low on most routes (i.e. those with no direct competition),[129] and as a consequence, little impact on energy conservation or safety is expected through diversion from modes which are less energy efficient or less safe.

Of the 15,000 communities served by common carriers of passengers (air, bus, rail), some 14,000 are served only by bus.[130] A 1978 congressional report, Intercity Bus Service in Small Communities, offers a tentative conclusion, based on financial records of bus firms and consideration of the types of markets they serve, that service to rural communities does not appear to be less profitable than to large cities.[131] Thus, the NTPSC policy recommending simplified procedures for entering and leaving intercity bus markets should result in stable or increased service to rural regions not served by other modes.

Although intercity buses have been responsible for only about 2 percent of total intercity passenger miles since 1970, figures show that up to 1976, they carried about 50 percent of total intercity passengers carried by public carriers.[132] Analysis by income and age reveals concentrations of student, retired and low-income bus ridership not encountered in other modes (whose limited routes or high fares make them inaccessible to these groups). The NTPSC policies are designed to strengthen the bus industry, allowing it to continue to offer a service not provided by other public transport modes.

Buses compare very favorably with railroads[133] and other passenger modes in terms of environmental disruption, except that they produce quantities of nitrogen oxides.[134]

Thus, the thrust of the NTPSC proposals is, in the long term, to throw open the U.S. transportation industry to competition, where economic distortions do not require a continued government presence. For example, evidence cited above shows that there do not appear to be substantial returns to scale in the intercity bus industry. Large and small firms should be able to coexist, with effective enforcement of

reformed U.S. antitrust policies to preclude unfair competition, and with reduced Federal subsidies to competing modes. In the short term, immediate entry, exit, and pricing flexibility coupled with temporary Federal subsidy programs to ease any transitional effects on smaller communities, is believed by the NTPSC to be the clear choice for proper national transportation policy.

Regulatory Policies of the ICC and Other Agencies

Federal agencies, acting upon congressional mandates, oversee a tremendously complex body of regulations. The goals are many, chiefly adequate service and safety.135/ Among the areas regulated by the ICC are entry, exit, routes and schedules, fares, annual reporting and preservation of records, and insurance. The Bureau of Motor Carrier Safety of the U.S. DOT administers rules for vehicle operation, vehicle equipment, inspection and maintenance, accident reporting, driver qualifications, and driver hours of service.

For example, bus drivers have a maximum driving time limit during seven consecutive days and for a single day, and have a minimum off-duty time after a tour of duty. On the other hand, overtime wage and other provisions of the Fair Labor Standards Act often do not apply to drivers so regulated by the Bureau of Motor Carrier Safety.136/

Additional Federal agencies regulate various aspects of intercity bus operations.137/ Descriptions of the form these regulations take, and their historical development, are available elsewhere.138/ In this section, recent ICC actions that alter the agency's procedures, sometimes drastically, are surveyed. While members of Congress have agreed to complete a comprehensive regulatory reform package by June 1980,139/ the ICC has been moving rapidly to alter its own policies.

Entry and Exit

A recent example of the ICC's efforts to alter its own policies without legislative direction is its adoption of a new policy statement on bus and truck entry.140/ On October 17, 1979 the Commission acted formally to change the conditions of entry into the motor carrier industry. That is, formerly (for the past 43 years) an entrant was required to demonstrate to the Commission's satisfaction that the proposed service cannot be performed as well by carriers already serving the affected market.141/ The new policy, under consideration since November 1978, will stress the benefits from increased competition. The ICC has been following the new policy implicitly in many recent individual operating rights cases.142/ For truck entrants, to demonstrate that proposed service is needed by the public, potential repetitive shippers are available to support the application. Bus entrants have a more difficult time obtaining such support from their passengers. Nonetheless, the ICC believes it can apply the same policy to both freight and passenger carriers.143/

Another break with precedent occurred in the summer of 1979, when the ICC, in response to a Trailways petition, acted to open entry as a temporary response to fuel shortages.[144] From mid-July to the end of September 1979, carriers were permitted to provide service to any city along any route, without ICC approval. Fares had to be based on approved formulas for existing service. These fares were permitted even if lower than those being charged by existing carriers on the routes. Service could not be discontinued on other routes to free buses for new service.

Greyhound sued in Federal court to stay this grant of general temporary authority, but its petition was denied.[145] Several smaller independent carriers supported Greyhound, while the U.S. DOT, Department of Justice, and the Council on Wage and Price Stability supported the ICC. A Greyhound official, Frank L. Nageotte, called the action of Trailways a "self-serving ploy to divert passengers from Greyhound by exploiting gasoline shortage and by misrepresenting the bus industry's capacity to handle more passengers."[146]

The court, on September 19, 1979, denied the petition to overturn this proceeding, Ex Parte MC-126.[147] It stated that the ICC's action had not been arbitrary, and was rationally based on evidence.

Despite its law suit, Greyhound did file for, and receive, grants of temporary authority under GTO No. 18. At least one such grant was, however, revoked by the ICC, following a petition by another carrier.[148]

Two other pending ICC entry-related policy decisions pertain to its Ex Parte MC-124, Bus Industry Operating Authority, established in response to a petition filed by the Independent Bus Operators of America, and to Docket No. 37188 in response to a petition filed by the United Bus Owners of America. These petitions asked for broad-based investigations of existing ICC policy and have been deferred by the agency until further notice.

An ICC staff study on intercity bus deregulation options was presented to the Commissioners at an October 17, 1979 conference. The study recommended that entry and exit regulations be substantially relaxed, and that a zone of reasonableness for fares be established. The proposals would apply to charter, regular route, commuter, and package express service.

One interesting feature of the proposals is that carriers with national industry market shares of 15 percent or more (i.e. Greyhound and Trailways) would be required to continue to

meet public convenience and necessity tests to enter new markets served only by smaller carriers. Carriers with less than 15 percent of the national market could enter freely any route now served by Greyhound or Trailways. Rather than route-by-route certification, the staff proposes a master certificate to be issued by the ICC to entrants who demonstrate fitness.

Although the Commissioners did enact the Ex Parte 121 policy statement, they asked the staff for additional information before considering the other reforms.149/

Finances

The ICC regulates the financial affairs of intercity bus firms. The extent of this regulation can be a matter of dispute when complex corporate structures are involved. In November 1978, the ICC acted to reduce its jurisdiction over securities issued by Greyhound Lines' non-carrier holding company, the Greyhound Corporation.150/ In the future, the Greyhound Corporation will have only to file a petition for waiver for securities it believes will not have a significant effect on Greyhound Lines. Since 1963 the parent corporation had been seeking to establish its independence from ICC jurisdiction.151/

Tariffs

In July 1978, Trailways petitioned the ICC for permission to set charter rates at any level, to cease filing charter tariffs,152/ and to reduce intercity passenger fares effective with publication, subject to later ICC suspension.153/ In November 1978, the firm asked the ICC to institute a rulemaking to permit upward passenger fare flexibility.154/ Under the latter proposal, rates could be increased by up to 5.75 percent (or 90 percent of Consumer Price Index changes , whichever is less) without suspension or investigation by the ICC. Rates would be published, and effective on 30-day notice. The DOT, FTC, DOJ, and COWPS supported the first two Trailways petitions. Greyhound and the National Bus Traffic Association were opposed.155/

On July 3, 1979, the ICC consolidated the three proposals into Ex Parte No. MC-125 Fare Flexibility for the Bus Industry. The proposals considered by the ICC are modified slightly from the original Trailways' petitions. For example, the ICC seeks to establish a "zone of reasonableness" for upward and downward fare adjustments by individual carriers (not rate bureaus). The ICC noted that the Trailways' charter fare flexibility proposals were consistent with ICC policy in Ex Parte No. 358F, Change of Policy, Railroad Contract Rates, 361 ICC 205 (1979). The proposal for fare flexibility within a zone of reasonableness is supported by Trailways, Greyhound, and the ABA.156/ The Department of Justice supports the zone concept, but seeks a 50 percent lower bound.157/ The ICC's

...counsel, in a filing dated September 20, 1979 ...ed concern for "captive" riders that may lack alternatives, much in the same way that "captive shippers" seek protection from certain railroad practices in cases of market dominance.158/

The concept of national collective ratemaking in the intercity bus industry, via the National Bus Traffic Association, and within individual states, is under investigation. Bus firms meet to consider four types of rates under the auspices of the NBTA--joint, single-line, charter, and general. Total NBTA membership is 353, with 159 non-members subscribing to its tariffs.159/ The National Commission for the Review of Antitrust Laws and Procedures recommended in 1978 that the 1948 Reed-Bulwinkle Act be repealed. This law160/ provides anti-trust immunity to certain rate bureau activities, subject to the approval of the ICC. A Federal court decision, now under appeal, has invalidated collective ratemaking (for trucks) within five southern states.161/ The ruling involved enjoining rate bureaus from engaging in collective ratemaking for intrastate rates, although they could continue to publish and monitor tariffs for member firms.

Finally, the ICC itself is considering options regarding its agreement with the NBTA to approve collective ratemaking.162/ In Ex Parte No. 297 (Sub. No.-4), decided December 30, 1977, the ICC required that all such agreements be rejustified. The NBTA agreement was last approved in 1950.

While the ICC considers proposals for reforming the ways in which rate changes can be accomplished, it must also consider industry-wide requests filed by the National Bus Traffic Association regarding the appropriate level of rates. The ICC granted (by voting not to suspend or to investigate) increases in the basic level of bus passenger fares of 1 percent in June 1979, 4 percent on July 30, 1979, and 8 percent on September 24, 1979, and in October 1979 increased the additional fuel surcharge permitted to 3.6 percent from 2.7 percent.163/ The fuel surcharge is determined by multiplying the bus industry's average ratio of fuel expense to revenue (determined by NBTA data to be 6.3 percent) times the percentage increase in the fuel price index (57.3 percent between January 1, 1979 and October 2, 1979) to arrive at the maximum permissible fuel surcharge of 3.6 percent.

Federal agencies have often opposed intercity bus fare increases as inflationary (COWPS), or harmful to disadvantaged riders (ICC's Office of Special Counsel), or objectionable on anti-competitive grounds because of the use of rate bureaus (Department of Justice).

ICC Commissioner Thomas Trantum submitted a separate expression of opinion regarding the ICC's September 21, 1979 decision not to suspend or investigate the NBTA's 8 percent general rate increase. The opinion stressed that industry-wide increases for firms with widely disparate operational characteristics and financial needs, based on data not reflecting current ridership, may have the effect of benefitting some carriers more than others. Given Greyhound's size, the Commissioner believed perhaps 4.8 percent of the 8 percent increase was sought solely to improve the profitability of that firm.164/

Occasionally the ICC will suspend and investigate proposed fare changes, and permit only minor adjustments to existing fares. For example, in August 1978, the ICC ruled that the NBTA had not shown a 10 percent passenger fare and express rate increase to be just and reasonable, and ordered that the increase not exceed 5 percent.165/

Package Express

The ICC involves itself with regulations affecting conditions and quality of service. For example, the ICC found that tariff rules for express bus service which limited commodities carried, and the financial liability of the carriers, were unjust and unreasonable.166/ The ICC was upheld, in a split decision, by a Federal appeals court.167/ Bus firms, through the NBTA, had sought to prohibit acceptance for shipment of items in excess of $500 in actual value, whereas existing rules prohibited acceptance of items in excess of $250 in released value. The carriers now may offer reduced rates to shippers in return for release from liability for loss in excess of the $250 maximum.

In early 1979 the ICC acted to allow intercity bus firms to pick up and deliver express shipments at points within the commercial zone of municipalities they are authorized to serve.168/ Commercial zones are areas which are free of ICC regulation for movements of freight within their boundaries. Two package-delivery concerns sued the ICC over its decision, contending that such pickups and delivery must be accomplished only using passenger vehicles, and that the ICC could not permit a larger terminal area for package express than for passengers, but the courts upheld the agency.169/

In 1978, Trailways asked the ICC to permit easier entry into the business of carrying small packages of up to 500 pounds.170/ The Regular Common Carrier Conference of the American Trucking Associations opposed the proposal, alleging that the action would result in the bankruptcy of many small carriers of freight, and would disrupt joint-line service existing because of the regulatory system.171/ The decision is pending.

Quality of Service

The ICC has announced its intention to change its regulations regarding adequate service, equipment, and facilities provided by intercity bus firms.[172] For example, in 1977, the ICC adopted regulations regarding adequacy of terminals.[173] The new regulations would require facilities for advance checking of baggage. The new regulations also would apply standards for service to handicapped persons identical to those proposed by the U.S. DOT for Amtrak.

The ICC has begun an investigation into the Port Authority of New York and New Jersey's mid-Manhattan bus terminal.[174] Bus firms complained that terminal fees are too high, and that facilities are unsafe. Several companies are also under investigation for allegedly unsafe and inadequate service in a related matter.[175]

Enforcement

Despite the enormity of Federal economic regulation, the degree to which its provisions restrict the behavior of regulated intercity bus firms is in question.

