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THE INTERCITY BUS INDUSTRY: AN ANNOTATED BIBLIOGRAPHY

by

Michael Kyte

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## THE INTERCITY BUS INDUSTRY: AN ANNOTATED BIBLIOGRAPHY

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Michael Kyte

Special Report 20

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## FORWARD

This annotated bibliography of works on the intercity bus industry was compiled by Michael Kyte, research assistant at the Institute of Urban and Regional Research and doctoral candidate in Systems Engineering, as a part of a project sponsored by the Legislative Extended Assistance Group (LEAG) for the Iowa legislature. The legislature has established an interim study committee that will deal with intercity bus issues, including questions concerning the transportation needs of smaller communities. The committee will meet during the fall of 1983 and will make legislative recommendations to the 1984 Iowa General Assembly. LEAG will be supporting the study committee and providing information for their review.

This bibliography proceeds from two earlier ones compiled under my direction: first, in 1977 by Richard K. Taube for the Wisconsin State Department of Transportation; and second, in 1979 by Janice Bain for the National Transportation Policy Study Commission. (Ms. Bain later updated her bibliography in 1981 for the Transportation Research Board.)

This bibliography also utilizes recent material from the Highway Research Information Service, made available to us by the Iowa Department of Transportation, and information from the California Department of Transportation's 1983 <u>Update</u> to that state's intercity bus plan. In addition, many knowledgeable individuals have helped in the preparation of this bibliography by bringing articles and reports to our attention.

It is anticipated that this bibliography will be further expanded as research on the industry proceeds in the next few months, and a revised version will be produced by the end of 1983. I would appreciate having the reader bring additional items to my attention so they can be considered for inclusion in that revised report.

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John W. Fuller Executive Director Legislative Extended Assistance Group



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## 1. BIBLIOGRAPHIES

National Transportation Policy Study Commission. <u>The</u> <u>Intercity Bus Industry: A Bibliography</u>. Working Paper No. 10. Washington, D.C.: National Transportation Study Commission, May 1979.

Guide to current bibliographic resources on the subject of intercity buses.

North Carolina A&T State University. Transportation Institute. Rural Public Transportation Bibliography. Greensboro, 1976.

Wisconsin. Department of Transportation. Division of Planning. <u>Intercity Bus</u> <u>Transportation in Wisconsin. Volume V-</u> Bibliography. Madison, 1977.



## 2. STATISTICS

X.

Aerospace Corporation. Environment and Energy Conservation Division. Characterization of the U.S. Transportation System. Vol II - Highway Transportation, Autos, Trucks, Buses, Motorcycles, Bicycles. ITS Report No. ATR-77(7398)-1. Prepared for the Transportation Conservation Division, U.S. Energy Research and Development Administration. El Segundo, California: 1977.

Data for the intercity bus industry is presented describing physical state (size of fleet, etc.), use, economics, and energy use and intercity measures.

American Bus Association. <u>America's Number One Passenger</u> Transportation Service. Washington, D.C., annual.

Annual statistical report incorporating and representing a continuation of Bus Facts, published by the National Association of Motor Bus Owners, which on September 19, 1977 changed its name to the American Bus Association. Publication contains operating and financial data for Class I carriers.

American Bus Association. Bus Facts: Intercity Bus Industry in 1981 and Decade of '70's". 1982 edition.

The Boeing Company. An Overview of Transportation in the United States. Seattle, 1977.

Bramlett, N.K. Private Intercity Bus Operations in North Central Texas. Technical Report No. 12. North Central Texas Council of Governments, April 1978.

The purpose of this study is to provide a comprehensive source of information on the private intercity bus service available to the citizens of North Central Texas. Information is presented on the companies providing the service, how they can be contacted, which places have service, ticket costs, routes, and terminal facilities, as well as the regulatory framework controlling the companies. Extensive data is included on these topics.

Hausman Bus Sales. "State-By-State Bus Charter Operations Guide." Metropolitan, March-April 1983, pp. 42-46.

Includes size and weight data, fuel tax, authority and insurance

information.

Jackson, A.F., and D.J. McKelvey. <u>Transit</u> <u>Problems in Small Cities</u> and <u>Non-Urbanized Areas</u>: <u>Inventory of Transportation Services</u> in <u>Places Less than 10,000</u> <u>Populations Outside of Urbanized</u> <u>Areas</u>. North Carolina Agricultural and Technical State University (UMTA-NC-11-0004-79-1), April 1978.

This report summarizes the type and level of transportation services (all modes) available in places between 2500 and 10,000 population outside of urbanized areas in the 48 contiguous states and the number of such services serving these communities.

Michigan. Department of State Highways and Transportation. Mass Transportation Planning Section. <u>Michigan</u> <u>Intercity</u> <u>Bus</u> <u>Study</u> <u>Ridership</u> and <u>Travel</u> <u>Characteristics</u>. Lansing, Michigan, 1977.

Motor Vehicle Manufacturers Association of the United States, Inc. Motor Vehicle Facts and Figures. Detroit, annual.

Presents statistics on bus production, ownership, economic impact, and energy consumption.

National Association of Motor Bus Owners. <u>1926-1976</u>: <u>One-Half</u> <u>Century of Service to America</u>. Washington, D.C., 1977. (This was NAMBO's 1976 Annual Report)

National Research Council. Assembly of Engineering Committee on Transportation. "Appendixes on Potential Corridors." Part IV of <u>A</u> <u>Review of Short Haul Passenger Transportation</u>, 71-132. Washington, D.C.: National Academy of Sciences, 1976.

Presents data from various intercity corridor travel studies.

Ramsdell, E.L., "Assessment of Motor Carriers of Passengers: Statistical

Data filed with the ICC." In Transportation Research Forum. Proceedings of the Nineteenth Annual Meeting, October 24-26, 1978, 430-437. New York, New York. Oxford, Indiana: R. B. Cross Co., 1978.

Ring, S.L., R.L. Carstens, and J.D. Grove. "Data Requirements for An Analysis of Intercity Passenger Travel By Bus." <u>Transportation</u> Research Record 677 (1978): 68-72.

Report describes data collected from a sample of intercity bus

ticket sales from 23 communities in Iowa for a summer month and data from a metropolitan station to indicate seasonal variations in travel demand and reliability of service. The data presented includes bus tickets sold in selected Iowa cities during a typical summer month in 1976, daily travel as a percent of monthly travel for express and nonexpress bus services, a matrix of origin-destination trip interchanges between 23 Iowa cities, on-time schedule performance, and trip length frequency.

Roche, G., and Lago, A.M. <u>Intercity Passenger Transportation</u>: <u>Mode/Energy Conservation</u>. RMC Research Corporation. Rept UR-286, 2 volumes, December 1975.

Includes sections on intercity passenger data from the National Transportation Study, development of intercity passenger demand models, energy conservation policies and their impacts, evaluation of alternative energy conservation policies. Data includes all modes of intercity travel including auto, bus, train, and air. Bus travel accounted for 0.5% of all trips.

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

Index to motor bus lines in the U.S., Canada, and Mexico. Schedules by company name and an index to bus station roundtrip fare tables.

Schmieg, A.L. "Intercity Bus Accident Statistics Gathered by the National Transportation Safety Board." Presented at 1982 annual

meeting of Transportation Research Board.

Description and NTSB analysis of four bus accidents. The safety issues identified included lack of safety controls relating to commuter bus operations; conflicts and control between charter bus operations management and tour directors; the need for more specificity for vehicle inspection standards; the need for fail-safe protection of vital components of motor vehicles.

Transportation Association of America. <u>Transportation Facts and</u> Trends. Washington, D.C., annual plus quarterly supplements.

General statistical profile of Class I carriers.

U.S. Department of Transportation. Transportation Systems Center. <u>Intercity Bus Trip-Length Distributions From Selected Cities</u>. Cambridge, Mass., 1975. Statistical information on trip-length distributions of Greyhound's passengers originating in four cities during July 1975. Information permits estimation of trip lengths, suggests differences in market characteristics of the origin cities, quantifies the relative volumes of commuter and individually-ticketed travel in these four cities and shows the impact of the commuter traffic on the average length of haul (p. 1-1).

- U.S. Department of Transportation. Transportation Systems Center. <u>A Study of Procedures Used by Selected Class I Bus Lines to</u> <u>Comply with Statistical Report Requirements of the</u> <u>Interstate Commerce Commission</u>. By E. L. Ramsdell. Cambridge, Mass., 1976.
- U.S. Interstate Commerce Commission. Bureau of Accounts. <u>Large Class I Motor Carriers of Passengers Selected Earnings</u> <u>Data: Quarter Ended December 31 and Twelve Months Ended</u> December 31, 1977. Washington, D.C., 1978.
- U.S. Interstate Commerce Commission. Bureau of Accounts. <u>Transport Statistics in the United States</u>: <u>Part 2</u> (Second <u>Release</u>)--Motor <u>Carriers</u>. Washington, D.C.: Government Printing Office, annual.

Financial data on Class I carriers.

Urbanik, T. II, P. Bass, and K. Marshall. "Intercity Bus Riders in Texas." <u>Transportation Research Record</u> 887 (1982): 37-42.

This paper includes summary information obtained from an on-board intercity bus survey performed in selected locations throughout Texas. The purpose of the survey was to gain insight into the socioeconomic and travel characteristics of intercity bus passengers in Texas. The survey instrument was also designed to collect data on general attitudes concerning service and fares and to identify the features of the existing service that are most important in generating ridership.

## 3. ECONOMIC ANALYSIS

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Allen, G.R. <u>An Analysis of State Imposed Taxes and Fees on Motor</u> <u>Carriers of Passengers</u>. VHTRC 80-R16. Virginia Highway and Transportation Research Council, Charlottesville, Virginia, October 1979.