For example, in describing existing ICC charter regulations, a senior vice-president of Trailways stated, "The charters are practically deregulated already," adding that little or nothing is done to police their operations.[176] Surveys of small bus firms in Wisconsin revealed similar concerns.[177]

It is also alleged that carriers (both trucks and buses) may, in fact, cease to serve routes without ICC approval, so that exit restrictions are moot. For example, one author states "Very few certificates have been revoked."[178] Other authors do cite examples in which the ICC has acted to issue compliance orders under threat of suspension or revocation.[179] Carriers have a number of options available in seeking to reduce service on unprofitable routes, short of formal ICC procedures. They may sell the rights, reduce service to as little as one trip per week, or allow the rights to become dormant if no one protests.[180]

ICC regulations can be enforced through court action. For example, a lower court's award of $7.9 million to Oregon-based Mt. Hood Stages, Inc. from Greyhound, was upheld by the U.S. Supreme Court in January 1978. The U.S. government had sued in 1964, alleging that, in violation of the Clayton Act, Greyhound acquired eight bus companies between 1947 and 1956 so as virtually to surround Mt. Hood's routes. The ICC had approved the acquisitions, subject to conditions agreed to, but not adhered to, by Greyhound.[181]

Conclusions

This discussion, primarily of ICC regulatory procedures, suggests that the agency is now at the forefront of regulatory reform. Proposals for reform have come to the ICC from regulated firms, other government agencies, and within the ICC itself. The agency has gone so far in the direction of formally and informally relaxing its restrictions, that it has attracted the attention of Congress, which is itself considering reform proposals.

Financial and Regulatory Policies of the U.S. DOT and Other Agencies

Subsidies

The Federal government regulates and provides funds for passenger transportation through scores of programs administered by numerous separate agencies. For example, the General Accounting Office discovered more than 100 such financial programs administered by 11 Federal departments.[182] The NTPSC counted 498 programs and 307 policies.[183] Whichever numbers are used, the Federal role in intercity passenger transportation is substantial, and uncoordinated.

For example, the U.S. Department of Health, Education and Welfare alone administers 66 programs affecting this market.[184] Most of these supply funds to providers or users of special purpose systems, not to common carriers such as intercity bus firms.

Subsidies are now available for air carriers (including commuters) to provide "essential" air service in communities that otherwise might lose air service following deregulation.[185] Although such subsidies, and those to Amtrak, serve to aid intercity bus competitors, the programs also serve as models for subsequent actions to aid bus firms. Thus, Congress has authorized funds for the intercity bus industry, at least in part due to perceived harm accruing to the industry from its subsidized competitors. Proposals to deregulate intercity buses usually contain provisions to subsidize some service in rural areas, at least temporarily, to cushion the impacts of system rationalization or fare flexibility.

As mentioned earlier, the Surface Transportation Assistance Act of 1978 (P.L. 95-599) authorized the first direct subsidy from the Federal government to the bus industry. This act aids the bus industry in several areas, as a review of the previous discussion shows.

First, it amended the Urban Mass Transportation Act of 1964, to authorize Section 21, a program for terminal development. DOT was authorized to grant monies to state and

local authorities for acquisition, construction or alteration of facilities for the provision of intercity bus service. The act allowed Federal funds for 80 percent of the net project costs, with the remaining 20 percent to come from non-Federal funds. The authorized amount of Federal funds per fiscal year was $40 million per year from F.Y. 1979 until F.Y. 1982. No funds were appropriated.

Under Section 22 of the Urban Mass Transportation Act, Federal aid was authorized for the initiation, improvement, and continuation of intercity bus service for passengers from rural areas as well as from those urban areas not located within an urbanized area as defined in the Act (but with 5,000 or more residents). Local services were not included. Funds were to be made available to state and local authorities to cover up to 50 percent of the net costs of such service provided by private intercity bus firms under purchase-of-service agreements; $30 million annually was authorized by Congress, but not appropriated.

Under Section 18 of the Urban Mass Transportation Act, the DOT is permitted to provide Federal assistance for public transportation in non-urbanized areas by way of formula grants administered by states. Section 18 authorized $75.6 million in FY 1979 with increasing amounts annually to FY 1982. A qualified project may receive up to 80 percent of the net cost of capital and administrative expenses and up to 50 percent of the net operating costs from Section 18. Half of the local share for both capital and operating expenses must be provided in cash. Eligible recipients include state agencies, local public bodies and agencies thereof, nonprofit organizations, and operators of public transportation services in areas other than urbanized areas.

In addition, an eligible recipient may use Section 18 to purchase service from private providers such as taxi and intercity bus firms. In fact, private transit and paratransit operators must be allowed to participate in the provision of service to the maximum extent feasible. In order to ensure this process, each local project must fulfill the following requirements:

(1) Make a good faith effort to notify all private providers in the service area to inform them of the intended service plan and ascertain whether they can participate in the provision of service; and

(2) Establish a process by which private providers may have disputes or conflicts arising out of this program properly heard and settled.

It has been the policy of the U.S. DOT that, lacking Congressional appropriations for Sections 21 and 22, Section 18 should provide funding for intercity bus purposes, at the option of the recipients.

In its continuing resolution for appropriations for FY 1980, Congress did not act to fund Sections 21 and 22. DOT, as mentioned, did not seek such funding, and it is expected that in its final DOT appropriation for FY 1980, Congress will not provide such funds.

Federal policy also provides for tax exemptions for the intercity bus industry. DOT, in unpublished analyses, reports that the industry should ultimately realize approximately $17 million annually from the excise tax exemptions and diesel fuel tax rebates provided by the Energy Tax Act of 1978. This would comprise about 30 percent of the industry's net revenues before income taxes.

The Federal government does promote energy conservation in cooperation with the intercity bus industry. An example, cited above, is that of the DOE-Greyhound gas-turbine engine demonstration. Another example is that of the Joint Government-Industry Voluntary Truck and Bus Fuel Economy Program. This effort includes 200 of the largest motor carriers, vehicle and engine manufacturers, industry suppliers, and several Federal agencies, including the DOT, DOE, and EPA. The program seeks to encourage and publicize the use of fuel-saving components and practices.186/

President Carter's proposed energy program would, if enacted by Congress, provide funds that could be used to upgrade intercity bus service and facilities.187/ In fact, it was proposed that $16.5 billion from a new Energy Security Trust Fund be set aside to improve the nation's mass transportation systems and fuel efficiency. The Fund would be financed through a windfall profits tax on domestic petroleum. Discretionary funds would go to states and cities that adopt specific energy conservation targets and comprehensive strategies. It is proposed that incentives for the intercity bus industry to expand service should be considered. Funds to support energy contingency planning would be increased; such plans would undoubtedly include the intercity bus industry. Funds for fuel efficiency research would also be provided under the proposal.

In 1979, President Carter released a set of rural development initiatives.188/ Although intercity buses were not directly mentioned, the emphasis of the initiatives was on coordination of transportation and on improving the quality of service. For example, the initiatives included special Section 13(c) Waiver and Warranty Procedures for application to the Section 18 program. Both of these sections are included in the Urban Mass Transportation Act of 1964, as amended. The former requires certification that the conditions of employment of transit workers not be worsened as a result of initiating federally funded programs. The latter, Section 18, provides

Federal funds for rural and small urban transportation assistance. Section 13(c) has been regarded as a stumbling block for initiation of innovative transit programs, especially in rural areas, so that the special waiver procedures, signed by Secretries Adams and Marshall of the U.S. DOT and U.S. Department of Labor, respectively, are viewed by many as representing a significant improvement in program procedures. The agreement does not require congressional action to become operational, as do many of the other proposals.

Not all proposed policy changes have originated in the ICC or the Executive Branch. One major proposal being considered by the 96th Congress is that of creating a public transportation trust fund.189/ The fund would provide long term authorizations for transit capital projects, including the existing Section 21 program (Urban Mass Transportation Act of 1964 as amended) providing grants for intercity bus terminals. Revenues would be derived largely from a proposed windfall profits tax on domestic crude oil.

U.S. DOT Policy Initiatives

U.S. DOT policy with respect to the intercity bus industry (and, indeed, all modes) is in a state of flux. The DOT has prepared a report to Congress on intercity bus service in rural and small urban communities, and on the need for subsidies to offset industry losses incurred in providing such services.190/ At this time (October 1979), the report is available only in draft form. However, based on public statements of DOT officials,191/ and on DOT policies with respect to other modes, the intent of the DOT seems clear. First, substantial economic deregulation is favored. The action of the ICC to adopt a policy statement formally easing conditions of entry appears highly consistent with DOT's wishes.192/ Second, to the extent that Federal assistance is provided, it should work through the already-funded Section 18 program, not through Sections 21 and 22.

More specifically, the U.S. DOT policy with regard to regulation and financial assistance for the intercity bus industry has been, and appears to remain, that:

(1) The intercity bus industry as a whole remains profitable, especially the Class I carriers accounting for about 90 percent of all regular route intercity revenues so that widespread subsidy is not needed;

(2) The ridership gains that have occurred in 1979, as a result of energy shortages, higher fuel prices, and marketing efforts of the carriers, should be encouraged to continue;

(3) In general, competition and self-help are preferable to government "bail-outs," such competition can work with reduced Federal economic regulation, and the damper of state or Federal ownership or operation of intercity bus services is increased with the existence of subsidy; and

(4) Section 18, together with state programs such as those in Michigan, Pennsylvania, New York, and Oregon, can provide enough funds to meet legitimate government responsibilities.

To develop these policies, DOT analyses, although still in draft form, did examine at least ten case study areas for over 350 communities, in all regions of the country. Russell's Guide[193] was consulted for the case studies to compare service levels in 1969 and 1979. Apparently, the results will show an overall decline in service frequency, but little outright abandonment. In addition, a financial study of the Class I segment of the industry is underway.

The intercity bus industry itself, through the American Bus Association, surveyed its members in the spring of 1979 regarding plans for seeking Section 18 assistance for particular routes. The DOT has considered the results of this unpublished study in its analyses of the consequences of economic deregulation. For example, according to unpublished DOT documents, total annual subsidy needs of $23.5 million were reported by those bus firms responding to the ABA survey. The bulk (89%) of these needs was attributed to Greyhound and Trailways. Class I carriers earned 8.5 percent return on equity in 1977, or about $40 million in net income. The hypothetical addition of the $23.5 million subsidy would have brought the Class I carriers much closer to their usual pre-1972 standard of 15 percent, other things being equal.

Of course, DOT also notes in its unpublished analyses that considering data supplied in ICC and ABA documents, costs of providing service by Class II and III carriers are often lower (average $0.75 per bus-mile for 1978) than those of Class I carriers (about $1.41 per bus-mile). The implication is that entry and exit freedom might improve earnings of both Class I and of Class II and III carriers through route switching, without loss of service.

A study done by Policy Management Associates for the Senate Commerce Committee in 1978[194] showed that the five Class I carriers with the best operating ratios in 1976 all provided significant services in lightly populated areas. This indirect evidence can be rationalized with the view that low-density routes can be used as feeders to longer-distance routes, so that overall firm profitability, not apparent profits on a particular route segment, are most important.

On the other hand, the ABA reports that about 1,750 communities have lost scheduled service in the past 10 years, as measured by comparisons of listings in Russell's Guide. If true, the indication is that, despite regulation, carriers are withdrawing from markets that are not profitable. Unpublished surveys of Class I carriers conducted by the ABA show significant route mileage now served to be unprofitable.

Although not conclusive, these results are consistent with the view that, given freedom of entry and exit, and fare flexibility, some Class I carriers would withdraw from additional unprofitable routes with no carrier providing services. In other cases new entrants would appear, and in still other cases, prices would rise with no change in levels of service (to reflect the costs of providing low-density service).

Conclusions

A large, but undetermined amount is spent each year by Federal agencies to support passenger transportation of all kinds, and intercity buses reap the benefits of some of these funds. Yet, the lack of understanding of where this money is coming from, where it is going, and why it is being provided, can certainly be frustrating for the intercity bus industry and those who are seeking to revise Federal transport policies. DOT policies seek to combine some of this Federal aid into a more visible program, with more unified administration. Emerging DOT policies also favor ambitious reform of Federal regulatory policies.

State Policies and Programs

State governments are usually intensely involved in the affairs of the intercity bus industry. States often regulate intrastate entry, exit, fares, finances, vehicles and drivers. States are responsible for building and maintaining the highway system. A few states have begun programs of financial assistance to intercity bus firms, users, or communities served by bus. All states are eligible for Federal Section 18 funds that may be used to support service provided by intercity bus firms in rural areas. Finally, states may study various aspects of the intercity bus industry, often in association with the production of state transportation plans.[195] In most cases, these state studies are performed with the active involvement of intercity bus firms. For example, the Wisconsin DOT study surveyed by mail and in person each firm operating in that state.[196] New York formed an Intercity Bus Advisory Committee, consisting of a limited number of representatives from the Bus Association of New York State.[197]

Regulation

Although the intercity bus industry began in the U.S. around 1910, states did not regulate this form of transportation until the 1920s, when the industry had reached

maturity.198/ Early state regulations were concerned with passenger safety and the effect of vehicle size and weight upon the roads. By 1928, forty-three states and the District of Columbia regulated the transport of passengers by motor vehicle,199/ and by 1930, Delaware remained the only state without intercity bus regulations.200/ Early regulatory policies of the states hinged on the assumption that the bus industry was virtually identical to the rail industry and that it thus should be controlled similarly. The concept of "regulated monopoly," while appropriate in the case of the railroads, eventually allowed one company, Greyhound Bus lines, to dominate the industry.201/ Regulated monopoly was designed to eliminate duplications in service that might entail costly capital investments, and as a result prove ruinous to the investors, as was the case with some electric interurban lines and railroads.202/ The application of this concept had tremendous impact on the further development of the industry. According to one source:

> In general, State commissions denied application for entry into the bus industry when the territory applied for was already served by another motor carrier. If the service of the first carrier was found inadequate, that company was usually given the opportunity to improve it; only if such improvements were not forthcoming was a second carrier allowed to enter the market.203/

With the 1925 U.S. Supreme Court decision that states had no jurisdiction over interstate transportation, bus companies began to use schemes to circumvent intrastate regulation as well.204/ As a result, states began to push for Federal regulation of interstate traffic. Finally, in 1935, when the Motor Carrier Act was passed, the ICC began to regulate the interstate activities of motor carriers, but intrastate transportation remained in the purview of the states.205/

Currently, states regulate both common and contract intercity carriers of passengers in thirteen general areas. These are:

- Entry
- Operating Territory
- Abandonment
- Rates
- Accounting
- Service
- Safety
- Construction
- Security Issues
- Mergers and Acquisitions
- Insurance
- Reporting
- Intrastate Motor Carrier Regulation206/

Not all of these areas are of equal importance to the states. For example, only four states regulate common carrier construction activity and only three regulate the construction regarding contract carriers. By contrast, most states regulate entry, operating territory, abandonment, rates and service.

State regulation of motor carriers is accomplished primarily through regulatory bodies such as Public Utility (Service) Commissions, although special transportation regulation agencies exist in some states. For example, Alaska, Arkansas and Wisconsin have special Transportation Commissions that are separate from their PUCs. Iowa has a Transportation Board that is part of its Department of Transportation. Kentucky and New York both regulate transportation through their DOTs and Vermont has an Agency of Transportation. Minnesota regulates transportation both through its PSC and through its DOT; the PSC has the lead in the major areas of entry, operating territory and abandonment with the DOT relegated to such issues as accounting, insurance, reporting and registration.207/

A recent study prepared for the U.S. DOT on the subject of ease of exit shows some of the differences among the states in their approach to regulation, as follows:

> Some commissions are empowered to require service improvements based on adequacy; others may only stop schedule cuts leading to inadequacy; while yet others simply have the power to issue more certificates in the hope of maintaining or increasing service. Yet others are specifically forbidden by statute from issuing duplicative certificates unless a specific finding on inadequate service is made.208/

Subsidy

In an effort to maintain service, usually for a particular user group or on particular routes,209/ several states have undertaken subsidy programs that provide financial aid to private bus companies. Iowa, Michigan, New Jersey, New York, Oregon and Pennsylvania all assist the intercity bus industry either through funds administered by their respective DOTs or by a combination of state and local and/or regional agencies.210/ The New York and New Jersey programs are focussed on commuter operations in major metropolitan areas.211/ Estimated total state-provided subsidies (operating equipment and terminals) were from $10 to $17 million in 1978, with an additional $55 million programmed for bus commuter service in New York and New Jersey.212/

Another example of a program involving a state and the intercity bus industry is West Virginia's Transportation Remuneration Incentives Program (TRIP). This multi-year demonstration involved several Federal agencies (e.g. UMTA, FHWA, Community Services Administration, HEW) as well as the State of West Virginia. The Federal government provided 80 percent of the funds, with patrons and the state providing the remainder in cash and in-kind services. An especially interesting aspect of the demonstration was the provision to users of subsidized transportation stamps. These stamps could

be used for public transportation modes, including intercity bus trips in West Virginia. Eligible purchasers (those at least 60 years old or handicapped) could pay $1 for an $8 book of stamps. Most of the stamps were used for taxi trips (about 77 percent), while buses (local and intercity) received about 21 percent of the riders.213/

Data provided by Greyhound about its participation in the program from FY 1974 through FY 1978 are shown in Table 16.

TABLE 16. West Virginia Transportation Stamp Plan (TRIP), Greyhound Sales for July 1973-June 1977.

	FY1974	FY1975	FY1976	FY1977	Total
Number of Coupons	15,198	92,279	247,832	294,276	649,585
Revenue (Current $)	3,779.50	23,069.75	61,958.00	73,569.00	162,396.25

SOURCE: Greyhound Lines, Inc., July 28, 1978.

Greyhound signed an authorization certificate agreement with the West Virginia Department of Welfare. Greyhound then received the coupons from customers and submitted them monthly with cancelled tickets for redemption by the Department. The firm was satisfied with its participation in the coupon program.214/

User subsidy permits riders a choice of public modes, and gives the carriers freedom to conduct their operations without being encumbered with additional detailed regulations for the subsidized programs (e.g., as might exist if a route were subsidized, or if new equipment or terminals were supported).

One of the problems encountered by the states in their attempts to maintain intrastate routes is that the routes often constitute "commuter or suburban service," and may be only marginally profitable.215/ Carriers have sought to abandon these routes. By contrast, interstate routes that come under the purview of the ICC have, by and large, maintained their profitability. For these routes, changes that have been proposed are reductions in service rather than reductions in routes. One expert thus concludes the abandonment problems with which states must contend are more complex than those confronting the Federal government.216/

This raises the issue of preemption by the Federal government of state economic regulation, should Federal regulatory reforms be enacted. Most Federal deregulation proposals seek to forbid state regulations that might undo the effects of Federal actions.217/ Most intercity bus firms hold ICC certificates, even if they are providing only intrastate service for which they must hold state certificates. This is necessary to provide through service to customers involved in interstate trips on connecting carriers. Thus, there is dual regulation of most intercity bus firms and routes, and possible preemption of state authority is a substantive matter.

On the other hand, some states are studying their own deregulation proposals. The holding of joint certificates from state and Federal regulatory agencies makes it difficult for states to accomplish their individual objectives without simultaneous Federal action.

Industry Proposals

The principal trade group representing intercity bus firms is the Washington-based American Bus Association (ABA), formerly known as the National Association of Motor Bus Owners. ABA publishes regular statistical releases based on member surveys (e.g. America's Number One Passenger Transportation Service) and occasional special reports. It conducts an annual convention, and prepares testimony for congressional hearings, among other activities. The ABA appears to be, in most respects, fairly typical of major transportation trade associations. Other associations represent some bus producers (e.g. the Motor Vehicle Manufacturers Association) or other highway users (e.g. the Highway Users Federation).

Intercity bus firms file tariffs with the ICC using a rate bureau, the National Bus Traffic Association. In addition, regulatory proceedings often provide a forum for expressions of desired policy by members of the industry and others.

Both Greyhound and Trailways conduct their own public information campaigns through marketing and lobbying activities.

Thus, to sketch a complete picture of the industry point of view with respect to favored national transportation policies, a number of sources must be consulted. Formal reports submitted to regulatory agencies, industry sources, and speeches and testimony were all examined by NTPSC staff. As might be expected, the policies favored seem to vary between firms and over time, as individual circumstances change.

The NTPSC heard public testimony during 1977 from several intercity bus industry representatives, including Greyhound (in Los Angeles), Trailways (in Camden, New Jersey), Capitol Bus

Company (in Pittsburgh), the New Jersey Bus Association (in Newark) and the ABA (in Washington, D.C.). The ABA urged the NTPSC to recommend improved Federal terminal programs at a 90/10 matching ratio, to benefit travel between, as well as within, cities; to define "paratransit" to avoid adverse effects on private bus operators where paratransit subsidies are provided; and to provide Federal financial assistance for rural and small urban transport for which intercity bus firms would be eligible. The New Jersey Bus Association suggested the creation of a single state regulatory agency for New Jersey; revamping Federal aid for social service transportation to stress efficiency; and a clarification and better enforcement of UMTA's Section 3 regulations regarding competition from subsidized transit authorities providing charter service. Greyhound stressed the need for a more equitable Federal subsidy policy, with proper consideration of the effects of Amtrak and local service and commuter airline subsidies on the intercity bus industry. Regarding economic regulation, Greyhound basically supported the existing policy as fair and adequate. Trailways reported that, given declining ridership and rising costs, Federal subsidy is needed for building new terminals, renovating old terminals, and acquiring new buses. Capitol Bus Company testified that the NTPSC should give recognition to rural transportation, especially that provided for intercity bus passengers.

Other expressions of the intercity bus industry's policy preferences are discussed below.

American Bus Association

The ABA is an active voice for inclusion of the industry in Federal programs providing financial assistance for transportation. The following excerpt from a June 21, 1979 letter to President Carter from ABA President Arthur Lewis is indicative:

> We do not understand the logic of this Administration which for the last two years has opposed the nominal assistance requested by the intercity bus industry to provide for a continuation of bus service in rural areas and to provide financing for the rehabilitation and construction of modern bus terminal facilities. These programs were authorized in the Surface Transportation Assistance Act of 1978 and the funding to the extent of $35 million will be considered this next week. The support of the Administration is urgently needed.
>
> As contrasted to this modest but effective program, the Administration proposes to "target over $200 million in newly available grant, loan and loan guarantee resources. . . to commuter airlines wanting to enter rural markets and to small community airports to upgrade facilities. These resources would supplement over $1

billion which the Administration hopes to make available between 1981 and 1985 through a proposed amendment to the Airport Development Assistance Act of 1970."

Last year approximately 30 percent of the 335 million passengers who rode the intercity bus originated or terminated their trips in rural areas. These passengers were carried in the most fuel efficient mode of transportation -- the intercity bus -- which at normal load factors achieves a fuel efficiency six and one half times that of commuter airlines. It is inconceivable that this Administration would develop a transportation policy for rural areas which would result in the expenditure of an additional $1.2 billion over the next five years to subsidize commuter airlines in rural areas and refuse any support for the present fuel efficient common carriers serving those rural areas at a loss.

I strongly suggest that any rural transportation policy which does not recognize the essential service that the intercity bus provides for rural citizens and which does not work to enhance and strengthen that service is fundamentally unsound.

I respectfully urge you to ask your Task Force to re-evaluate the posture of your Administration in regard to the support of this Administration for rural transportation and the intercity bus industry.

In 1978 the ABA worked to restrict the Federal subsidy (which became Section 18 of the Urban Mass Transportation Act) to those routes on which there is no competing service, to routes of a limited length, to vehicles of a maximum weight of 7,500 pounds, and to prohibit subsidy if more than 50 percent of the passengers on a given route are on intercity trips.218/ These proposals were not accepted by Congress, although it did enact other industry recommendations. For example, aid was authorized (but not appropriated) for joint-use terminals and for purchase-of-service agreements with the intercity bus industry. The ABA supplied an exhibit219/ showing requirements for terminal relocation, construction, and modernization of intercity bus terminals in the U.S. to total $277,275,000 in 1978 dollars. The needs of each state were given, with a city-by-city breakdown. New intercity buses needed to "completely modernize" the fleet were estimated to total 2,600 in 1978, and 1,050 each year through 1983 to maintain an adequate replacement cycle. Total bus replacement costs, assuming 7.5 percent inflation, were $286 million in 1978, $124,200,000 in 1979, growing to $165,800,000 by 1983.

During 1977, under President Charles Webb, the ABA also was active in seeking enactment of programs of support for the bus industry. In 1977, the ABA proposed a "Bus Revitalization

Act." The proposed act would have provided 80 percent Federal matching grants for capital assistance; a program of operating assistance; regulatory reform to include rate flexibility within a 10 percent zone of reasonableness; removal of the 10 percent excise tax on buses and parts (to save the industry $61 million annually); and repeal of the 4 cents per gallon Federal fuel tax paid by intercity bus firms (to save $11.6 million more per year).220/

In other testimony, Webb favored creation of a mass transportation trust fund, and a refundable investment tax credit (to total about $30.4 million annually for Class I carriers, or $37.9 million for the entire industry).221/ The tax credit would be contingent on 50 percent of the proceeds being used to reduce fares, and 50 percent being invested in eligible terminals and equipment. Congress did not enact the tax credit, but did eventually eliminate the 10 percent excise tax on buses, the 8 percent tax on bus parts and accessories, the 5 cents per pound tax on bus tires, the 9 cents per pound tax on bus innertubes, the 6 cents per gallon tax on lubricants, and the 4 cents per gallon tax on gasoline and diesel fuels used by buses.222/

Finally, the ABA has actively sought reductions in Federal aid to Amtrak.223/

Trailways

Trailways has expressed its desired national transport policies in a number of forms. In 1977, Chairman Fred Currey testified before a congressional subcommittee, in support of the industry's "Bus Revitalization Act," that intercity buses are fuel efficient, and can cover operating costs with an average of only 20 passengers per bus.224/ Two speeches by Trailways officials supporting regulatory reform were published by the firm in pamphlet form and distributed widely.225/ Among the points contained in the speeches are:

(1) Public benefits from deregulation will far outweigh benefits of government regulation. Small communities can be protected by maintaining exit controls, pending further study;226/

(2) Entry and price regulation should be eliminated as soon as possible,227/ because under existing regulations, a carrier "targeted by Greyhound for a demonstration of its economic muscle does not have the price and entry flexibility to react;"228/

(3) The charter bus market is ready for open entry (on a showing of fitness only) and complete pricing flexibility;229/

(4) Subsidies are not the answer to intercity bus industry problems. Less regulation is needed.230/

(5) One proposal for fare flexibility would be to permit a carrier to increase fares automatically, without notice, by 90 percent of the Consumer Price Index, or within a 5.75 percent anti-inflation guideline, whichever is greater, once each 12-month period;231/

(6) Deregulation of the package express business is needed;232/ and

(7) Regarding non-economic regulation, every state should make it mandatory that commercial intercity buses be equipped with speed governing devices to guarantee adherance to the 55 mph speed limit.233/

At Trailways, a change in ownership in 1979 may have altered its proposed policies. James L. Kerrigan, former chairman and chief executive officer of Greyhound, was among those who purchased Trailways from Holiday Inns in August 1979, for about $100 million. Kerrigan, after taking over as chairman and chief executive of Trailways, announced that he would steer Trailways away from its aggressive political campaign for deregulation.234/ Kerrigan stated that he will seek to add newer buses and to win additional routes from the ICC. He does favor Federal funding for urban transportation centers.235/

Greyhound

Greyhound officials also appeared before congressional committees in support of financial aid for intercity buses.236/ NTPSC staff met with Greyhound officials to discuss policy proposals.237/ Representatives of the firm stated that competition between state regulatory agencies and emerging state DOTs may lead to conflicting regulations, often with respect to quality of service. The firm favored rate flexibility, exit provisions, and Federal aid for terminals. If Federal or state operating subsidy is provided, where operating authorities are not dormant, existing carriers should have the first opportunity to contract for service.