R. J. Barber Associates, Inc. <u>An Analysis of COWPS Test for</u> <u>Economies of Scale in the US Intercity Bus Industry</u>. Washington, D.C., 1980.

Beesley, M.E., and J. Politi. "A Study of the Profits of Bus Companies." Economica New Series 36 (1969): 151-171.

Berechman, J. "Cost, Economies of Scale and Factor Demand in Road (Bus) Transport." Journal of Transport Economics and Policy 18,1 (1983): 7-24.

The main purpose of this paper is to analyze the cost structure of bus passenger transportation, and, in particular, cost elasticities the demand for factors of production, factor substitution, and economies of scale. The model used for estimating these elements is a derivative of the generalized translog multiproduct cost function. The data are time series in nature. Serious shortcoming in this study: only two factors of production were used, labor and capital. It should be noted that both intercity and intracity passenger data were used but the nature of bus transit services in Israel makes it difficult to differentiate between these two categories.

The author criticizes past studies in this field for a narrow focus and use of an outdated methodological framework for analysis. "None of these studies directly estimates the industry demand function for factors of production or attempts to analyze factor substitution and price elasticities, which are of major importance for the design of efficient transit policies." Another weakness is that most previous studies were cross-sectional in nature, generally weighting each company analyzed equally, regardless of its structure. Past studies also show no evidence for economies of scale; in fact some evidence indicated that diseconomies of scale existed. This current study shows that some economies of scale in fact do exist. One of the problems with past studies could be that cost differences associated with increase in the size of bus operators were examined rather than increases in their level of output, which is related to demand.

#### Conclusions:

1. Production of bus services probably cannot be estimated accurately by a Cobb-Douglas type function.

2. The technology of production of bus services is that of fixed proportions of factors (labor to capital).

3. Economies of scale in the provision of bus services in Israel do exist. This finding may be due to the nature of the Israeli situation and should not as yet be generalized.

Broderick A.J., P. Davis, L. Leist, H. Miller, E. Klaubert. <u>Effect of</u> <u>Variation of Speed Limits on Intercity Bus Fuel Consumption, Coach</u> <u>and Driver Utilization, and Corporate Profitability</u>. Transportation System Center (Final Report DOT-TSC-PST-75-41), Cambridge, Mass., November 1975.

Fravel, D.F. "Returns to Scale in the U.S. Intercity Bus Industry." In <u>Transportation Research Forum</u>. <u>Proceedings of the Nineteenth</u> <u>Annual Meeting</u>. Oxford, Indiana: R. B. Cross Co., 1978.

A model utilizing the Cobb-Douglas production function is applied to measures of intercity bus industry costs, revenues and operations to test the hypothesis that economies of scale exist in the operation of this mode.

Fravel F.D., H. Tauchen, and G. Gilbert. "Regulatory Policy and Economies of Scale in the US Intercity Bus Industry." <u>Transportation</u> 11, 2 (1982): 173-187.

Abstract: "After nearly a half century of federal and state regulation, the U.S. intercity bus industry is the subject of proposals which would drastically reduce the extent of governmental control over fare setting, service abandonment, and market entry. An essential requirement for understanding how these regulatory changes might affect the industry is knowing the extent to which economies of scale are present in the provision of intercity bus services. This paper reports on the analysis of economies of scale for both Class I firms and for Class II and III firms. The results show nearly constant returns to scale beyond very low output levels but very strong dependence on the mix of charter and regular route service provided.

"This paper reports on research designed to address fundamental questions of public regulatory policy. In order to understand how alternative regulatory changes might affect the industry, it is necessary to understand the economic nature of the industry. In particular, it is necessary to know whether certain sizes or types of firms enjoy scale economies which might be exploited to the detriment of other firms in a less regulated environment, resulting in a less competitive market structure. It is this central concern of whether economies of scale exist which is examined.

Conclusions:

1. The translog-type function is a more appropriate cost function for the intercity bus industry than is the Cobb-Douglas function. However, neither specification provides support for concluding that the intercity bus industry exhibits significant economies of scale with regard to producer costs. 2. The existence of economies of scale depends strongly on the level of output and the mix of service types provided. 3. In the output range of Class I firms, there are constant returns to scale for proportional increases in all services. 4. For Class II and III firms, low levels of output -approximately bounded by the mean firm size -- experience substantial economies of scale. Larger outputs are characterized by slight diseconomies of scale. 5. The effect on cost of a change in the product mix depends on the combination and level of service produced. For most firms in the Class I and the Class II and III samples, a switch to more charter service raises the per-mile costs and a switch to more regular route lowers the per-mile costs.

Gilbert, G., and F. Fravel. Economies of Scale in the US Intercity Bus Industry. Chapel Hill: North Carolina University, 1980.

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The objective of this study is to analyze the cost structure of different sizes and categories of intercity bus firms to determine whether economies of scale exist within the industry.

Heels, P., and P.R. White. <u>Fare Elasticities on Interurban</u> and <u>Rural</u> <u>Bus Services</u>. Monograph, Polytechnic of Central London, Feb. 1977.

The principal aim of this study was to establish a series of

values for fare elasticity for different types of bus service outside major urban areas.

Hibbs, J. The Bus and Coach Industry: Its Economics and Organization. London: London, 1975.

Michigan State University, et. al. <u>An Analysis of the Intercity</u> <u>Bus Industry and the Michigan Bus Subsidy Program</u>, National Transportation Policy Study Commission, UM-HSRI-78-60, September 1978.

This study was conducted to identify and corroborate the central economic and regulatory issues facing the US intercity bus industry in the late 1970's. It examined the Michigan Intercity Bus Assistance Program largely from the perspective of participating carriers, who were extensively interviewed. The demographics of ridership in Michigan and the US were reviewed and the impacts of the Michigan program on bus

ridership and finances were assessed. As an aid to future intercity bus transportation planning in Michigan, linear regression analyses were used to clarify relationships between ridership and population, and ridership rates and levels of service. Specific policy recommendations for state and federal planners are offered.

Mulvey, F.P. <u>Predatory Pricing in Intercity Passenger Transporation</u> <u>Markets: Amtrak vs. Greyhound.</u> Working Paper No. 35. Iowa City, Iowa: Institute of Urban and Regional Research, The University of Iowa, 1981.

HRIS Abstract: "The author presents arguments for the contention that Amtrak is indeed in competition with private intercity bus carriers, that Amtrak's policy of promoting ridership at the expense of economic efficiency has harmed bus carriers, and that this could adversely affect the traveling public as a whole. He cites data which indicate that there is significant cross-elasticity of demand between rail and bus riders and that Amtrak does not maximize revenue given competitive conditions. Concern is expressed that the current situation could lead to cutbacks in bus service to rural areas not served by rail due to revenue decreases in the urban corridor bus service which subsidizes it and which competes with Amtrak. Such cutbacks would offset the minimal (if not nonexistent) social gains affected so far by Amtrak."

Mulvey, F.P. "The Nature of Rail/Bus Competition in Interurban Passenger Transport Markets." In <u>Transportation Research</u> <u>Forum. Proceedings of the Twenty Second Annual Meeting</u>, New York, New York. Oxford, Indiana: R. B. Cross

Co., 1982.

Mulvey, F.P. "Small Bus Carrier Performance 1972-1981". Presented to Transportation Research Forum, October 1982.

There are more than 1500 firms in the US most of which specialize in non-regular route services. This study analyzed 40 non-class I carriers which had been business at least ten years. Profile of the small bus firm in 1981: 30 buses, 59 employees, 1.3 million miles of service, 190,000 riders, \$1.8 million in passenger revenues. Paper includes an analysis of general trends, ridership and service levels, labor and capital equipment revenues and expenses, and productivity trends. Several output models were developed using multiple linear regression techniques for a production function and total and average cost functions. This output and cost analysis provided useful insights into the small carrier: constant returns to scale at best for a small carrier; unit costs are somewhat higher for high-wage firms; unit costs vary inversely with labor productivity and proportion of total operations in charter and special operations.

Northwestern University, Department of Civil Engineering, study in progress funded by U.S.D.O.T. on cost or supply side aspects of intercity passenger transportation, all modes to be considered, no date.

Pinkston, E. A. <u>The Intercity Bus Transportation</u> <u>Industry: An Industrial Organization Study</u>. Ann Arbor, Mich.: University Microfilms, 1975.

Examines the structure of the intercity bus industry in relation to the governmental regulatory policies which affect it. Examines cross-subsidization within the industry; entry and expansion; fares; and service performance. Policy recommendations are offered, especially regarding deregulation of the industry.

Reschenthaler, G.B. "Measuring the Extent of Cross-Subsidization by Intercity Bus Lines: A Canadian Case Study." <u>The Logistics</u> and Transportation Review, 17, 3 (1981): 313-326.

This paper addresses the question of cross-subsidization as it relates to the intercity bus industry in Alberta. The figures indicate that there is relatively little cross-subsidization and that the total dollar amount is probably less than the Province of Alberta collects in bus passenger taxes. This being the case, the author concludes that more competition could be allowed in the bus industry. Includes four tables of route and system data, and seven references.

"In conclusion, our analysis indicates that there is very little cross subsidization in the Alberta market. If the Alberta market is representative, then cross subsidization accounts for but one or two percent of intercity carrier revenues in Canada. This appears to be too small an amount to justify the comprehensive system of provincial economic regulation that currently exists in Canada."

Taube, R. Intercity Bus Transportation, NTPSC Special Report 7, November 1979. Available from Institute of Urban and Regional Research, The University of Iowa, Iowa City, Iowa.