Where Federal funds are available to support intermodal terminal operations, Greyhound would prefer to retain control of its own operations and ticketing.

Proliferation of federally subsidized transport performed by social service agencies is a concern of Greyhound. The firm would be willing to provide line-haul transportation with such providers serving as feeders. Greyhound did participate in the Federal Section 147 rural highway public transportation demonstration program, and in the West Virginia TRIP program.238/ Regarding its participation in the TRIP program, a Greyhound official stated in a letter to NTPSC that "Greyhound has been satisfied to participate in the TRIP stamp

plan program. However, it is no panacea to our severe economic problems in West Virginia."239/ The non-stamp portions of the program were less to Greyhound's liking. Greyhound favors state administration of intercity travel programs.240/ Regarding sub-state authority Greyhound has stated that "Authority and responsibility (for intercity travel programs). . . at a sub-state level should be discouraged. When programs are administered at this level, there is a strong reluctance to engage in projects which transcend jurisdictional boundaries."241/

Carolina Coach

Carolina Coach Company, headquartered in Raleigh, North Carolina, is a member of the National Trailways Bus System. The System is a trade association of 34 companies formed to coordinate schedules and provide continuous, through routes that go beyond franchise boundaries. Carolina Coach is not a subsidiary of Trailways, Inc. It is currently the third largest regular-route intercity bus firm in the U.S. In a presentation to a recent Transportation Research Board conference, its President recommended establishing publicly funded common terminals, with guaranteed access for smaller carriers.242/ He also suggested that a study of the entire intercity bus industry and its problems should be undertaken immediately, to identify steps that can be taken to put the industry on a healthier financial footing.243/ President Creech, although recognizing his firm's problems with operating unprofitable routes and the lack of fare flexibility, stated that, before completion of such a comprehensive study, "It would be foolhardy to think that wholesale deregulation will solve our industry's problems."244/

Conclusions

Although not all representatives of the industry are in agreement, their public statements and actions do reveal some willingness to compete in a less regulated environment, and a willingness to cooperate with Federal agencies seeking to subsidize service to groups or regions that do not receive adequate service at a profit to the carriers.

CONCLUSION

A careful consideration of this report and the three appendices that follow should convince the reader that there is no shortage of problems facing the intercity bus industry. Nor is there a paucity of proposed remedies to these ills.

Although perceptions differ among the industry, its users, and Federal and state agencies involved in policy deliberations, there appear to be areas of agreement. First, revisions of Federal and state economic regulations are needed, to permit more competition within the intercity bus industry. Existing regulation has not guaranteed good service to

customers or adequate returns to carriers for their regular-route service. Given the economic power enjoyed by Greyhound, any dismantling of ICC controls must also guard against potential predatory behavior. Most observers favor a continued Federal role for licensing carriers based on fitness and safety, but no undue restriction of entry and exit from particular routes.

With respect to competition between intercity buses and other modes, it appears that inter-modal services between bus and air and between bus and Amtrak should be encouraged. Buses are unlikely to expand significantly their long-distance patronage in competition with airplanes, and the automobile is, and will remain, an unbeatable alternative for the vast majority of the public. Thus, intercity buses must be permitted (through reduced regulatory impediments) and encouraged (through a more equitable Federal and state user fee structure) to identify market areas for penetration, and vigorously to pursue these opportunities.

APPENDIX I

SUMMARY OF DATA FILED WITH THE ICC BY CLASS II AND III INTERCITY BUS FIRMS FOR 1975 AND 1977

Although both Class I intercity bus firms (those with annual revenues exceeding $3 million) and Class II and III carriers (less than $3 million, but more than $50,000) that are regulated by the ICC must file reports, the ICC compiles and publishes the data only for Class I carriers. Much of the information about Class I carriers is readily available in several sources.245/

In the case of Class II and III carriers, however, no published source exists. Only the American Bus Association estimates certain data for Class II and III carriers, based on a sample of carriers. The reports of these small carriers, although filed regularly with the ICC, are stored without being compiled by the agency.

NTPSC staff examined the entire set of Class II and III annual reports filed with the ICC for two representative years, 1975 and 1977. The results, shown in Appendix Table I-1, were compared to the figures estimated by the ABA for those years. The actual and estimated totals are shown in Appendix Table I-2 below.

Problems in Interpretation

Most smaller carriers provide several types of service, including intercity common carriage of passengers and packages, and charter, with some also providing local and school services. Allocating passengers, revenues, and expenses among these categories is undoubtedly performed in an inconsistent fashion by the carriers filing.

Most reports examined had incomplete sections. Information was most frequently omitted for bus-miles, passenger revenues, number of passengers, intercity passenger-miles, paid employees, and total wages. All of these areas are of key concern to policymakers.

In some cases, perhaps lacking understanding of the meaning of the category, carriers provided information that was clearly wrong. For example, individual carriers reported passenger-miles totals varying from less than one to greater than one million.

APPENDIX TABLE I-1. Operating Data for Class II and III Motor Carriers of Passengers, 1977 and 1975

Operating Data	1977	1975
Number of Carriers	671	666
Number of Buses (with at least 36 seats)	11,858	9,923
Bus Miles (000)	389,811	321,710
A. Intercity	125,145	87,159
B. Local	40,441	44,865
C. Charter	167,240	124,298
D. School	56,985	65,334
Passenger Revenues (000)	$350,951	$235,430
A. Intercity	69,310	39,635
B. Local	39,913	36,331
C. Charter	184,414	115,072
D. School	57,313	44,392
Number of Passengers (000)	149,790	114,027
A. Intercity	32,581	20,391
B. Local	69,935	61,571
C. Charter	47,274	32,065
Paid Employees	19,853	18,236
Total Wages (000)	$157,441	$103,707
Operating Revenues (000)	$401,515	$275,551
Operating Expenses (000)	$392,937	$261,155
Net Operating Revenues (000)	$8,578	$14,396
Operating Ratio	97.8	94.7

SOURCE: 1975 and 1977 ICC Annual Reports on Form MP-2 Class II and III Carriers.

APPENDIX TABLE I-2. Comparison of Operating Data from NTPSC-Compiled ICC Reports and ABA Estimates, 1975 and 1977.

1975 Results

Operating Data	ABA	ICC
Number of Companies	865	666
Number of Buses	10,470	9,923
Number of Employees	11,560	18,236
Total Bus Miles (MIL)	277.1	321.7
Number of Passengers (MIL)	198.8	114.0
Revenue Passenger Miles (MIL)	7,898.8	-
Operating Revenues (MIL)	216.9	275.5
Operating Expenses (MIL)	210.5	261.1
Net Operating Revenues (MIL)	6.4	14.3
Operating Ratio	97.0	94.7

1977 Results

Number of Companies	1,004	671
Number of Buses	11,830	11,858
Number of Employees	14,240	19,853
Total Bus Miles (MIL)	333.8	389.8
Number of Passengers (MIL)	207.1	149.7
Revenue Passenger Miles (MIL)	9,300	-
Operating Revenues (MIL)	320.6	401.5
Operating Expenses (MIL)	309.8	392.9
Net Operating Revenues (MIL)	10.8	8.5
Operating Ratio	96.6	97.8

SOURCES: NTPSC Compilation of ICC Annual Reports Form MP-2; American Bus Association, America's Number 1 Passenger Transportation System, Washington, D.C.: 1978, p. 21.

The paid employee category is also a source of confusion. Data are provided as of May and November. The seasonal nature of ridership suggests that these reported totals may underestimate employment, at least as it occurs during summer months and around holiday periods. NTPSC computation of total wages per reported employee showed figures that often appeared to be extremely low. This indicates that part-time employees often might be included in the tables.

The number of firms reporting in a given year is not compared by the ICC to the total number of firms from which reports are due. Thus, although the NTPSC reviewed all reports filed, it is not clear to what extent the forms match the actual number of forms that were required to be filed. If the ABA sampling procedure is taken as an indicator, many firms do not file (see Appendix Table II-2).

On January 1, 1977, the ICC changed its definition of Class I carrier, from a minimum of $1 million in annual revenues to a $3 million level. Thus, comparisons between 1975 and 1977 are affected by this change in definition.

The data are reported in nominal dollars, and are not adjusted for inflation. Thus, some apparent differences between 1975 and 1977 revenues and expenses may be accounted for by inflation.

Conclusions

As a result of the time-consuming compilation of data from these Class II and III reports, the NTPSC researchers concluded that there is need for a continuing and uniform reporting of the results of these reports. Occasional examination of the files by independent researchers using different assumptions about the meaning of the questions and answers cannot provide a good record of changes in the economic condition of the firms.

Either the ICC itself should regularly compile these data or it should contract with an outside firm to do so. Equally as important, audits and informal contacts should be used to shorten and simplify the reporting form, and to ensure that those required to file reports are doing so with a common understanding of what the questions mean and for what purposes the answers will be used.

The NTPSC has recommended that the concept of a national data center should be explored by Congress. Such an agency would be a convenient repository for data such as these. More important, access to the data might be improved, to facilitate analysis by researchers.

APPENDIX II

THE MICHIGAN INTERCITY BUS PROGRAM

Introduction

In 1978, the NTPSC contracted with a research group at Michigan State University to prepare a report on several aspects of intercity bus service in that state. The draft report to the NTPSC provided information on levels of service, passenger characteristics, attitudes of owners of the bus firms, and the state's programs of financial assistance to the industry. This appendix summarizes the information provided to the NTPSC by the research group. It includes some recommendations made by that group.

The Michigan program is especially instructive for two reasons:

(1) It shows what occurs as a well-meaning government subsidy program is begun in a market burdened with regulatory and financial programs; and

(2) It may provide lessons for proposed and existing Federal subsidy programs (such as Section 18 of the Urban Mass Transportation Act).

In its research, the study team first compared ridership characteristics of Michigan intercity bus passengers to nationwide figures.[246/] The average Michigan bus passenger shares many of the characteristics of bus passengers in other states, especially household income and sex. Several differences between the Michigan and nationwide results are also evident. For instance, there are many fewer bus travelers under age 18 in Michigan, and slightly fewer senior citizens than in other states. Nearly three times as many passengers in Michigan take the bus to commute to work or for other business purposes, and there is a significantly higher percentage of passengers who take the bus to visit friends and relatives. Conversely, one-fifth fewer passengers in Michigan use the bus for vacations and recreation as do passengers in other states. Nearly three times as many Michigan passengers were homemakers and service employees than nationally. Nearly one-fourth of all Michigan intercity bus passengers selected the college student classification.

Next, the major financial characteristics of the Michigan intercity bus industry were compared with national statistics from Class I carriers over a four-year period, 1972 to 1976. Data were collected from 12 Michigan carriers[247/] for total revenues, regular route passenger revenues, charter passenger revenues, total expenses, total ridership, regular route passengers carried, and operating ratios.

During this period, Class I nationwide intercity bus revenues increased approximately 28 percent.[248] Total industry expenses, however, increased 37 percent. Regular-route passenger revenues were up 20 percent, while charter and special route passenger revenues rose 64 percent. For Michigan carriers, during the same four-year period, total intercity bus revenues increased by 42 percent. Regular-route passenger revenues climbed only 13 percent, while charter and special-route passenger revenues increased by 79 percent. Total Michigan industry expenses increased by 39 percent, a figure nearly identical to the national increase. Nationally, passenger ridership decreased by approximately 15.8 percent between 1972 and 1976. In Michigan, the number of regular route passengers carried during the same period decreased by 13 percent.

Finally, operating ratios (total expenses/total revenues) deteriorated 7 percent nationwide during the 1972 to 76 period. In Michigan, the average operating ratio improved by 2 percent. Operating ratios in Michigan in 1976 were the best since 1968. The Michigan revenue data include state operating subsidies.

Bus Assistance Program

In 1975 the Michigan Department of State Highways and Transportation (MDSH&T) instituted an intercity bus assistance program designed to relieve some of the financial burden of carriers providing regularly scheduled service in Michigan. This program was subsequently authorized by the State Legislature through Public Act 295, "State Transportation Preservation Act of 1976." This assistance program has three phases: an operating assistance phase in which the state contracts for regular-route service on certain routes; a loan-lease purchase phase to enable carriers to purchase new coaches on favorable terms; and a facilities-terminals development phase to provide state financing for the construction of transportation terminal facilities.

In this section, the three phases in the Michigan bus assistance program are described and evaluated.