This report discusses the current economic structure and performance of the intercity bus industry with special emphasis on recent trends and sources of data. Forecasts of future performance are given based on continuation of present trends. Policy recommendations proposed by NTPSC and the ICC are discussed.

Tauchen, H., F.D. Fravel, and G. Gilbert. "Cost Structure of the Intercity Bus Industry." Journal of Transport Economics and Policy, 18, 1 (1983): 25-48.

For assessing the effects of proposed changes in regulation, three questions are investigated in this paper: are there cost advantages in large-scale production of intercity bus services; are the marginal costs of regular-route, charter, local and school bus-miles identical; and are there cost advantages in joint rather than specialized production of these services. To examine these issues a multiproduct cost function (translog type functional form) for the production of intercity bus services was estimated. Since different types of services are distinct products, each is treated as a separate output measure. The cost functions were fitted to data for the U.S. intercity bus industry for the calender year 1975.

Estimation of the cost function yielded three primary results: 1. Production of intercity bus-miles exhibits significant economies of scale for proportional increases in all services at output levels below the means of the Class II and III carriers, and constant returns to scale at higher output levels. That is, the economies of scale in the production of intercity bus-miles are exhausted at an output level that is a very small fraction of total industry output.

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 The hypothesis of identical marginal costs for the four types of services is rejected. Their general order of marginal costs from lower to higher is school, regular route, charter, and local.
In the output range of Class I carriers, the services can be produced at lower cost jointly than separately. Thus carriers specializing in the production of services could reduce their costs by joint production of the outputs.

"The finding that the economies of scale in the production of

intercity bus-miles are exhausted at a relatively small fraction of total industry output is important in evaluating the arguments for regulation of the industry." It may be that there is a role for government intervention on the grounds of economic efficiency. "In view of the characteristics of the industry, however, government assistance in coordinating scheduling and shared use of some facilities may achieve the same goals as complete entry and price regulation. An essential factor in the reasoning is that passenger trips or passenger miles, rather than bus miles, are the final consumed output, and that passengers supply their time as a significant input in the production of trips.

U.S. Interstate Commerce Commission. Bureau of Economics. <u>The</u> <u>Intercity Bus Industry. A Preliminary Study</u>. Washington, D.C.: Government Printing Office, 1978.

Discusses the history, development, present structure and status of the intercity bus industry; surveys economic (including the impact of subsidies to Amtrak and air carriers), institutional, and legal characteristics; identifies origins and interrelationships of regulatory and industry practice over time; identifies areas for further research; and makes recommendations for improving and understanding the nature of the intercity bus market and the industry serving it.

Yordan, W.J. "Regulation of Intercity Bus Fares: The Problem of Cost Analysis." Land Economics, (1968): 245-254.

This article describes existing practices in the regulation of bus fares, and that bus transportation (unlike trucking) has characteristics of a natural monopoly, and that the appropriate remedy lies in improved regulation rather than a greater reliance on the forces of competition. Statistical analysis is employed to provide a simple means for judging the reasonability of the cost data submitted to regulatory agencies by intercity bus lines.



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## 4. FINANCE AND SUBSIDY

Cutler, M. <u>Intercity</u> <u>Bus</u> <u>Study</u>. Massachusetts Office of Transportation and Construction, 1979.

This project is to study status of intercity bus industry in Massachussets and to determine necessary state assistance programs, if any.

Lukasiewicz, J. "Some Central Issues of Intercity Passenger and Freight Transportation in Canada." Preprint for annual conference of Canadian Society for Mechanical Engineering, 1978.

This report discusses the general theme of transportation financing and the more specific problems of intercity passenger and freight transportation. Suggests replacement of 85 percent of Canada's rail passenger system with bus service [!]

McGillivray, R. "Should the Intercity Bus Industry Be Subsidized?" Working Paper. Washington, D.C.: The Urban Institute, March 1978.

Abstract: This paper gives an overview of the state of the intercity bus industry, traces possible reasons for subsidy, and discusses ways to subsidize the industry. Summary national data and survey data from particular market areas are shown to confirm each other broadly regarding intercity bus trip-making patterns and ridership characteristics. Arguments for subsidizing the industry are butressed by recent national activity regarding subsidy and some state subsidy programs. Subsidies can be classified as input, deficit, or output according to how payments are made. It is argued herein that subsidies based upon output provide better incentives for users and operators than do those restricted to certain inputs or merely given to cover deficits.

The user-side subsidy is an output based subsidy which embodies a discount to users and a subsequent reimbursement to operators for carrying passengers. One type of user-side subsidy is a reduced fare for a particular route or service. In this case users pay a reduced fare and operators are reimbursed the difference between the regular full fare and the reduced fare. This paper suggests that output based subsidies, and user side subsidies in particular, provide the most effective methods for subsidizing the intercity bus industry. Rather than restrict uses of subsidy funds to certain inputs or make up deficits on unprofitable services, the output based subsidy encourages operators to develop profitable services and increase ridership.

McGillivray, R.G. "Should The Intercity Bus Industry Be Subsidized?" Traffic Quarterly 33, 1 (1979): 99-115.

This article gives an overview of the current state of the intercity bus industry, reviews possible reasons for subsidy, and discusses alternative methods of subsidy. Summary national data and survey data from particular market areas presented regarding intercity bus trip-making patterns, costs, fares, and energy efficiency. The author notes that intercity bus transport is the predominant public passenger mode in the U.S. for all trips between urban areas under 1,000 miles in round trip distance. In recent years, both the profitability and ridership of scheduled intercity buses have been declining although passenger-miles have remained almost constant.

Schmenner, R.W. "Bus Subsidies: The Case For Route-by-Route Bidding in Connecticut." Policy Analysis 2, 3(1976): 409-430.

This paper examines the interim state subsidy that ended the Connecticut bus crisis of 1972-1973 and the future need for such subsidies. The author finds that subsidy and a relaxation of regulatory constraints are appropriate policies to pursue if bus transit is to continue. He identifies routeby-route bidding as the option with greatest theoretical and practical appeal.

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. <u>Financial Condition of the Intercity Motor</u> <u>Bus Industry</u>, 95th Congress, 1st Session, Washington, D.C.: Government Printing Office, 1977.

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Surface Transportation. <u>Financial Condition of the Intercity Motor Bus Industry</u> Hearings held June 16, 1977. 95th Congress, 1st Session. Washington, D.C.: Government Printing Office, 1977.

Presents statements and positions of the industry and Federal and state government officials re the financial health of the intercity bus industry, and forms of subsidy which might be made available to the industry, especially considering the energy effectiveness of this mode.

U.S. General Accounting Office. <u>Amtrak's Economic Impact on</u> <u>the Intercity Bus Industry</u>. GAO Report no. PAD-79-32. Washington, D.C.: 1979.

"...discusses how Federally subsidized Amtrak has attracted passengers from intercity buses;...how Amtrak's

fare cutting in prime markets...has eliminated the fare differential between bus and rail travel; estimates the impact on bus company ridership if Amtrak were eliminated or scaled down; and...the regulatory environment and the long-term socio-economic trends which have contributed to the financial problems of the intercity bus industry." (From transmittal letter.)

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## 5. LEGISLATION AND CONGRESSIONAL HEARINGS

American Bus Association. "Comparative Analysis of Existing and Proposed Laws Regulating Motor Carriers of Passengers." Sept 18, 1980.

Compares, subject by subject, the industry sponsored legislation ("Bus Regulatory Modernization and Reform Act of 1980") with the ICC staff proposal ("Motor Bus Act of 1980"). Subjects include transportation policy, entry controls, ratemaking bureaus, discriminatory state taxation and ratemaking, exit policy, and ICC practice and procedure.

Energy Tax Act of 1819, Pub.L. 95-618. Sections 231-233, 92 Stat. 3187 et seq. 26 U.S.C. (various sections).

Repeal of the excise taxes on bus parts, diesel fuel, lube oil, and tires and tubes used in connection with intercity and local bus services and school buses.

Repeal of the 10% excise tax on bus purchases, retroactive to April 20, 1977.

HR 7677, Bus Regulatory Modernization and Improvement Act of 1980, June 26, 1980.

Bill to amend subtitle IV of title 49 of US Code to provide for more effective regulation of motor carriers of passengers and for other purposes.

Lewis, Arthur D. "Memorandum to ABA Members Re the Industry's Legislative Achievements." Washington, D.C.: American Bus Association, October 16, 1978.

<u>Revenue Act of 1978</u>, Pub. L. 95-600 (H.R.13511). Section 301, 92 Stat. 2820.

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

Section 312, 92 Stat. 2824.

Increased the general limitation on investment credit to 90% of tax liability. This 90% is phased-in gradually from 1979, to equal 60% to 1982 and thereafter to be 90%.

Section 315, 92 Stat. 2828. Investment credit allowed for certain rehabilitated buildings in which 20 years have elapsed since construction or prior rehabilitation. Effective date of October 31, 1978.

## Section 133, 92 Stat. 2783.

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.

## Surface Transportation Assistance Act of 1978, P.L. 95-599. Title III, Mass Transportation, Sections 322, 323, and 313.

Section 313--Grants to provide public transportation in non-urbanized areas by way of a formula grant to be administered by each state. Elibible recipients include state agencies, local public bodies and agencies thereof, nonprofit organizations, and operators of public and private transportation services in other than urbanized areas.

Section 322--Capital assistance for terminal development to state and local public bodies for acquisition, construction or alteration of facilities. \$40 million annually from FY 79 to FY 82 on the basis of an 80% Federal share of net project cost to a non-Federal share of 20%.

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 5000 or more residents. This does not include local service. \$30 million annually from FY 79 to FY 82 on a Federal share of 50% of the net cost of such operating expenses and a non-Federal cash share of 50%.

U.S. Interstate Commerce Commission. <u>Interstate Commerce Commission's</u> <u>Proposed Legislative Reform of Intercity Bus Regulation--The Motor</u> Bus Act of 1981. December 15, 1980.

ICC analysis of the proposed act and documentation of the legislation. "This legislation is part of a continuing effort to reduce unnecessary regulation of the surface transportation industries....[The] bill increases the opportunities for intercity bus carriers to operate with minimal governmental interference." Entry, exit, and ratemaking regulation would be eased or eliminated. "This bill ... represents a responsible approach for those who wish to see a serious reduction in

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federal regulation and a corresponding increase in competition, without eliminating the entire regulatory structure.



## 6. PLANNING AND POLICY ANALYSIS

Blankenship, D., J. Gill, C. Kwong, and K. Terpstra. <u>Charter Bus Services</u>: <u>State Intercity Bus Plan</u>. DMT-079, Sacramento, California: Caltrans, 1981.

Burkhardt, J. E. and J. I. Riese. "Estimating Travel Demands for Intercity Bus Routes." Paper given at the 61st Annual Meeting of the Transportation Research Board, January 1982.

California. State Transportation Board. <u>Recommended Statewide</u> <u>Transportation Goals</u>, <u>Policies and Objectives</u>. Pp. 156-159. Sacramento, 1977.

Intercity bus passenger service policy recommendations are offered.

California. Department of Transportation. Division of Mass Transportation.

State Intercity Bus Plan--A Report to the California Legislature in Conformity with Chapter 99, Item 266-001-041 of the 1981 Budget Act. DMT-094, March 1, 1982.

This plan "...discusses major issues facing the intercity bus industry including the industry's financial posture, passenger characteristics and problems, and regulatory reform of the bus industry. The Plan also defines a network of intercity bus routes having Statewide significance to be

known as the Basic State Intercity Bus Network." [p. I-6]

California. Department of Transportation. <u>California State</u> Intercity Bus Plan-1983 Update. DMT-112, March 31, 1983.

This represents an update to the State's 1982 plan. Topics covered include a current overview of the intercity bus industry, a discussion of recent regulatory reforms including the Bus Regulatory Reform Act of 1982, a description of the bus service improvement program, bus travel by unaccompanied children, and bus trunkline service strategies.

Coop, L. A. and C. S. Kwong. <u>Intercity Bus</u> <u>Stations</u>: <u>State</u> <u>Intercity Bus Plan</u>. DMT-067, Sacramento, California: Caltrans, 1980.

Dean, D. L. <u>A Basic Guide to Highway Motor Coaches</u>. DMT-078, Sacramento, California: Caltrans, 1980.

- Dean, D. L. <u>The Frequency of Intercity Bus Transportation</u> <u>To Intermediate Service Points: A California Case Study of</u> <u>Carrier Strategies</u>. Ph.D. Dissertation, University of California, Davis, 1980.
- Dean, D. L. <u>Routes</u>, <u>Stations</u> and <u>Service</u> <u>Restrictions</u>. DMT-061, Sacramento, California: Caltrans, 1980.
- Dean, D. L. Modeling Dilemma of Intercity Bus Transportation." Transportation Research Record 887 (1982): 35-37.

Abstract: "The operating strategies employed by intercity bus carriers to serve rural communities have remained an enigma to those attempting to model the intercity bus industry. Intercity bus transportation has been a blending of local transit and trunkline corridor services. Economic and demand-based models generally lack sufficient detail for investigating service along specific routes. City-pair and rural transit models have each addressed only a part of intercity bus transportation. Models that bridge the gulf that separates local from trunkline services will probably employ some understanding of supplier strategies to describe bus service levels at intermediate rural locations.

Dean, D. L. "A Service Strategy Model for Estimating Trunkline Intercity Bus Service To Rural Communities." In Transportation Research Forum. Proceedings of the Twenty

Third Annual Meeting, 608-615. New York, New York. Oxford, Indiana: R. B. Cross Co., 1982.

Abstract: "This paper presents the development of multiple linear regression models useful for estimating the frequency of intercity bus service to samll rural communities along the trunkline routes. Models of carriers in California are based upon levels of service and supplier strategies. Frequency of intercity bus service to rural intermediate points is shown to be represented by variables that quantify community attractiveness, station density, highway quality, network focus, and total corridor bus traffic.

"The objective of this paper is to gain a better understanding of intercity bus service to rural service points along trunkline routes. To accomplish this purpose, a mathematical model has been developed that will generate estimates of service for intermediate points in the bus network, knowing a few facts about the empirical domain and the trunkline traffic level. The frequency of bus departures has been selected as the

dependent variable of interest because it represents the smallest bus supply unit that is responsive to carrier strategies. In addition, "frequency" is an expression clearly recognized and understood by the communities being served."

The author notes that the "...present trend of proliferation of duplicative public transit services, especially those that are subsidized and operated in direct competition with existing intercity carriers, can only erode the important service to intermediate points offered by private providers of intercity bus transportation."

East-West Gateway Coordinating Council. <u>Intercity Bus Service</u> <u>in the St. Louis Region: Technical Paper</u>. Prepared in coordination with the St. Louis Area Council of Governments, St. Louis, Mo., 1976.

Fleishman, D., et.al. <u>Postal Bus Feasibility Study</u>. Multiplications, Inc., Consulting Division-Multisystems under contract to Research and Special Programs Administration, Urban Mass Transportation Administration, (UMTA-MA-06-0049-82-11), September 1982.

UMTA Abstract: "The decline of intercity bus service and worsening fiscal constraints gave rise to the search for new approaches to solving the rural transportation problem. This postal bus study was intended to examine the institutional, regulatory, and operational issues associated with the implementation and operation of the postal bus concept in the United States. Integration of mail and passenger service can be carried out through three arrangements: 1) a private mail carrier, under contract to the U.S. Postal Service, carries passengers along its mail distribution routes; 2) a passenger carrier, under contract to the U.S. Postal Service, transports mail; or 3) a combination of the first two--a passenger carrier or public body, under contract to a star carrrier, provides passenger service. This study involved a review of previous research, documentation of current examples of the concept in the United States and in Europe, estimation of potential demand, invesstigation of applicable regulatory issues, and assessment of possible demonstration sites. Key issues addressed in the report center on the operational and institutional feasibility of the postal bus concept in the United States. The overall conclusion is that the postal bus appears to be a feasible approach to providing passenger service where none currently exists and for achieving greater efficiencies in the provision of both types of service. As such, the postal bus concept has considerable potential as a rural transportation options."

Fravel, F.D. North Carolina Intercity Bus Study. North Carolina Department of Transportation, Public Transportation Division,

## Raleigh, North Carolina, 1979.

HRIS Abstract: "This study focuses on the structure of the bus industry, the financial condition of the firms, the service they provide, the effects of state and federal regulation and the future of the industry. Alternative state and federal policies and programs are presented and assessed in terms of their likely effect upon the provision of intercity bus service, and recommendations are made regarding the most appropriate course of action. An overview of the national bus industry is presented in Chaper 2. Chapter 3 describes the Interstate Commerce Commission and North Carolina Utilities Commission regulations affecting the industry, with particular emphasis on those problems cited by the North Carolina bus operators. Chapter 4 analyzes the structure of the North Carolina intercity bus industry and the services it provides. Chapters 5 through 7 presents the problems of revenues and costs and examines possible solutions. Chapter 8 describes programs in other states and in Europe. Chapters 9 and 10 addresses the two main strategies for maintenance and improvement: subsidy and deregulation. Chapter 11 suggests a strategy for combining the two alternatives to maximize benefits.

Gentry, D. E., E. L. Ramsdell and K. M. Doyle. <u>Intercity</u> <u>Bus</u> <u>Utilization</u> <u>Study</u>. Final Report, DOT-TSC-1163, Cambridge, MA: US Department of Transportation, 1976.

Grayson, A. "Disaggregate Model of Mode Choice in Intercity Travel." Transportation Research Record 835 (1981): 36-42.

Author's Abstract: The development of a policy-sensitive model of mode choice in intercity travel is discussed. The disaggregate logit model is based on the National Travel Survey of 1977, supplemented by service information from industry guides. Automobile, air, bus and rail market shares are estimated from information on cost, travel time, frequency, terminal access, automobile availability, and trip purpose. By all measures, the model performs well. It is applicable on a national, regional, or route-by-route level. Forecasts are performed for a variety of national and regional scenarios."

Louis Harris and Associates, Inc. <u>The Continuing Public Mandate</u> <u>to Improve Inter-City Rail Passenger Travel</u>. Final Report, conducted for Amtrak, National Railroad Passenger Corporation, March 1978.

Iowa State University. Engineering Research Institute. Intercity

Passenger Carrier Improvement Study. Prepared for Iowa Department of Transportation, Ames, Iowa, 1977.

The goal of this research was to recommend specific changes relating to service by intercity buses and third level air carriers and to propose an appropriate state role in the implementation of these changes. Changes contemplated in this research were to be directed to the increased use of intercity buses and third level air carriers in such manner as to exert a net benefit to users as well as the general public. Specific objectives of this research included:

1. To analyze the potential for a system of intercity express buses in Iowa.

2. To estimate the demand for third level air carrier service in cities having populations under 50,000.

3. To forecast the relationship between economic costs and benefits from an intercity bus system emphasizing express routes between population centers and supporting a subsystem of local and intraregional public transportation.

4. To estimate the economic feasibility of expanded third level air carrier service with emphasis upon those routes proposed as worthy of further evaluation in the 1976 update of the Iowa state airport system plan.