Intercity Bus Operating Assistance Program

The following statement published by the Michigan Department of State Highways and Transportation (MDSH&T) outlines the purpose and financial mechanics of Michigan's intercity bus operating assistance program:

> A large number of areas through the State of Michigan are without bus service or have very limited service hours. At the present time, the private intercity bus industry cannot run the risk of providing new and/or increased service without financial assistance. . . . The entire industry has been in a downward trend for

> the past 20-30 years due to competition from other forms of transportation and increasing operating expenses. This decline in service is depriving Michigan residents of adequate transportation service particularly in areas where no other mode of public transportation is available. . . . In response to this need, a program of operating assistance for intercity bus carriers throughout the State of Michigan was established to implement bus service schedule development as an alternative means of transportation. The program provides for a service demonstration period with the expectation that the routes would become profitable thereafter and private carriers would continue to provide service to the routes. . . . Operating projects will be funded to cover actual operation costs or "wheel costs" for each separate project. These costs consist of driver wages, fuel costs, vehicle insurance, depreciation, maintenance, and any additional costs directly resulting from the specific operation. . . . It is estimated that "wheel costs" cover 75 percent of the actual system costs. The participating carrier absorbs or pays the additional incidental 25 percent which is related to general company administration or overhead.249/

The objectives of this operating assistance phase as stated by the MDSH&T are to (1) increase passenger ridership on existing service corridors by increasing the frequency, or supply of service; and (2) extend service on corridors between communities where no previous service has been provided.250/ The assumptions underlying these objectives of the operating assistance phase are (1) that by increasing the frequency of service on well-established travel corridors, ridership will increase and operating costs will drop relative to revenue; (2) that by extending bus service to small communities previously deprived of service by virtue of the low travel demand they generate, these isolated pockets of the population will enjoy greater access to larger metropolitan areas; and (3) that an increased supply of bus service will develop an increased demand such that state-funded routes will become self-sustaining after two years and will be continued by the carrier without further state funding.

The criteria for route selection were listed as: (1) potential to become self-sustaining; (2) amount of service provided by the carrier in the travel corridor to be funded; (3) type of service provided by the carrier in the travel corridor; (4) availability of interconnections to other markets or corridors; (5) population to be served; and (6) special market factors (e.g. state institutions, college, universities, military bases).251/

In addition, the Department also considered routes based on requests from the industry for service expansion, knowledge of intercity demand patterns from the Department's Bureau of Planning, and requests from citizens for specific city-pair service.252/

It is difficult to assess fully the effectiveness of the operating assistance phase, for two reasons. First, the state contracted for regular route service expansion on specific routes for which prior ridership and financial data are not available. Second, even should route-by-route data be available it would be difficult to isolate the effects of state dollars from other system conditions that may influence ridership and operating ratios. A preliminary assessment of ridership conducted by the MDSH&T of 1975 and 1976 was encouraging.

> The results of the first 18 months operating assistance program show increases in ridership on our regular route services. The three carriers who provide the majority of regular route services in the State, Greyhound Lines, Inc., Indian Trails, Inc. and North Star Lines, Inc. all showed approximately two percent plus increases for 1976.253/

This testimony is confirmed by Michigan Public Service Commission (MPSC) Annual Reports. However, the increase experienced by North Star Lines cannot be attributed to the subsidy program, because that carrier did not receive operating assistance from the state during 1975 or 1976.

A review of the individual routes included in the subsidy program indicates that the program was not successful in meeting the objective of self-sufficiency within two years. None of the fifteen routes which participated in the program reached this break-even level, and most are not even meeting "wheel costs."254/ Michigan has since modified its goal, and no longer recognizes a two-year limit.

To conclude, therefore, that the operating assistance program has succeeded is premature. In 1977, each of the carriers operating on these assisted routes filed financial statements with the MPSC indicating net system losses on regular-route services. Operating ratios for all Michigan carriers reached their worst aggregate level, and regular route ridership between 1976 and 1977 dropped nearly 20 percent.255/

The objective of providing public transportation to communities where "no other mode of transportation is available" has only partially been realized by this program, and this service has incurred a higher subsidy rate than service additions to existing corridors. Approximately 38 percent of the funds are currently being used for service expansion and 65 percent go for new corridor development.

The state, through its operating assistance program, has financed regularly scheduled express service on several existing high-density routes, and to a lesser extent has provided some renewed regular-route service on lower-density routes. Neither of these increases in service, however, materially improved the financial condition of those participating carriers during the life of the operating assistance program.

For example, the revenue from expanded service between Saginaw and Chicago was nearly sufficient to cover the cost of this operation, but this came at least partially at the expense of existing service in this corridor. The net ridership change in the corridor did not vary appreciably from the remainder of the state, even though total bus miles in the corridor increased by about 22 percent. This corridor is typical of the program, which infused operating assistance funding to increase the supply of bus transportation on certain routes in Michigan, without noticeably increasing the ridership.

The ridership trend on the state-subsidized corridor between Saginaw and Chicago was similar to that for the nation as a whole and for the remainder of Michigan. Several factors make this a particularly interesting study corridor. Between 1974 and 1976, both rail service and the State of Michigan intercity bus subsidy program were implemented in this corridor. The effect of each of these changes is evident in the ridership statistics and should provide information for future subsidy decisions.

Prior to September 1974, the Indian Trails bus service was the only public ground transportation in most of the Saginaw-to-Chicago corridor, with only the Battle Creek-to-Chicago portion of the line from Detroit to Chicago having competition. During the 1973 and 1974 calendar years, the bus service offered was held constant at 7 round trips per day from Flint to Chicago, although there were some variations in the Kalamazoo to Chicago portion. In the summer of 1976, service was reduced by one round trip, and in the fall of that year one additional round trip was removed. In November 1976, the state subsidy program was initiated and two round trips per day were included in one state-subsidized bus system, with one non-subsidized round trip being removed. An additional subsidized round trip per day was added in the summer of 1977, but this route was discontinued in October 1977 at the request of Indian Trails.256/

The subsidized runs provide express service, stopping only at the major cities along the corridor, and at least one run in each direction is non-stop between Lansing and Chicago.

The Blue Water service between Port Huron and Chicago was initiated in September 1974. This service consists of one round trip per day, seven days per week. Since the beginning, the Blue Water line has carried approximately 27 percent of the combined Indian Trails and rail ridership in the corridor.

Initiation of the rail service in late 1974 coincided with a marked 18 percent decline in bus ridership in the corridor between 1974 and 1975.257/ Gross revenues for Indian Trails dropped 14 percent for the same period. Once equilibrium had been achieved, Indian Trails ridership appears to have nearly stabilized, continuing to lose riders slowly between 1976 and 1977, but showing a slight revenue increase.

The introduction of the subsidized bus service in 1976 does not appear to have increased total bus ridership in the corridor. Instead, the riders made a significant shift from non-subsidized local runs to subsidized express runs in the corridor. The subsidized runs realized a 37 percent increase in ridership between 1976 and 1977, while the non-subsidized runs declined by 17 percent and 14 percent from 1975 to 1976 and 1976 to 1977, respectively. Gross revenues on the subsidized and non-subsidized bus runs showed a similar trend.

The 1977 net subsidy per passenger on the train was $10.79, while the subsidy per passenger on the subsidized bus lines was only $0.66. It must be noted, however, that the majority of the user revenues on these subsidized lines may well be diverted from the non-subsidized bus service in the corridor.

The Loan-Lease Purchase Program

A heavy financial burden facing all operators, especially the smaller intercity passenger operator, is the cost of new coaches. In 1967 the price of a new coach was about $43,000. In 1976, the average price rose to $90,000.258/ Manufacturers' retail prices now approach $120,000 per coach. The loan-lease purchase program established in the MDSH&T a capital equipment fund to which MPSC-certified bus carriers may apply for new coaches of their preferred make and specification. The state buys the new buses for those carriers whose applications are granted. The carriers then lease the new buses from the state and agree to pay the full purchase price within six years. As of July 20, 1978, the state has purchased and then leased 50 buses, most of which were new. The carriers are exempted from interest payments, and because the new buses are owned by the state, the carriers are further exempted from state sales taxes and Federal excise taxes. The savings to each participating carrier are significant. Taxes and interest payments range from $10,000 to $20,000 per year per bus. The carriers are required to pay state licensing and certification fees. Each carrier, to be eligible, must engage in regular-route service within Michigan according to the following criteria:

> No carrier will be eligible for more than 25 percent of the total amount offered per year. Criteria for determining the percentage individual carriers are eligible for will be the ratio of regularly scheduled miles operated in Michigan

to the total system regularly scheduled miles of the carrier. A carrier operating 75 percent or more of its total regularly scheduled system miles in Michigan will be eligible for 25 percent of the total fund available per year. A carrier operating between 50 and 75 percent of its total regularly scheduled system miles in Michigan is eligible for 15 percent of the total fund per year. A carrier who operates less than 25 percent of its regularly scheduled system miles in Michigan, but at least 150 miles of regularly scheduled service per day will be eligible for 10 percent of the total fund available per year. No carrier who operates less than 150 miles per day of regularly scheduled service in Michigan, 7 days per week minimum, will be eligible for assistance. Any exceptions to this service requirement must be approved in writing by the Bureau and will only be considered in those cases where the type of transportation provided is a specialized weekday operation, i.e., worker carriers.259/

The principal purpose of the loan-lease purchase is to encourage carriers to maintain regular-route service. The more intrastate regular route miles they undertake, the more new buses they may qualify to lease. However, the minimum carrier requirement to provide no less than 150 miles per day of regular route service has not significantly increased the supply of such service, nor has it made program eligibility a burdensome objective for most carriers.

The mileage criteria set by the MDSH&T for loan-lease qualification have come under criticism from several Michigan carriers. To qualify for 25 percent of the total loan-lease fund available in any single year a carrier must operate 75 percent or more of its total regularly scheduled system miles in Michigan. No criterion is explicitly stated regarding charter operations. Consequently, carriers primarily engaged in profitable charter operations qualify for state loan-lease assistance just as do carriers which primarily provide less profitable regularly scheduled service, so long as most of their regularly scheduled service is intrastate. This amounts to state subsidization of profitable charter services, much of which is interstate.

For example, the state has leased four buses to Valley Coach Line. Valley maintains approximately 409 daily regular route miles predominantly on one intercity route, Flint to Sarnia (Canada), which constitutes approximately 15 percent of Valley's total system miles. The remainder of Valley's operations are charter service. Upon questioning by the Michigan State research team, Mr. David Cupp, Valley Coach Line executive, stated that the four new buses could not all be used to provide 409 daily regular-route miles, and that the new buses are more comfortable and hence better suited for longer charter trips, in which this carrier has specialized. It was

further stated that Valley has maintained regularly scheduled service on this route at a financial loss, receiving state operating assistance, in order to qualify for the benefits of the loan-lease purchase fund. As indicated by the Michigan State research team's interviews, much of the criticism from other carriers competing for the limited supply of state loan-lease funds might be abated if the MDSH&T would require applicant carriers to maintain a specified ratio of regularly scheduled intrastate miles to total carrier miles. In this manner, qualifying carriers would be those whose operations are primarily regular route rather than charter.

The concept of the loan-lease purchase program is well accepted by the carriers, and there are apparently some benefits to Michigan citizens. While the charter service may be interstate, the origin is in Michigan, and it is these citizens who benefit most from the more comfortable (and perhaps safer) vehicles. The capital equipment fund, from which the buses are purchased, will remain so long as the participating carriers make repayments. The six year time frame for repayment gives carriers the opportunity to plan advantageously their future capital investment needs. The new buses replace older ones for which maintenance costs are high but resale or lease values are still positive.

Facilities-Terminals Development Phase

The most complex and innovative feature of the Michigan Intercity Bus Assistance Program is its facilities-terminals development phase (FTD).[260/] The objectives of the FTD phase are: (1) to relieve intercity bus carriers of the financial burden associated with maintaining separate, non-revenue-generating and tax-liable terminal facilities; (2) to house, where possible, all modes of public transportation serving a community in one building, and thereby encourage the convenient use of public transportation; and (3) to relieve municipal governments of the capital costs involved in the construction or renovation of terminals.

Typically, a municipality seeking state assistance under the FTD phase submits to the MDSH&T an application which specifies the location of the proposed terminal, an outline of the architectural objectives of the proposed terminal, and an estimate of the cost of the proposal. The state evaluates the application on the basis of the amount of public transportation services in the applicant community or area. Where only one mode of public transportation will utilize the facility, a minimum of three round-trip schedules per day is required for the proposal to be eligible for state funding. Upon approval of the application, the state and municipality enter into a contract that defines the obligations of the municipality to the project and the state.

As of 1978, two FTD projects were completed and operating, one in Kalamazoo, the other in Dowagiac, both intermodal transport centers. Though these two contracts differ in funding levels and duration of city obligations, both have several common requirements. First, the cities were required to purchase the property on which the terminals are located prior to finalization of the contract. As both cities receive regular Amtrak service, they selected sites where existing rail depots were located. Both cities purchased these depots and adjoining properties from the Trustees of the Penn Central Company. Consequently, the project costs in both cities were oriented to renovation of exisiting facilities rather than construction of new ones. Second, the cities were required to submit, for state approval, detailed plans and specifications for the design of the facilities, which include accommodations for physically limited persons, and procedures for the advertisement and receipt of bids for construction work. Third, the cities were required to maintain and operate the completed terminals in a manner conducive to the continued use of the terminals by the carriers whose operations they house.