5. To provide guidance for establishing the need, if any, for state and local subsidies to institute a system of express intercity buses and to expand third level air carrier service.

## Research Hypotheses:

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1. It was originally hypothesized that demand for intercity passenger service was not necessarily mode-specific (i.e. between bus and third level air carrier). However, this research has shown that these two modes serve distinctly different markets differentiated primarily by

characteristics of the trip-maker.

2. It was also hypothesized that buses and third level air carriers would have the opportunity to increase their proportion of the intercity travel market. This hypothesis can be supported by the research results.

3. A third hypothesis was that intercity and their level air carriers would improve their travel market share only if they afforded favorable trade-offs as perceived by travellers. (e.g. travel time, cost, comfort, convenience, safety). It was assumed that this hypothesis would be supported if recommendations of this study were implemented.

Topics in the report relating to bus service include the role of intercity bus transportation (market area, bus efficiency;, services provided, the financial situation), current intercity bus operations in Iowa (detailed data on companies, routes, schedules, and stations), intercity bus user profile, the role of government in intercity bus transport (including possible state support), modeling current bus usage using multiple linear regression analysis, description of a potential

intercity bus network (criteria for establishing a system, identification of a state system network), and a recommended program for intercity bus transport.

## Conclusions/recommendations:

X

1. Attitude survey showed that there was no strong public support to subsidize either express bus service or commuter air service.

2. The intercity bus market is very small and will be increased significantly only if fuel availability becomes a problem.

3. An intercity bus route network for Iowa was developed that included the following elements: corridors responsive to principal interstate travel demands; routes serving interregional travel demands and providing access to interstate travel corridors; certificated carrier routes with current service. Both route segments without bus carrier service and those that are candidates for service abandonment may be considered for state support as essential elements of the intercity bus route network.

4. Standards for terminal facilities and level of service are discussed.

5. Data collection should be promoted, particularly by carriers receiving state assistance.

6. Rural transit services and intercity carrier services should be coordinated.

Report also includes fourteen appendices including information on bus inventory, intercity bus user survey, demand model development, and origin-destination data.

Iowa State University. Engineering Research Institute. ntegrated Analysis of Small Cities Intercity Transportation to Facilitate

the Achievement of Regional Urban Goals. Ames, Iowa, 1974.

This research focuses on intercity transportation and its relationship to socio-economic characteristics in essentially rural regions. The study area consists of the nine administrative planning regions in Iowa that do not include a community of 50,000 or more. The research objective was to relate the intercity transportation system of small urban communities to their ability to attract and absorb growth. This relationship, as established, suggested a structured set of conditions regarding transportation planning, regulation, policies, and programs that would be supportive of growth in the study regions. A positive relationship was established between the regional socioeconomic typology and that based on transportation variables.

Johnston, D.K. and A.D. Catchpoole. "An Analysis of the Long Distance Bus Industry in Queensland." Paper presented at the 6th Australian Transport Research Forum, Brisbane, Australia,

## October 22-24, 1980.

Abstract by Transport and Road Research Laboratory: "This paper was presented at session 5-regulation versus competition in the eighties. It reviews the role of long distance bus service [in] Queensland by a comparative analysis with rail and to a lesser extent air services. The systems are compared by a review of route coverage, journey times, service frequency and fares. The characteristics of the bus industry are discussed and a profile of existing passengers and their trips is presented. This review sets the scene for discussion of the future role of the long distance bus industry."

Kannel, E.J., K.A. Brewer, and R.L. Carstans. <u>Intercity Bus Route</u> <u>Evaluation For Statewide Planning-Final Report</u>. <u>Ames, Iowa:</u> Iowa State University, 1981.

The purpose of this study was to provide a framework to be used by the Iowa DOT to identify potential costs and revenues on routes in which the state is interested in sustaining, improving, or initiating intercity bus service. Objectives included examining cost and revenue data for operators in Iowa, developing a model for estimating travel demand, developing a cost function model, establishing criteria for service need, and presenting two case studies to demonstrate the methodology. Some of the major results of the study are: service frequency, bus-miles of travel, corridor populations, and destination city populations are the principal factors that explain demand variation; cost elements for repairs to service equipment, tires and tubes, drivers wages, fuel and depreciation provided a stable base for comparing carrier cost; service evaluations should include an analysis of an entire corridor rather than just individual cities; principal evaluation elements include population, elderly, student enrollment, and presence of state institutions. The study also summarizes recent research from California, Georgia, Michigan, Oregon, Pennsylvannia, New York, North Carolina, and Wisconsin. The study points up the need to collect time-series data so that effects of service and fare changes over time can be assessed.

## Recommendations:

In order to successfully integrate the carrier and government concerns and to assess the operating environment, the following recommendations are suggested:

1. Total reporting requirements should be reviewed; sampling procedures should be instituted so that only needed or relevant data is collected.

2. Time series data should be acquired on selected routes in order to assess fare impacts.

3. Modifications in annual reports are necessary at the state

level.

4. Projected costs in rate requests may be most readily assessed by comparing cost increases with anticipated increases in the CPI for selected items.

5. State agencies should visit with the carriers on a regular basis.

Moore, Dennis H. The Passenger's Side: A Brief Commentary on Oregon's Intercity Public Transportation Program. Oregon Department of Transportation. Salem, Oregon, 1979.

Morrall, J. and J. Mayne. "Improving the Intercity Bus Through Transportation Systems Management." Journal of Advanced Transportation 13, 2(1979): 1-17.

HRIS Abstract: "The paper presents transportation systems management (TSM) alternatives for the intercity express bus in Canadian intercity corridors; discusses the roles of the various levels of government in relation to intercity bus service; and provides a general description and discusses the role of the intercity bus in the Edmonton-Calgary corridor in light of these issues. The paper suggests TSM improvements for the intercity bus that include expanded frequency of service, preferential treatment measures, premium service, terminal access, terminal function and location improvements, and inter-modal bus-air coordination."

Moskaluk, M.J. <u>Georgia</u> <u>Intercity</u> <u>Bus</u> <u>System</u> <u>Evaluation</u>. Georgia Institute of Technology. Atlanta, Georgia: Georgia Department of Transportation, 1980.

HRIS Abstract: "The overall objective of this project is to refine, calibrate, and validate a predictive process that simulates and/or forecasts demand for intercity bus travel in Georgia. Specific objectives are to: (1) assess, evaluate, and predict intercity passenger demand for bus travel in Georgia considering the dynamics of the availability and cost of energy, the legislative and regulatory environment, and the eroding financial condition of private carriers, (2) evaluate the intercity bus system to develop recommendations which outline a proposed state financial policy to meet the needs/ demands of the mobility of Georgia's residents, (3) collect intercity bus travel and socioeconomic data, and (4) train the GDOT staff in all facets of the project findings.

Ochojna, A.D., and A.T. Brownlee. "Simple Indices for Diagnosing Rural Public Transport Problems." <u>Traffic Engineering</u> and Control 18, 10(1977): 482-485.

Discusses construction of three simple indices intended to

assess adquacy of public transport provision in rural areas. The indices are: a demand index; a supply index; and a supply/demand index.

Oregon Department of Transportation. Planning Section. <u>Intercity</u> <u>Bus Transportation in Oregon: Preliminary Report</u>. Salem, Oregon: Oregon Department of Transportation, 1975.

The following conclusions were drawn from this study: (from report cover letter):

1. The State's role must expand from one of economic and to a lesser extent operating regulation, to one of cooperation and probably eventually, if not in the near future, financial assistance.

2. Even wi; thout any expansion of routes and frequency of service, immediate steps should be taken to improve facilities.

3. To encourage energy conservation and maximize utilization of available resources, there must be much greater cooperation and coordination of service between the bus companies and other modes of transportation.

4. There appears to be a real need for making travel information more readily accessible to the general public.

5. The State should examine fare structures and their effect on the adequacy of service.

6. The State should examine the problem of growing competition between public transit districts and privately owned carriers.

Oregon Department of Transportation. Planning Section. Oregon Intercity Bus Passenger Study. Salem Oregon: Oregon

Department of Transportation, 1976.

This report includes information from on-board passenger surveys, ticket surveys, and a statewide public opinion survey on intercity bus travel. An analysis of the economic aspects of intercity bus operations in Oregon is also presented.

Peat, Marwick, Mitchell & Co. <u>Intercity Bus Service Planning</u>. Final Report, National Cooperative Highway Research Program, Transportation Research Board, March 1983.

The overall objective of [this report] .. is to provide practical, user-oriented, operational procedures and guidance that will enable state departments of transportation (DOT's) and interested local agencies to analyze and evaluate the need for maintaining or improving existing fixed-route intercity bus services and/or promoting new services to rural and small urban areas. In this regard,

the project has addressed planning, operational, regulatory, financial, and program monitoring procedures and issues that are applicable to intercity bus service.

The specific objective of this report is to present guidelines, procedures, and policy options for assessing the feasibility and desirability of continuing existing intercity bus services or promoting the initiation of new or revised services, particularly to rural areas and small urban areas. The report presents guidelines and techniques for addressing the following types of issues: the potential ridership on such services; capital and operating costs, revenues, and operating subsidies (if any) of the services; the types and levels of services for cost-effectively meeting the intercity travel needs of specific rural areas; types of federal, state, and local regulatory, taxation, financial, and technical support policies that may promote intercity bus services to rural and small urban areas; and procedures and data for monitoring and evaluating the operation and benefits of such services.

Reichman, S. "Subjective Time Savings in Interurban Travel: An Empirical Study." Highway Research Record 446 (1973): 21-27.

Study of perceived travel time savings for intercity travelers in Israel using bus and air modes.

Ring, S.L., M.L. Millet, R.L. Carstens, H.D. Meeks, and W.H. Thompson. <u>Integrated Analysis of Small Cities' Intercity Transportation</u> <u>to Facilitate the Achievement of Regional Urban Goals--Intercity</u> <u>Transportation In Rural Regions: Volume I. Inventory and Analysis</u>. Final Report ISU-ERI-AMES-76090, Ames, Iowa: Iowa State

University, Engineering Research Institute, 1975.

This research focuses on intercity transportation and its relationship to socioeconomic characteristics in rural regions. Includes an inventory of all transportation services in nine administrative planning regions in Iowa that do not include a community of 50,000 or more population.

Rouse, L. F., D. C. Knudson, and M. E. Brinson. <u>Indiana</u> <u>Intercity</u> <u>Bus</u> <u>Study</u>. Report RPT 1980(028)-01, Indianapolis, Indiana: Indiana Department of Transportation, 1981.

South Carolina. Office of the Governor. Division of Economic Development and Transportation. South Caroline Intercity Bus Plan and Program. Columbia, South Carolina, February 1980.

Stern, E., and Adams, R.B. "The Effect on an Intercity Public

Transport Network on Bus Patronage." Logistics and Transportation Review 16, 2(1980): 109-127.

HRIS Abstract: "The influence of a regional bus service network structure is measured and expressed by the level-ofservice variable, on bus ridership. Bus ridership on a regional level is found to be inelastic with regard to bus network structure, but it is elastic on certain corridors when analyzed on a city-pair basis. Bus patronage is more elastic with regard to service improvement for social-recreation trips than for work trips. Higher elasticities and a relatively greater number of generated bus trips are found in city-pair corridors characterized by average values of service levels. Thus, bus patronage elasticity changes asymptotically with the change in the level-of-service. Given the probabilistic nature of mode choice, recommendations concerning planning policy are subject to some degree of risk. Therefore, results indicating that a specific corridor is one in which the addition of n of a bus per day is likely to be justifiable do not ensure success in reality, but they do imply a relatively high probability of success when the corridor service is varied. The data used represent average daily flow of both bus and 1 5 3 auto trips. The bus daily flow is based on a weekly sample, and therefore, it is possible that an increase in the level-of-service on a recommended corridor may be defensible only on certain days of the week. This possibility is more realistically investigated by experimenting with the recommended corridor than by a purely theoretical investigation."

Taube, R.K. Intercity Bus Transportation in Wisconsin. <u>Vol I-Service and Operating Characteristics, Vol II-User</u> Characteristics, Vol III-Federal and State Regulations, Plans,

and Programs, Wisconsin Department of Transportation, December 1976 and January 1977.

Volume I: This study focuses on sixteen regular route intercity bus firms which provide interstate and intrastate service to Wisconsin. These firms have recently expressed concern about a number of problems and issues, including: revenue not keeping pace with operating costs, government subsidies to competing modes, difficulty in obtaining depots and commission agents, and government regulations.

Travel and service on these bus firms have declined in recent years, although the basic route structure provided did not seem to have changed much between 1965 and 1975.

Volume II: This report provides a profile of the intercity bus user including a description of travel habits, socioeconomic characteristics, levels of satisfaction with current service and desires for improvement.

Volume III: This volume provides a detailed description of the

Transport Network on Bus Patronage." Logistics and Transportation Review 16, 2(1980): 109-127.

HRIS Abstract: "The influence of a regional bus service network structure is measured and expressed by the level-ofservice variable, on bus ridership. Bus ridership on a regional level is found to be inelastic with regard to bus network structure, but it is elastic on certain corridors when analyzed on a city-pair basis. Bus patronage is more elastic with regard to service improvement for social-recreation trips than for work trips. Higher elasticities and a relatively greater number of generated bus trips are found in city-pair corridors characterized by average values of service levels. Thus, bus patronage elasticity changes asymptotically with the change in the level-of-service. Given the probabilistic nature of mode choice, recommendations concerning planning policy are subject to some degree of risk. Therefore, results indicating that a specific corridor is one in which the addition of n of a bus per day is likely to be justifiable do not ensure success in reality, but they do imply a relatively high probability of success when the corridor service is varied. The data used represent average daily flow of both bus and auto trips. The bus daily flow is based on a weekly sample, and therefore, it is possible that an increase in the level-of-service on a recommended corridor may be defensible only on certain days of the week. This possibility is more realistically investigated by experimenting with the recommended corridor than by a purely theoretical investigation."

Taube, R.K. <u>Intercity Bus Transportation in Wisconsin</u>. <u>Vol I-Service and Operating Characteristics, Vol II-User</u> Characteristics, Vol III-Federal and State Regulations, Plans,

and Programs, Wisconsin Department of Transportation, December 1976 and January 1977.

Volume I: This study focuses on sixteen regular route intercity bus firms which provide interstate and intrastate service to Wisconsin. These firms have recently expressed concern about a number of problems and issues, including: revenue not keeping pace with operating costs, government subsidies to competing modes, difficulty in obtaining depots and commission agents, and government regulations.

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Volume II: This report provides a profile of the intercity bus user including a description of travel habits, socioeconomic characteristics, levels of satisfaction with current service and desires for improvement.

Volume III: This volume provides a detailed description of the

taxes, fees, and regulations affecting the intercity bus industry, including operating authority, fare, route, schedule, and reporting regulations; an analysis of the impact of various regulations and taxes on carriers and the service they provide; and a discussion of federal and state plans and programs for intercity bus transportation.


Tramco, Inc. <u>A Study to Develop Policy Recommendations</u> <u>Designed to Upgrade Intercity Bus Service in Massachusetts</u>. Prepared for the Executive Office of Transportation and Construction, Cambridge, Mass., April 1980.

HRIS Abstract: "This report addresses the problems incurred by the 28 private intercity bus lines operating in Massachusetts that provide scheduled services which are accessible to about 80% of the state's residents. The intrastate carriers are caught in a cost-price squeeze; because they are unable to work their way out of their intrastate markets, and the regulatory mechanism does not allow them to raise their fares as fast as costs are driven up by inflation -- which results in their inability to replace buses as they become obsolete. Specific steps at the disposal of the State to assist the marketing of intercity bus service include: publication of a combined timetable covering all intercity bus and commuter rail service in the state; completion of the design and construction phases of the new combined intercity bus terminal proposed for the South Station complex; exemption of intercity buses from payment of tolls on turnpikes, bridges, and tunnels; participation by the stateman annual joint bus purchasing program to provide centralized purchasing of all Massachusetts based carriers' requirements for new buses at favorable interest rates; and provision of additional park-and-ride facilities at points where intercity bus routes enter Interstate highways to begin their express run to Boston.

U.S. Congress. Senate. Committee on Commerce, Science and Transportation. <u>Intercity Domestic Transportation System</u> for <u>Passengers and Freight</u>. Prepared by Harbridge House, Inc., 95th Congress, 1st Session. Washington, D.C.:

Government Printing Office, 1977.

Examines regulatory issues facing the intercity bus industry (pp. 81-98); economic, environmental, and service aspects of the industry (pp. 328-339), and discusses national public policy issues related to this mode (pp. 450-451, 454-455).

U.S. Congress. House. Committee on Interstate and Foreign Commerce. Subcommittee on Transportation and Commerce. <u>Amtrak Discontinuance Criteria. Hearings on Amtrak's</u> <u>Criteria and Procedures for Making Route and Service</u> <u>Decisions</u>. Held February 3-4, 6, 1976. 94th Congress, 2nd Session. Washington, D.C.: Government Printing Office, 1976.

See pp. 118-244. Statements by Charles A. Webb, National Association of Motor Bus Operators; W. P. Hinburg, Indian Trails, Inc.; and J. E. Adkins, Greyhound Lines, Inc. re Amtrak's competitive rail passenger service. U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. <u>Intercity Domestic Transportation System</u> for <u>Passengers and Freight</u>. Prepared by Harbridge House, Inc., 95th Congress, 1st Session. Washington, D.C.: Government Printing Office, 1977.

Examines regulatory issues facing the intercity bus industry.

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. <u>Intercity</u> <u>Bus</u> <u>Service</u> <u>in</u> <u>Small</u> <u>Communities</u>. Prepared by E. S. Pinkston of Policy and Management Associates, Inc., 95th Congress, 2nd Session. Washington, D.C.: Government Printing Office, 1978.

Presents data from a survey of intercity bus service to and from 38 small towns in the U.S. Discusses service to small communities; presents data on the bus industry and the government's regulation of it. Purpose of the study was to ascertain the characteristics of service to small communities vis-a-vis national policy recommendations for the industry.

This is a report commissioned by the Committee and conducted by Policy and Management Associates, Inc. as an independent study on intercity bus service in small communities. Topics covered include current status of bus service to small towns, the regulatory environment, the financial posture of the intercity bus industry, the issue of regulation, and proposals for regulatory reform. Some of the conclusions of the study are: 1. The combination of higher costs and competition from other modes give the industry an uncertain future. 2. In the near term, service to small towns seems no more threatened than service to larger cities. 3. From a purely economic standpoint, the bus industry has a good deal to offer: it is the least expensive common carrier passenger mode for trips less than 200 miles (except in the highest density corridors), it does not require enormous investments in fixed facilities that its competitor modes do, the highway network provides nearly ubiquitous coverage, and bus carriers do not incur substantial losses on sunk capital where demand has declined because resources can be shifted easily. 4. The entire passenger transportation network needs further examination regarding the issue of whether present subsidies to various modes are actually producing inefficiencies in the system.