The cities are to use their best efforts to develop the terminals into self sustaining entities that pay for terminal maintenance and operation through user fees. The carriers pay a nominal user fee, derived from a 10 percent commission on their ticket sales. The cities have leased terminal spaces and facilities to other concessions to defray terminal maintenance and operation costs.

The state plans to expand this phase to 15 more cities by 1980 with an estimated authorization of $12,268,682.

Actual savings to the bus carriers resulting from their use of these centers may be only incidental in the final analysis. Clearly, the FTD reached beyond the plight of the intercity bus industry to public transportation in all surface modes. The most significant effects of this phase, should it be widely expanded, may be the manner in which it rationalizes transportation planning for future needs.

An Industry Perspective

The carriers interviewed by Michigan State researchers expressed a variety of opinions about the operating assistance phase of the Michigan Intercity Bus Assistance Program. Some felt it was a first step toward nationalization. Others were puzzled by the state's emphasis on adding new bus schedules to high-density routes that carriers are currently serving, quite extensively, at a profit. Others acknowledged that state operating assistance on routes serving small, low-demand rural areas would be necessary before they could extend existing regular-route service. None of the carriers interviewed knew exactly what criteria the state uses to select specific routes for state contract service. Most of the carriers viewed the operating assistance as purely palliative and not addressing fundamental problems facing the bus industry.

The loan-lease purchase phase elicited more praise from the carriers. Though several of the larger-volume carriers were annoyed by the state's preference for smaller, charter-oriented carriers, all favored the continuation and expansion of this assistance phase. The larger carriers predictably favored a higher minimum-regular-route mileage requirement to encourage more extensive intrastate regular-route performance by smaller carriers. Even after the carriers have purchased all the new coaches they can possibly afford or need, it was noted, they still must face other pressing operational problems.

Most of the carriers interviewed felt that the facilities-terminals development phase, to date, has been biased in site location toward the railroad mode. Several carriers expressed doubt as to the efficiency of the intermodal concept, stating that few passengers make use of more than one mode of transportation on any single intercity trip. Only a few carriers see any likely future intermodal cooperation between bus and rail, and then only after railbed conditions and rail traffic tie-ups that impair Amtrak scheduling are alleviated. Although Greyhound has profited in its intermodal relationship with the airlines by providing feeder services from Detroit to its Metropolitan Airport, carriers believe that Amtrak's unreliable scheduling and downtown station locations make any profitable feeder relationship with rail improbable.

With the amount of state money invested in the Kalamazoo intermodal terminal, some carriers noted, the state could have rehabilitated a dozen or so bus terminals, the dilapidated conditions of which have discouraged those persons most likely to use the buses (i.e., female college students and senior citizens).

The two carriers that have benefited from the new Kalamazoo and Dowagiac terminals predictably favor the continuation of this state assistance. They do not pay rent (beyond commissions from ticket sales), or taxes, both of which constitute savings to these carriers which were not possible when they had to maintain their own separate terminals. One of the effects of the intermodal center in Kalamazoo has been reported to be the intensification of competitive departure times. Ticketed rail passengers leaving Kalamazoo for either Chicago or Detroit may be virtually assured that a bus for either destination will actually depart shortly after the train was scheduled to depart. Interchangeable ticketing between Amtrak and Greyhound has facilitated this competitive relationship. Greyhound officials believe that the benefits to the bus industry of this competitive relationship provided by the FTD phase will become more widely recognized by other bus carriers as the phase is expanded to other cities.

Recommendations

Operating Assistance Phase

This phase of the Michigan Bus Assistance Program has failed to achieve its two principal objectives. First, ridership has not increased on high-density intercity routes where new regularly scheduled services have been added to existing service. Second, carriers that contracted to provide new regularly scheduled services on low-density routes where no service was previously provided have not continued to serve those routes after completion of the state's subsidy contract, as originally envisioned.

Substantial restructuring of the operating assistance phase is recommended by the Michigan State researchers to strengthen operating ratios on existing routes without encouraging over-extension by providing service where no significant demand exists. In addition, rural local service needs should be considered. The researchers suggest that the state should encourage rural communities within a small, geographically contiguous region to organize local (inter-community) transit collectives.

The state might agree to provide appropriate vehicles (e.g., vans, station wagons, or mini-buses) and operating assistance, perhaps using Federal Section 18 funds. This bus transit could be demand-responsive on a community scale and flexible to local rather than nationally oriented scheduling needs. This modification in the program on an experimental basis would also enable state planners to pretest specific travel patterns in rural areas, should subsequent public transportation investment in such areas be anticipated.

Loan-Lease Purchase Phase

The researchers suggest that this most popular phase of the Michigan Bus Assistance Program continue until the capital assistance fund is exhausted. A percentage of the capital assistance fund might be designated for rural transit collectives (as outlined above) whose eligibility is based on viability of their regional rural bus transit plans. The remaining capital assistance funds should be allocated to certificated common carriers. Eligibility requirements should be increased, using regular intrastate route mileage as a percent of total carrier system miles, rather than as a percent of total system regular-route miles. These modifications would encourage carriers to use some of the new coaches for regular-route service, as originally intended.

Facilities-Terminal Development Phase

According to the researchers, factors that influence selection of FTD site locations should be examined and clarified. Presently, only cities enjoying regular bus and passenger-rail services have been approached by the state and

encouraged to apply for FTD assistance. This intermodal orientation neglects communities not receiving rail services, but for which improved bus facilities are viewed as a prerequisite to increased patronage. The state should allot a percentage of FTD funds for bus station improvements in larger cities and for construction of minimal passenger shelters in small communities, especially those that would be served by the proposed regional rural transit collectives.

APPENDIX III

THE INTERCITY BUS INDUSTRY

ANNOTATED BIBLIOGRAPHY

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Section 323--Grants for the initiation, improvement, and continuation of intercity bus service for passengers from rural areas, as well as those urban areas not located within an urbanized area but having 5,000 or more residents. This does not include local service. $30 million annually from FY 79 to FY 82 on the basis of 50% Federal to 50% non-Federal payment of the net cost of operating expenses. (No funds appropriated.)

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Classification of deductibility of payments of deferred compensation to independent contractors, thus meaning no employer-employee relationship; the contributions or compensation shall not be deductible by the payor thereof and if they would be deductible under this section for the taxable year the amount attributable to the contribution or compensation is includible in the gross income of the persons participating. Effective date after December 31, 1978.

Section 301, 92 Stat. 2820.
Reduced the corporate income tax rate and established a graduated rate schedule of 17% of so much of the taxable income as does not exceed $25,000; 20% to not exceed $50,000; 30% to not exceed $75,000; 40% to not exceed $100,000; and 46% to exceed $100,000.

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17. Ibid., p. 19.

18. ABA, America's Number 1 Passenger Transportation System, Washington, D.C.: 1978, p. 22.

19. ICC, The Intercity Bus Industry, pp. 71-72.

20. Ibid., p. 78.

21. Ibid., p. 80.

22. Solomon Colber "The Intercity Bus Discount Fare Gamble", Washington, D.C.: Colber and Associates, October 17, 1977.

23. ICC, The Intercity Bus Industry, p. 50.

24. Traffic World, October 1, 1979, p. 102.

25. ICC, The Intercity Bus Industry, pp. 93-96.

26. Ibid., p. 55.

27. ABA, America's Number 1 Passenger Transportation Service, Washington, D.C.: 1978, p. 22.

28. Milwaukee Journal, June 18, 1979.

29. ABA, America's Number 1 Passenger Transportation System, Washington, D.C.: 1978, p. 22.

30. Pacific Traffic, May 1978, pp. 14 and 68.

31. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Vol. I, Service and Operating Characteristics, Madison, Wisc.: January 1977.

32. James C. Shultz, V.P.-Trailways, Inc., "Intercity Passenger Market: Public vs. Government Regulation, Regulatory Reform", December 11, 1978, p. 7.

33. Ibid., p. 9.

34. For a detailed analysis of charter and other special services provided by intercity bus firms, see Edward L. Ramsdell, An Examination of the Secondary Services of the Intercity Bus Industry and An Analysis of the Contribution Made by These Services to the Provision of Regular Route Passenger Service, Prepared for U.S. DOT, November 1977.

35. ICC, Bureau of Accounts, Financial and Operating Statistics: Class I Motor Carriers of Passengers, Jan. 1-Dec. 30, 1978.

36. ICC, The Intercity Bus Industry, pp. 56-57.

37. Lee W. Huff, in his statement in the Matter of Greyhound Lines, Inc.--Extension, (see footnote 38), cites: Joint Brief of the U.S. Department of Justice and the ICC, Interstate Investors, Inc. v. U.S., U.S. District Court for the Southern District of New York, Civil Action No. 66 Civ. 3004 (1967); Transcontinental Bus Systems, Inc.--Control--Virginia Stage Lines, Inc., 101 M.C.C. 529, 547 (1966); and California Parlor Car Tours--Purchase--The Greyhound Corporation, 127 M.C.C. 343, 352, 356 (October 19, 1978). The ICC, The Intercity Bus Industry, Washington, D.C.: May 1978, pp. 3ff, also discusses these policies.

38. Statement of Lee W. Huff, (Vice President, Richard J. Barber Associates) ICC Docket No. MC-1515 (Sub. No. 239), In the Matter of Greyhound Lines, Inc.--Extension Montgomery, Alabama--Dallas, Texas, November 27, 1978, p. 11-12.

39. U.S. DOT unpublished draft Section 323 Study, p. 2.

40. Milwaukee Journal, June 18, 1979.

41. Remarks by H. Lester Creech, President, Carolina Coach Company, TRB Conference on Intercity Bus Issues, Washington, D.C., July 24, 1979, p. 1.

42. ICC, The Intercity Bus Industry, p. 86.

43. Ibid., pp. 76, 77, 85.

44. Ibid., p. 88.

45. Elizabeth A. Pinkston, The Intercity Bus Transportation Industry: An Industrial Organization Study, Yale University, Ph.D. dissertation available from University Microfilms International, Ann Arbor, Michigan, 1975.

46. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Vol. II, User Characteristics, Madison, Wisc.: April 1977. Michigan studies are described in Appendix II above.

47. For more detail, refer to National Transportation Policy Study Commission, National Transportation Policies Through the Year 2000 (hereinafter referred to as NTPSC Final Report, Washington, D.C.: Government Printing Office, 1979, pp. 153-170.

48. The table and accompanying discussion is derived from material contained in ICC, The Intercity Bus Industry, pp. 106-120.

49. The $141 million consists of $70 million in net Federal subsidy, of which $30 million is for services and $40 million for facilities; and $71 million of state and local subsidy, of which $12 million is for services, $4 million for facilities, and $55 million for New York-New Jersey commuter bus assistance. For more detail, see NTPSC Final Report, Table 89.

50. U.S. Department of Labor, Bureau of Labor Statistics, Labstat Series Report, Washington, D.C.: 19 March 1979.

51. For more detail, refer to NTPSC Final Report, chapter 11.

52. Go West, January 1978, p. 48.

53. The 25 issues, and the process of issue identification, are described in more detail in the NTPSC Special Report Current Issues in the United States, Vol. I and II, Special Report No. NTPSC/SR-78/01A and B, Washington, D.C.: 1978.

54. Airline Deregulation Act of 1978, Pub. L. 95-504, 92 Stat. 1705.

55. Rail Passenger Service Act of 1970, Pub. L. 91-518, 84 Stat. 1328.

56. Motor Carrier Act of 1935, Pub. L. 74-255, 79 Stat. 543.

57. For a lucid presentation of such an argument, see the Statement of Lee W. Huff, In the Matter of: Greyhound Lines, Inc.--Extension Montgomery, Alabama--Dallas, Texas, Shreveport--Baton Rouge, Louisiana, ICC Docket No. MC-1515 (Sub. No. 239) dated November 27, 1978.

58. For a discussion of industry costs, see Elizabeth Ann Pinkston, The Intercity Bus Transportation Industry: An Industrial Organization Study, 1975.

59. Frederick Dean Fravel, "Returns to Scale in the U.S. Intercity Bus Industry," in Transportation Research Forum Proceedings, Oxford, Indiana: Richard B. Cross, 1978, pp. 551-560.

60. Regional Rail Reorganization Act of 1973, Pub. L. 93-236, 87 Stat. 985, Railroad Revitalization and Regulatory Reform Act of 1976, Pub. L. 94-210, 90 Stat. 33.

61. See Edward L. Ramsdell, An Analysis of Ease of Exit from Providing Intercity Regular Route Bus Service, Task II Final Report prepared for U.S. DOT, Transportation Systems Center, Cambridge, Mass., November 1977.

62. See, for example, U.S. DOT, Analysis of Intercity Bus Service in Rural and Small Communities, prepared pursuant to Pub. L. 95-599, Section 323 (DRAFT), September 17, 1979.

63. 23 U.S.C. 154.

64. Federal-Aid Highway Act of 1976, Pub. L. 94-280, 90 Stat. 425.

65. Bureau of Motor Carrier Safety Notice 78-4 in Federal Register, February 24, 1978.

66. For example, the National Highway Traffic Safety Administration promulgated standards for maximum braking distances that, until overturned by the courts, required computerized braking systems. The standard in question was Federal Motor Vehicle Safety Standard 121.

67. For additional detail on these non-economic regulations, refer to the discussion above on industry structure and performance, and to NTPSC, A Compendium of Federal Transportation Policies and Programs, Report No. NTPSC/SR79/06, Washington, D.C.: 1979 (NTIS No. PB 294454/AS). (Hereinafter referred to as NTPSC, Compendium.)