5. Federal and state regulatory commissions should ease their regulation of entry, exit, and fares.

U.S. Department of Transportation. <u>Coordination of Amtrak with</u> <u>Other Modes</u>." In Final Report To Congress on the Amtrak <u>Route System as Required by the Amtrak Improvement Act of 1978.</u> Washington, D.C., 1979.

- U.S. Department of Transportation. Impact of Rail Market Expansion on Competing Carriers. In A Reexamination of the Amtrak Route Structure; a preliminary report to Congress and the public as requested by the Report accompanying the FY 1978 Supplemental Appropriations Act (Pub. L. 95-240). Washington, D.C., 1978.
- U. S. Department of Transportation. <u>Intercity Bus Service in</u> <u>Small Communities</u>. A report by Secretary of Transportation Neil Goldschmidt pursuant to section 323 (d) of the Surface Transportation Assistance Act of 1978, January 1980.

Contains analysis of intercity bus service in rural and small urban communities and an evaluation of the need for subsidies to offset losses incurred in the provision of such services.

U.S. Department of Transportation. Transportation Systems Center. <u>Amtrak: Use of and Impact on Intercity Bus Services</u>. <u>Prepared by Lawrence Leist</u>. Cambridge, Mass., 1976.

Discusses uses of intercity bus service by Amtrak; Amtrak's possible impact on bus service; comments on lack of data to present an accurate picture of the situation; and makes recommendations on data collection.

U.S. Department of Transportation. Transportation Systems Center. <u>An Examination of the Secondary</u> <u>Services of the Intercity Bus</u> <u>Industry and An Analysis of the</u> <u>Contribution made by</u> <u>These Services to the Provision of Regular Route Passenger</u>

Service. Prepared by E. L. Ramsdell. Report no. ASI-TR-77-41, Task I Final Report, DOT Contract no. DOT-TSC-1327. Cambridge, Mass., 1977.

U.S. Department of Transportation. Transportation Systems Center. <u>Increasing the Attractiveness of Land-Based Common Carrier</u> <u>Transportation in the United States: A Study of the</u> <u>Intercity Bus and Passenger Train Industries with</u> <u>Recommendations for the Institution of Improved Intermodal</u> <u>Service. Prepared by Lawrence Leist. Cambridge, Mass., 1975.</u>

Discusses the methods by which the public may be persuaded to use intercity passenger transportation systems; describes the current state of intercity bus and rail services; and makes recommendations for developing an integrated network of rail and bus service which may assist the nation in accepting these services as alternatives to the private automobile, thus achieving national energy goals.

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U.S. Department of Transportation. Transportation Systems Center. <u>Planning for Coordinated Bus-Rail Service. Route Selection,</u> <u>Costs, Fares, Revenue Allocation, Case Studies.</u> <u>Prepared by Lawrence Leist, Cambridge, Mass., 1975.</u>

Develops concepts relevant to the operation of coordinated rail-bus service. Route selection parameters affecting cost and qu and quality of service are presented, and methods for allocation of the revenue resulting from the joint services are suggested.

Urbanik, T. II, P.L. Bass, and K.R. Marshall; <u>The Intercity Bus Industry in the US and Texas</u>, edited by A.V. Fitzgerald, Technical Report 0965-1F, College Station, Texas: Texas Transportation Institute, The Texas A&M University System, 1981.

"The primary intent of the study was to develop information and data to provide a definition of the nature and extent of intercity bus transportation in Texas. From a sound base of information, various alternative actions could then be evaluated. A primary area of concern is regulation and the impacts of regulatory changes on service in Texas. Another area of interest is possible actions to increase intercity bus use." (p. 1)

Voorhees and Associates. <u>Colorado</u> <u>Statewide</u> <u>Transportation</u> <u>Planning</u> Project Final Report, 1977.

This report summarizes the findings of stage 1 of the Colorado Statewide Transportation Planning Project. Poor distribution of intercity bus services is one of the concerns raised during

the study.

Washington. Department of Transportation. State Transportation Planning: Preliminary Transportation Plan. February 1979.

This preliminary transportation plan contains the needs and suggested actions for each form of transportation in the State of Washington. Included is a recommendation that "marketing support will be provided to ... increase the level of service and ridership of intercity bus transportation."

Washington. Department of Transportation. <u>Intercity Bus Study</u>: <u>Washington, Oregon, Idaho</u>. Final Report, Pacific Northwest Regional Commission, Olympia, Washington: Washington State Department of Transportation, 1982.

Welches, C.A. A Prospectus For Change in the Intercity Bus

Industry: <u>State Intercity</u> <u>Bus</u> <u>Plan</u> CALTRANS/UMTA, DMT-088, UMTA-CA-MT-81-088, October 1981.

## HRIS Abstract:

"This report is a preliminary edition of the State Intercity Bus Plan. It proposes a statewide system of interconnected bus routes called the Basic State Intercity Bus Network, linking together 154 principal locations. These principal locations are urbanized areas, rural cities with 5000 or more people, county seats of government, and the largest city in each of the state's 58 counties. The regulatory process is examined and proposals for the deregulation of the intercity bus industry are examined."

Wells, J., J. Manion, M. Connelly, K. Johnson, M. Kinney, and C. Wagner. <u>Intercity Bus, Rail, and</u> <u>Air Service For Residents of Rural Areas</u>. International Business Services, Inc., Washington, D.C., January 1980.

# HRIS Abstract:

"This is a four part study which focuses on intercity passenger service for residents of rural areas, i.e., persons who live outside officially designated urbanized areas. Part I develops the analytical structure for the study and introduces a definitional structure designed to reduce the considerable semantic confusion surrounding the subject matter area. Parts II, III, and IV examine the characteristics of bus, rail and air service, respectively, currently provided to rural residents. The bus findings were based partly upon case studies of rural areas in 10 states. The study concludes that the combination of bus and air service usually provides adequate intercity service for most rural residents, and that access to this service is not a major problems."

Wilburn, J.R. and Associates, Inc. <u>Tennessee</u> <u>Intercity Bus Study</u>. Volume I: Study Report, Volume II: Appendix, Project TN-09-802, prepared for the Tennessee Department of Transportation, November 1981.

Yukubousky, R. <u>Intercity Bus Service to Small Urban Areas</u> <u>in NY State: Issues and Recommendations</u>. New York Department of Transportation, June 1972.

#### 7. REGULATION

Allen, G.R., Arnold, E.D., Jr., Hoel, L.A., "Status of Intercity Bus Service in Virginia and Anticipated Impacts of Regulatory Reform." Transportation Quarterly 36, 4(1982): 597-615.

This article is based on the findings of a study of Virginia intercity bus industry, including the regulatory environment, service levels, and the financial situation. Several policy scenarios are examined in light of pending federal regulatory reform legislation. Subsidy is not an attractive policy option here except as a last resort; regulatory reform is much more desirable as a first policy option. The conditions of the Virginia bus industry suggest that only after the specific impacts of regulatory reform are ascertained should any move toward subsidy be considered, and then care should be exercised to assure that the subsidy technique is cost-effective in providing the output desired.

Borlaug, K.L. and E.H. Rastatter. <u>Deregulation and Intercity</u> <u>Bus Operations in Florida: A Preliminary Study</u>. Department of Transportation, Office of Regulatory Policy, Washington, D.C., March 1981.

HRIS Abstract: "The impact of deregulation on the intercity bus industry and those who use the services of this industry is an issue of increasing interest given Florida's July 1, 1980, deregulation of motor carrier transportation of passengers and freight. This preliminary study of the Florida bus industry examines the operation of the intercity bus industry in a deregulated environment and notes the changes in service that have occurred and how these changes have affected the users of intercity bus service. The study also shows the relation of Florida bus operations, both prior to and following deregulation, to interstate service. As deregulation in Florida had only been in effect for seven months at the time of this study, it is too soon to determine the medium to long-term impacts of deregulation. The study found, however, that in the short run, regular-route carriers do not appear to have done much major restructuring of their northern Florida routes or started many new ones. The loss of regular-route passenger service observed in some of the towns has proved inconvenient but service is generally available within a reasonable distance. Competition in the charter and tour sector has, on the other hand, increased considerably, bringing with it an increased concern for safety by existing operators. Attractions and groups using charter and tour services appear to have adequate service available."

Bus Industry Study Group. "Regulatory Reform Measures." Recommended to the Interstate Commerce Commission, October 1979.

This group was organized in 1979 by ICC Chairman O'Neal with the direction to review the existing system of economic regulation of the industry and to recommend any modification that might offer overall advantages to the public and to the bus industry itself. Recommendations are made for charter, regular route, special, commuter, and package express services. For each of these services, recommendations are made for alternatives to existing regulation of entry, exit, pricing, rate bureaus, adequacy of service, financing, and reporting. The need for coordination with the states is stressed, and the potential need for limited federal pre-emption of state regulation is noted. The group believes that greater reliance on market forces would result in an intercity bus system responsive to evolving market conditions. Relaxed entry and exit regulation coupled with pricing flexibility should achieve a greater variety in quality and level of service offered and in prices for those services. Restrictions to entry/exit and merger are recommended for carriers with 15 percent or more of the national market to protect smaller carriers and bridge carriers.

Council on Wage and Price Stability. Regular Route Passenger Service." Before the ICC in Ex Parte no. MC-133, Washington D.C., 1980.

Fernandez, M. "Intercity Bus Deregulation: A Position Paper." Unpublished document, Bureau of Public Transportation, Georgia Department of Transportation, Atlanta, Georgia, January 1982.

Germane, G. E. "Deregulation of the Intercity Bus Industry." Paper given at the 61st Annual Meeting of the Transportation Research Board, January 1982.