68. For a discussion of state and local policies and programs, refer to NTPSC's State and Local Transportation Policies and Programs, Report No. NTPSC/SR-79/04, Washington, D.C.: 1979. (Hereinafter referred to as NTPSC, State and Local.)

69. See, for example: Frank Mulvey, Amtrak: An Experiment in Rail Service, Report No. NTPSC/SR-78/02, Washington, D.C.: NTPSC, 1978 (NTIS No. PB 288259/AS) (Hereinafter referred to as NTPSC, Amtrak); and U.S. G.A.O., Amtrak's Economic Impact on the Intercity Bus Industry, PAD-79-32, Washington, D.C.: January 12, 1978.

70. See, for example, NTPSC, Compendium.

71. See, for example, NTPSC, State and Local.

72. See Wall Street Journal, 13 March 1979, p. 16 and 4 June 1979, p. 16.

73. For an overview of Federal planning programs in all markets, refer to NTPSC, Compendium. Among the urbanized area planning programs are those initiated by the Federal-Aid Highway Act of 1962, Pub. L. 87-866, 76 Stat. 1145.

74. 3R and 4R Acts.

75. 4R Act, Sections 210(j) and 803.

76. Federal-Aid Highway Act of 1973, Pub. L. 93-87, 87 Stat. 250. Metropolitan Planning Organizations (MPOs) were created for these purposes. 49 U.S.C. 1604 directs MPOs to prepare Transportation Improvement Plans (TIPs) that may contain a long-range section and a 3-5 year short-term segment with an annual element.

77. National Energy Conservation Policy Act of 1978, Pub. L. 95-619 authorized $900 million over three years for such activities as producing comprehensive state energy conservation plans. Clean Air Act Amendments of 1977, Pub. L. 95-95, Section 175 provides $50 million for air quality planning to be jointly administered by the Urban Mass Transportation Administration and EPA.

78. For example, in 1976, the Wisconsin DOT conducted detailed on-board surveys of over 6,000 passengers of 16 different intercity bus firms serving the state, and also interviewed representatives of each of the firms. The results are given in Intercity Bus Transportation in Wisconsin (Six Volumes), Madison, Wisc.: Wisconsin DOT, December 1976-April 1977. More recently, in 1979, a task force sponsored by the Transportation Research Board has been organized to conduct research about the problems facing the intercity bus industry. Workshops have been held and conferences are being planned, with the active participation of representatives of individual intercity bus firms and of the industry's association, the American Bus Association (ABA).

79. For a detailed analysis of the extent to which governments at all levels may subsidize various modes, see NTPSC Federal Investment in Transportation: A Statistical Comparison by the Mitre Corporation, Metrek Division, Report No. NTPSC/SR-79/08, Washington, D.C.: 1979.

80. See, for example, Financial Condition of the Intercity Bus Industry, Hearing before the Subcommittee on Surface Transportation of the Committee on Commerce, Science, and Transportation, U.S. Senate, 95th Congress, First Session, Washington, D.C.: June 16, 1977; and "Remarks" by H. Lester Creech, President, Carolina Coach Company at the TRB Workshop on the Intercity Bus Industry, Washington, D.C.: July 24, 1979.

81. Amtrak Improvement Act of 1978, Pub. L. 95-421.

82. This technique is used in the case of:
    - o Highways: The Highway Revenue Act of 1978, Pub. L. 95-599, Section 503 extended the Highway Trust Fund, established in 1956, through FY 1985;
    - o Airport and airway development: Airport and Airway Development Act of 1970, Pub. L. 91-258, 84 Stat. 236 (Congress must act to extend the fund during FY 1979); and
    - o Waterways: Inland Waterways Revenue Act of 1978. Pub. L. 95-502, 92 Stat. 1693.

83. For example, H.R. 5375 "Transportation Systems Efficiency Act of 1979" 96th Cong., 1st Sess., if passed, would establish a public transportation trust fund to include programs presently aiding intercity buses, and establish new programs.

84. See, The White House--Rural Development Initiatives: Improving Transportation in Rural America, Washington, D.C.: June 1979.

85. See, The White House "Fact Sheet on the President's Program" Washington, D.C.: April 5, 1979.

86. Inland Waterways Revenue Act of 1978, Pub. L. 95-502, 92 Stat. 1693.

87. NTPSC forecasts. See NTPSC Final Report, p. 319, for an explanation.

88. Energy Tax Act of 1978, Pub. L. 95-618.

89. See American Public Transit Association, Transit Fact Book (Annual), Washington, D.C.: 1979.

90. 49 U.S.C. 1601(f),(g), and (h) and 23 U.S.C. 142.

91. 49 U.S.C. 1602(e) and 1603(a).

92. 49 U.S.C. 1614.

93. Energy Tax Act of 1978, Pub. L. 95-618.

94. NTPSC Final Report, p. 172.

95. Ibid., p. 174.

96. Ibid, p. 175.

97. Ibid., p. 172.

98. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Vol. I, Service and Operating Characteristics, Madison, Wisc.: December 1976, pp. 13-15.

99. NTPSC Final Report, Chapter 8.

100. For example, Boeing Commercial Aircraft Company estimated in its Intercity Passenger Transportation Data, Energy Comparison Vol. 2, Seattle, Wash.: 1975, p. 71 the following passenger-miles per gallon figures:

Mode	Great-circle passenger-miles per gallon
Airplane	18- 28
Auto	25- 41
Intercity Bus	90-162
Cross-country train	14- 64

An average load factor of 60% was assumed for public modes, with the load factor for the automobile varying with distance. Average trip length was assumed to be 700 miles. It should be noted that the estimates of others cited by Boeing show the cross-country train in a better light (up to 150 passenger-miles per gallon).

Amtrak estimates its Amfleet 6-car trains achieve up to 157 passenger-miles per gallon (PMPG) at 55% load factors and 285 PMPG at 100% load factors, that conventional long-distance trains achieve up to 64 passenger-miles per gallon at 55% and 116 PMPG at 100% load factors; that the private auto can achieve between 33 and 50 passenger-miles per gallon at 55% and 100% load factors; and that intercity buses can reach between 118 and 215 passenger-miles per gallon at 55% and 100% load factors. These figures are given in NTPSC, Amtrak, p. 68.

101. NTPSC Final Report, p. 300, and NTPSC, Amtrak, p. 72.

102. Energy Insider, Department of Energy, September 17, 1979, p. 6.

103. One estimate of emission factors is:

Mode	Pollutants (lbs. per passenger-mile)				
	CO	HC	NO^x	SO_x	Particulates
Rail					
Long distance diesel	.00409	.00225	.01068	.00130	.00057
Short distance diesel	.00186	.00102	.00484	.00058	.00025
Electric Metroliner	--	--	.00054	.00022	.00004
Air					
DC-9-30	.00146	.00112	.00060	.00026	.00010
Medium-range jet	.00052	.00013	.00007	.00017	.00013
Jumbo Jet	.00144	.00033	.00237	.00030	.00011
Intercity Bus	.00134	.00022	.00224	.00016	.00008
Auto					
Short distance	.05500	.00704	.00539	.00022	.00064
Long distance	.04400	.00563	.00431	.00018	.00051

SOURCES: U.S. EPA, Supplement No. 5 for Compilation of Air Pollution Emission Factors, 2nd Ed. Research Triangle Park, N.C.: 1975; U.S. DOT, Environmental Impact Statement for High Speed Rent in the Northeast Corridor, Washington, D.C.: 1973.

104. Examples of such computations are given in NTPSC Final Report, p. 300; and NTPSC, Amtrak, p. 79.

105. Clean Air Act Amendments of 1978, Pub. L. 95-95, 91 Stat. 685. NTPSC Final Report, Chapter 7, discusses the trend to dieselization and its environmental consequences.

106. NTPSC Final Report, p. 114.

107. Ibid, p. 114 and p. 126.

108. In 1978, total transportation fatalities were 53,803, according to the U.S. DOT Transportation Safety Information Report, Washington, D.C.: March 1979, p. 2. Of these, 50,145 were highway traffic related. Yet, intercity buses account for a small portion of these highway fatalities. For example, in 1977, Class I carriers accounted for 6 deaths. Passenger fatalities per 100,000,000 passenger-miles have fallen for Class I intercity buses, from 0.17 in 1972 to 0.01 in 1976, according to the American Bus Association, compared to rates of 1.3 for automobiles, 0.05 for rail and 0.003 for air in 1976 (ABA, America's Number 1 Passenger Transportation Service, Washington, D.C.: 1977.

108 (Continued)

The Transportation Association of America publishes quarterly a report showing these fatality rates, in its Transportation Facts and Trends, Washington, D.C. Additional detail on intercity bus accidents giving data on the highway environment, the time and place the driver, the vehicle, and the accident appear in FHWA/Bureau of Motor Carrier Safety, Accidents of Motor Carriers of Passengers, Washington, D.C.: (annual).

109. Examples of such analysis appear in the NTPSC Final Report, p. 300, and NTPSC, Amtrak, pp. 60-64.

110. For more detail on government safety programs and regulations see NTPSC, State and Local and NTPSC, Compendium, and Wisconsin DOT Intercity Bus Transportation in Wisconsin, Vol. III, Federal and State Regulations, Plans, and Programs, Madison, Wisc.: January 1977.

111. For information on judgementally determined insurance rating factors for intercity buses used as social service vehicles, the Insurance Services Office, 160 Water Street, New York, N.Y. 10038 may be contacted.

112. Wisconsin DOT Intercity Bus Transportation in Wisconsin, Vol. I Service and Operating Characteristics, Madison, Wisc.: December 1976: pp. 13-15.

113. Wisconsin DOT Intercity Bus Transportation in Wisconsin, Vol. II, User Characteristics, Madison, Wisc.: April 1977, pp. 12-16, 38.

114. Urban Mass Transportation Act of 1964, as amended, Section 21.

115. 42 U.S.C. 3121.

116. NTPSC Final Report, Chapter 10.

117. 45 U.S.C. 853.

118. See Intercity Bus Transportation in Small Communities, prepared by Policy Management Associates at the request of Senator Howard Cannon, Chairman, U.S. Senate Committee on Commerce, Science, and Transportation, Washington, D.C.: U.S. GPO, July 1978.

119. Pub. L. 93-112, 87 Stat. 355 and 49 CFR 27.

120. 49 U.S.C. 1612(b) and Federal Aid Highway Act of 1973, Section 147, Pub. L. 93-87, 87 Stat. 250.

121. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Vol. II, User Characteristics, Madison, Wisc.: April 1977, pp. 18-21.

122. Ibid., p. 41.

123. Pub. L. 74-255, 79 Stat. 543.

124. 49 U.S.C. 20706(b)(1978).

125. Between 1960 and 1970, intercity buses showed a very stable rate of return averaging about 13 percent, the highest and most stable rate for passenger carriers. See the U.S. DOT 1972 National Transportation Report, Washington, D.C.: 1972, pp. 42, 44.

126. U.S. DOT, National Transportation: Trends and Choices (to the Year 2000), Washington, D.C.: January 1977, p. 155 (hereinafter cited as DOT, Trends and Choices). Also U.S. Congress, Intercity Bus Service in Small Communities, p. 27.

127. ICC, Intercity Bus Industry, p. 18.

128. Committee on Commerce, Science and Transportation, Intercity Domestic Transportation System for Passengers and Freight, Washington, D.C.: Government Printing Office, 1977, p. 377.

129. ICC, Intercity Bus Industry, p. 108.

130. U.S. Congress, Intercity Bus Service in Small Communities, p. 1.

131. Ibid., p. 19.

132. ICC, Intercity Bus Industry, pp. 22-3.

133. Committee on Commerce, Intercity Domestic Transportation, p. 328.

134. DOT, Trends and Choices, p. 153.

135. See, for example, the statement of national transportation policy (actually a list of goals) contained in 49 U.S.C. 10101 (1978).

136. 49 U.S.C. 304 and 29 CFR 782.2(b)(3).

137. For a complete listing, refer to NTPSC, Compendium.

138. See Wisconsin DOT Intercity Bus Transportation in Wisconsin, Vol. III, Federal and State Regulations: Plans and Programs, Madison, Wisc.: January 1977, pp. 18-36.

139. Remarks by Senator Howard Cannon, at the ICC Federal-State Workshop on Motor Carrier Regulation, Reston, Va.: October 22, 1979.

140. Ex Parte MC 121, Motor Carrier Regulation, October 17, 1979.

141. This is part of a three-part entry test established in Pan American Bus Lines Operation, MCC 190, 203 (1936).

142. "ICC Eases Its Rules About Market Entry By Bus, Truck Lines," Wall Street Journal, October 18, 1979, p. 18.

143. Traffic World, October 22, 1979, p. 38.

144. Ex Parte MC-126, General Temporary Authority--Regular Passenger Operations, July 11, 1979, and General Temporary Order No. 18.

145. Blue and Grey Transit, Inc. et al. v. U.S.A. and Interstate Commerce Commission, Civil Action No. 79-1414, U.S. Court of Appeals for the Fourth Circuit, Richmond, Va.: July 31, 1979.

146. Traffic World, July 23, 1979, p. 81.

147. Traffic World, October 1, 1979, p. 93.

148. Traffic World, October 1, 1979, p. 48. The route segment involved was Meridian, Mississippi--Montgomery, Alabama, a segment for which Greyhound is also seeking permanent authority.

149. Traffic World, October 22, 1979, p. 49. The ICC staff study is: Report of the Bus Industry Study Group, Regulatory Reform Measures, Washington, D.C.: ICC, October 1979.

150. MC-F-8531, California Parlor Car Tours Co.-Purchase-The Greyhound Corporation, November 6, 1979.

151. Traffic World, November 20, 1978, pp. 48-9.

152. ICC Docket No. 36991, Request for Rulemaking on the Flexibility of Charter Prices, filed July 31, 1978.

153. ICC Docket No. 36990, Downward Fare Flexibility in the Intercity Passenger Market, filed July 31, 1978.

154. ICC Docket No. 37074, Petition of Trailways, Inc. for the Institution of Rulemaking Proceedings Regarding Upward Fare Flexibility in the Intercity Passenger Market, November 14, 1978.

155. Traffic World, November 20, 1978, p. 80.

156. Wall Street Journal, July 6, 1979, p. 10.

157. Traffic World, October 8, 1979, p. 82.

158. Traffic World, October 1, 1979, p. 72.

159. ICC, Office of Proceedings, Option Paper on Section 5(a) Application No. 9-A, National Bus Traffic Association, Inc.--Agreement, December 1978, p. 15.

160. 49 U.S.C. 10706(b) (1976).

161. U.S. v. Southern Motor Carriers Rate Conference, et al., Civil Action No. 76-1909A, U.S. District Court for Northern Georgia.

162. ICC, Office of Proceedings, Options Paper.

163. Ex Parte 311, Expedited Procedures for Recovery of Fuel Costs, Special Permission No. 79-2800, October 12, 1979.

164. Appendix to Suspension Case No. 69440, Increased Intercity Passenger Fares and Express Rates, September 1979, September 16, 1979.

165. I. and S. M-29718, Increased Bus Fares and Express Rates, Nationwide, January, 1978, August 9, 1979.

166. I. and S. M-29372, Prohibitions and Limitations on Shipments of Articles, March 1978.

167. National Bus Traffic Association, Inc. v. I.C.C. and U.S.A., Civil Action No. 78-1163, U.S. Court of Appeals for the District of Columbia, September 12, 1979.

168. Ex Parte MC-37, Sub. 29, Terminal Areas for Express Shipments by Bus, October 1977.

169. Purolator Corporation v. I.C.C. and U.S.A., Civil Action No. 77-1974, U.S. Court of Appeals for the District of Columbia, February 1, 1979.

170. Ex Parte MC-120, Petition to Relax Entry on the Transportation of Small Shipments Weighing 500 Pounds or Less, November 1978.

171. Traffic World, November 11, 1978, p. 79.

172. Traffic World, September 17, 1979, p. 44.

173. 49 CFR 1063 (1978).

174. No. 36745, Petition for Investigation--Bus Terminal of the Port of New York and New Jesey, December 21, 1978.

175. MC-C-8619, Transport of New Jersey, et al.--Investigation of Operations and Practices, June 1978.

176. Traffic World, January 1, 1979, p. 22.

177. Wisconsin DOT Intercity Bus Transportation in Wisconsin, Vol. I, Service and Operating Characteristics, p. 14.

178. Donald V. Harper, Transportation in America: Users, Carriers, Government, Englewood Cliffs, N.J.: Prentice-Hall, 1978, p. 485.

179. An example is Pennsylvania Greyhound Lines, Inc. v. American Bus Lines, Inc., 52 MCC 117 (1950), discussed in Benjamin J. Allen and Denis A. Breen, "The Nature of Motor Common Carrier Service Obligations," ICC Practitioners' Journal, May-June 1979, pp. 526-549. A thorough treatment of the exit issue, including reference to state and Federal regulations, is found in Edward L. Ramsdell, An Analysis of Ease of Exit from Providing Intercity Regular Route Bus Service, prepared for U.S. DOT, Washington, D.C.: November 1977 (hereinafter cited as Ramsdell, An Analysis).

180. Ramsdell, An Analysis, p. 3-3.

181. Washington Post, June 20, 1978, P.E.-4.

182. GAO, Hindrances to Coordinating Transportation of People Participating in Federally Funded Programs, Washington, D.C.: 1977.

183. NTPSC, Compendium, p. C-13.

184. Ibid., p. C-23.

185. Airline Deregulation Act of 1978, Pub. L. 95-504, 92 Stat. 1705 (1978).

186. Traffic World, August 14, 1978, p. 29.

187. The White House "Fact Sheet on the President's Program" and "Transportation Energy Initiative", Washington, D.C.: April 5, 1979.

188. The White House, Rural Development Initiatives--Improving Transportation in Rural America, Washington, D.C.: June 1979.

189. H.R. 5375 "The Transportation Systems Efficiency Act of 1979," 96th Cong., 1st Sess.

190. The report was required by Section 323 of the Surface Transportation Assistance Act of 1978 (Pub. L. 95-599).

191. For example, DOT's filing in the ICCs Ex Parte MC-126, General Temporary Authority--Regular Route Passenger Operations, June 13, 1979 favored the expansion of temporary intercity bus routes, together with innovative pricing and service options.

192. Ex Parte MC 121, October 17, 1979.

193. Russell's Official National Motor Coach Guide, Cedar Rapids, Iowa: Russell's Guides Inc., Quarterly.

194. Intercity Bus Service in Small Communities, prepared at the request of Sen. Howard W. Cannon, Chairman, Senate Committee on Commerce, Science and Transportation, Washington, D.C.: July 1978.

195. See, for example, Wisconsin DOT, Intercity Bus Transportation in Wisconsin (6 Volumes), Madison: 1976-7; Iowa DOT, Intercity Passenger Carrier Improvement Study (Prepared by Engineering Research Institute, Iowa State University), Ames, Iowa: August 1977; Caltrans, "Transportation Planning Program--California" Prepared for TRB Conference on Intercity Bus Issues, Washington, D.C.: July 24, 1979; Norman R. Schneider, New York State DOT, "New York State's Approach to Identifying Intercity Bus Service and Facility Needs" Prepared for TRB Conference on Intercity Bus Issues, Washington, D.C.: July 24, 1979; Michigan Department of State Highways and Transportation, Michigan Intercity Bus Study: Ridership and Travel Characteristics, Lansing, Michigan: 1977; and Oregon DOT, Oregon Intercity Bus Passenger Study, Salem, Ore.: December 1976.

196. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Vol. I, Service and Operating Characteristics, Madison, Wisc.: December 1976.

197. Norman R. Schneider, "New York State's Approach to Identifying Intercity Bus Service and Facility Needs," p. 11.

198. Committee on Commerce, Science and Transportation, Intercity Domestic Transportation System for Passengers and Freight, Washington, D.C.: Government Printing Office, 1977, pp. 81-82.

199. Taff, Charles A., Commercial Motor Transportation, Fifth edition, Cambridge, Md.: Cornell Maritime Press, Inc., 1975 p. 403.

200. Committee on Commerce, Intercity Domestic Transportation System for Passengers and Freight, p. 82.

201. Ibid.

202. Ibid.

203. Ibid.

204. Ibid.

205. Wisconsin DOT, Intercity Bus Transportation in Wisconsin, Volume III, Federal and State Regulations, Plans and Programs, Madison, Wisc.: 1977, p. 2.

206. National Association of Regulatory Utility Commissioners, 1977 Annual Report on Utility and Carrier Regulation, Washington, D.C.: NARUC, 1978, p. 630, Table 77, "Regulation of Motor Passenger Carriers".

207. Ibid.

208. Ramsdell, Edward L., An Analysis of Ease of Exit From Providing Intercity Regular Route Bus Service, prepared for U.S. Department of Transportation, Transportation Systems Center, Cambridge, Mass.: November 1977, pp. 4-1, 4-2.

209. Ibid., p. 4-1.

210. Ibid., p. 4-2.

211. ICC, The Intercity Bus Industry, p. 104.

212. Ibid.

213. Inter-Office Memorandum from Ken White to B.L. Peyton, Greyhound Lines, Inc., June 1, 1978.

214. Letter to NTPSC from Ken White, Director, Operations Programs, Greyhound Lines, Inc., September 22, 1978.

215. Ibid., pp. 102-3.

216. Ramsdell, An Analysis, p. 4-2.

217. For example, the Airline Deregulation Act of 1978 had such a clause.

218. Letter to NTPSC from Norman R. Sherlock, ABA, dated March 14, 1978. Another expression of these policies appears in Arthur D. Lewis, "Statement of the ABA" before the Senate Committee on Banking, Housing and Urban Affairs, March 3, 1978 (available from ABA).

219. Letter to NTPSC from Norman Sherlock, ABA, March 14, 1978.

220. Financial Condition of the Intercity Motor Bus Industry, Hearings before the Subcommittee on Surface Transportation, U.S. Senate, 95th Cong. 1st Sess., June 16, 1977, page 41-2.

221. "Statement of Charles Webb" before the Subcommittee on Surface Transportation, U.S. House of Representatives, May 24, 1977, pages 2 and 6.

222. Energy Tax Act of 1978, Pub. L. 95-618.

223. See, for example, Traffic World, October 24, 1977, p. 32.

224. "Statement of Fred G. Currey" Before the Subcommittee on Surface Transportation, U.S. House of Representatives, May 24, 1977, p. 6.

225. James C. Schultz, "Intercity Passenger Market, Public vs. Government Regulation," Trailways, December 11, 1978, (hereinafter cited as Schultz, Intercity Passenger Market) and J. Kevin Murphy, "Deregulation. . . The Choice for the Future of Intercity Bus Transportation," Before the National Association of Regulatory Utility Commissioners, Las Vegas, Nev.: November 13, 1978 (hereinafter cited as Murphy, Deregulation).

226. Schultz, Intercity Passenger Market, p. 1.

227. Ibid., p. 7.

228. Ibid., p. 7.

229. Ibid., p. 11.

230. Murphy, Deregulation, p. 22.

231. Ibid., p. 23.

232. Ibid., p. 24.

233. Ibid., p. 27.

234. Robert Dodge, "Kerrigan's Hard Drive After Changing Buses," Washington Post, September 2, 1979, pages G-1 and G-4.

235. Ibid.

236. See, for example, "Statement of John E. Adkins, Group Vice President--Transportation, Greyhound Corporation" Before the Subcommittee on Surface Transportation, U.S. House of Representatives, May 24, 1977.

237. NTPSC internal memorandum, dated October 13, 1978, describing the meeting of September 15, 1978.

238. Transportation Remuneration Incentives Program, a joint Federal-state program that provided, among other subsidies, user subsidies in the form of transportation stamps. These stamps could be used for purchase of intercity bus services. Fur further detail, see NTPSC State and Local, pages 10 and 38.

239. Letter to NTPSC from Ken R. White, Director, Operations Programs, Greyhound Lines, Inc., dated September 22, 1978.

240. Ibid.

241. Ibid.

242. Remarks by H. Lester Creech, President, Carolina Coach Company at the TRB Conference on Intercity Bus Issues, Washington, D.C.: July 24, 1979, p. 5.

243. Ibid., p. 6.

244. Ibid., p. 7.

245. TAA, Transportation Facts and Trends, ICC, Bureau of Accounts, Financial and Operating Statistics, Class I Motor Carriers of Passengers, Washington, D.C.: (semi-annual); and American Bus Assiciation, America's Number 1 Passenger Transportation Service, Washington, D.C.: (annual).

246. Sources of data were ICC, Intercity Bus Industry (which in turn reported findings of the 1972 Census of Transportation); and the Michigan Department of State Highways and Transportation, Michigan Intercity Bus Study: Ridership and Travel Characteristics, Lansing, Mich.: November 1977.

247. Indian Trails, Inc., Wisconsin-Michigan Coaches, Inc., (both Class I). Brooks Bus Line, Inc., Deltabus Co., Inc., Empire Bus Line, Indiana Motor Bus Co., North Star Line, Inc., Short Way Lines, Inc., Valley Coach Line, Inc., (all Class II). Bee Line, Inc., Mercury Bus Lines, Inc., White Pine Transit Co. (all Class III). Because data describing Greyhound operations were not disaggregated to show only those operations in Michigan, Greyhound has been excluded from the total Michigan data and computations.

248. ICC, The Intercity Bus Industry, p. 136.

249. Michigan Department of State Highways and Transportation Legislative Program Book, Lansing, Mich.: 1978, p. 127 (Hereafter cited as Legislative Program Book.)

250. Michigan Department of State Highways and Transportation testimony before the Subcommittee on Surface Transportation, Committee on Commerce, Science and Transportation, U.S. Senate, June 16, 1977. (Hereafter cited as U.S. Senate hearings).

251. Legislative Program Book, p. 38.

252. Conversation with Mr. Rudnick, Administrator, Intercity Passenger Service Division, Michigan Department of State Highways and Transportation, September 1978.

253. U.S. Senate hearings, p. 88.

254. The Indian Trails service fromn Saginaw to Chicago and the Greyhound service from Muskegon to Chicago did generate revenues in excess of wheel costs, but not sufficient revenue to cover overhead costs.

255. U.S. Senate hearings, p. 88.

256. Obtained from Mr. Robert Seidler, Indian Trails Inc., October 1978.

257. All data for Indian Trails obtained from Mr. Seidler.

258. ICC, The Intercity Bus Industry, p. 79.

259. Legislative Program Book, p. 39.

260. Ibid., p. 11.