Greyhound Lines, Inc. "Greyhound Transportation Group--Statistics 1976." Prepared statement and enclosure in U.S. Congress, House, Committee on the Budget, Task Force on Tax Expenditures, Government Organization and Regulation. Economic Aspects of Federal Regulation on the Transportation Industry; Hearings held July 13-14, 18-19, 1977. 95th Congress, 1st Session. Washington, D.C.: Government Printing Office, 1977.

Discusses deregulation of the industry. Includes 1976 Greyhound passenger statistics.

Greyhound Lines, Inc. "Proposal for Federal Legislative Deregulation

of the Intercity Bus Industry." February 1979.

Proposes legislation that would provide freedom of entry and exit, elimination of ICC jurisdiction over bus pricing, federal pre-emption of state jurisdiction over rates, routes, or services of carriers in interstate commerce, and transferal of remaining responsibilities over the intercity bus industry to appropriate agencies.

Hitchcock, C.F. "Regulatory Reform in the Intercity Bus Industry." Journal of Law Reform (University of Michigan Law School) 15, 1(1981).

Author's Abstract: "Deregulation of the intercity bus industry will go a long way toward improving service to passengers. The Bus Regulatory Reform Act of 1981, passed recently by the House of Representatives, makes some changes but does not go far enough. If anything, this is one area where Congress could start catching up with the states. In July 1980, Florida became the first state to end public utility-style intrastate regulation of transportation companies, and the voters of Arizona overwhelmingly approved a similar approach in November 1980. Although the Florida experience is too new to draw any definitive conclusions, an ICC study reported in April 1981 that: (1) Greyhound and Trailways had increased their total weekly scheduled miles by eight and seven percent, respectively; (2) carriers were experimenting with new fare options; (3) charter service had improved, and bus companies were using their equipment more efficiently; and (4) where service losses occurred due to shifts in regular-route service, either another carrier entered the market, another carrier remained in the market, or another carrier was providing service to a nearby community. ICC regulation of the intercity bus industry developed during the 1930's, when assuring the financial stability of American business was a top priority. As America enters the 1980's, however, the challenges are double-digit inflation, a stagnant economy, and an uncertain world ail situation. These problems demand not stifling cartel regulation, but more competition, greater productivity and increased fuel conservation. Deregulation will not solve all the problems of the intercity bus industry; it will not undo the business cycle or bring down the price of fuel. Yet it will encourage competition by giving the bus industry new operating flexibility and new incentives to innovate, thereby improving service to the travelling public."

Management Analysis Center, Inc. Deregulation of the Intercity Bus Industry. 1981.

Author's Abstract:

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"The structure of the intercity bus industry appears to be well-suited to the free-market that deregulation would encourage. Indeed, a continuation of current regulation could jeopardize the ability of intercity bus carriers to compete with deregulated competitors and, in the long run, undermine the financial health of the industry. A comprehensive approach to deregulation is appropriate and desirable. It would include the following aspects: free entry to encourage maximum levels of competition; upward and downward rate flexibility; free exit to allow carriers to operate efficiently and shift service to meet changes in demand; substantial reduction in the anti-trust immunity presently enjoyed by the industry rate bureaus; pre-emption of state authority to insure that de-regulation is not hampered by conflicting state policies; and a reasonable basis for measuring the effects of regulatory change and determining public interest results."

Minnesota. Department of Transportation. <u>Trends in</u> <u>Transportation</u> Regulation: <u>Rails</u>, <u>Buses</u>, <u>and Trucks</u>. <u>St. Paul</u>, <u>Minnesota</u>, 1979.

HRIS Abstract: "State transportation officials had an opportunity to meet and discuss contemporary problems at the Second Transportation Regulation Conference, September 19-20, 1977."

Portz, H.C. "Deregulation of Florida's Intercity Buses." Paper presented at the TRB conference on State and Regional Roles in Public Surface Transportation, Cambridge, Mass, August 18, 1980.

Sheldon, G., Florida House of Representatives.

Qualitative and non-technical (i.e. political) discussion of de-regulation experience in Florida.

Trailways, Inc. "Deregulation... The Choice For the Future of Intercity Bus Transportation." Paper presented by J. K. Murphy at the National Association of Regulatory Utility Commissioners Ninetieth Annual Convention, held November 13, 1978, Las Vegas, Nevada.

Trailways, Inc. "Intercity Passenger Market; Public vs. Government Regulation: Regulatory Reform of Intercity Bus Industry (Regular Route and Charter). A White Paper prepared by J. C. Schultz, Vice President and General Counsel. Dallas, Texas: Trailways, Inc., 1978.

Interstate Commerce Commission. Commission Studies of

<u>Florida Motor Carrier Deregulation:</u> <u>An Interim Report.</u> Washington, D.C., April 1981.

U.S. Department of Transportation. Transportation Systems Center. <u>Analysis of Ease of Exit from Providing Intercity</u> <u>Regular Route Bus Service</u>. Prepared by E. L. Ramsdell, <u>Report no. ASI-TR-77-42</u>, Task II Final Report, DOT Contract no. DOT-TSC-1327. Cambridge, Mass., 1977.

U.S. Department of Transportation. <u>Deregulation and Intercity</u> <u>Bus Operations in Florida--A Preliminary Study</u>. Washington, D.C., March 2, 1981.

Webb, Charles A. The Bus Regulatory Manual. American Bus Association.

(Reviewed in May 23, 1983 <u>Traffic</u> <u>World</u> by Robert J. Corber) "This publication not only brings the reader up-to-date with changes in the regulation of motor bus transportation but enhances understanding in lucid terms that invite intercity bus operators...to handle many matters before the Interstate Commerce Commission...with a minimum of legal assistance."

White, P.R. "Initial Impact of Deregulation of Express Coaches In Britain". <u>Proceedings of Seminar K on Public Transport</u>, pp. 131-147. Planning and Transport Research and Computation Co. Summer Annual Meeting, University of Warwick, England, 1981.

Transport and Road Research Laboratory Abstract:

"The author traces the historical development of the express coach network in the United Kingdom, outlines recent trends and market share, and briefly mentions developments in other countries. The initial impact of deregulation in Britain is assessed as regards the introduction of new services, fare policy, traffic and revenue, and marketing."

---. "To Boldly Go Where No Bus Has Gone Before." Metropolitan, March-April 1983, pp. 47-50.

Brief discussion of some of the impacts of the Bus Regulatory Reform Act.

### 8. VEHICLES AND TECHNOLOGY

Hagerty, J.C. and D.E. McCue, "Intercity Buses of the United States Present and Future." Presented at Society of Automotive Engineers meeting, August 1980.

#### HRIS Abstract:

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"Intercity buses serving the US have developed into a design formula. The operating environment and markets served have had the greatest influence on the product configurations. Other physical design limitations imposed by State and Federal legislation have tended to reinforce conformity in intercity buses. This paper reviews each of the three buses commonly used in the US. An advanced design bus has been conceived to expose ideas which might eventually influence the development of future vehicles and configuration-limiting legislation."

Schott, G.J. and L.L. Leisher. "Common Starting Point for Intercity Passenger Transportation Planning." <u>Astronautics and Aeronautics</u> 13, 7(1975): 38-55.

This article presents an overview of the methods and findings of the Boeing Commercial Airplane Co. study of all modes of intercity passenger transportation.

U.S. Department of Transportation. <u>Technology</u> <u>Assessment</u> of <u>Future</u> <u>Intercity</u> <u>Passenger</u> <u>Transportation</u> <u>Systems</u>. <u>Volume</u> <u>7</u>: <u>Study</u> <u>Recommendations</u>. NTIS-N76-24081, March 1976.

Includes, among other things, recommendations for "... case studies to identify and test ways to improve intercity bus services, and the assessment of regulatory policies affecting bus operations."

# 9. OTHER

American Bus Association. 1980 Directory. Washington, D.C., 1980.

- Anderson, W. E. Study of the Effect of Changing Conditions in the Motorbus Industry. Washington, D.C.: U.S. Department of Transportation, December 1970.
- Bonanza Bus Lines, Inc. "The Future of the Intercity Motor Bus Industry." Statement of G. M. Sage before the National Transportation Policy Study Commission, November 17, 1977, Providence, Rhode Island.
- Canadian Transport Commission. Intercity Passenger Transport in Canada--A Review of the Existing Systems. Research Report #252, December 1975.

Transport modes, transportation companies, economics of operations, costs and fares, government expenditures, marketing practices, levels of service, travel patterns, and service deficiencies are identified and reviewed.

Capitol Bus Company. "Current and Future Needs of an Intercity Bus Company." Statement of R. J. Maguire submitted to the National Transportation Policy Study Commission, Harrisburg, Penn., 1977.

Calls for a national transportation policy which recognizes the contribution of intercity bus service not only to major cities but to small communities and rural areas. The policy should create the basis for continuing this service by developing measures to alleviate financial problems the carriers face, and should take into consideration the effect on buses of government subsidy to other intercity modes.

Crandall, B. B. The Growth of the Intercity Bus Industry. Ph.D. dissertation, Syracuse University, 1954.

History of the intercity bus industry prior to and following the enactment of the Motor Carrier Act of 1935 which introduced Federal regulation of interstate carriers. Examines both Federal and State policies toward the industry.

Cunningham L.F., J. Howard, and N.A. Florin. "The Motor Coach Industry and Tourism: State of the Art and Future Research Opportunities."

In Transportation Research Forum. Proceedings of the Twenty Third Annual Meeting, 616-620. Oxford, Indiana: R. B. Cross Co., 1982.

"The purpose of this paper is to explore the reasons for the involvement of the motor coach industry in tourism, the current knowledge of motor coach tourism markets, innovative marketing programs of carriers, and lastly, future research needs from a marketing perspective."

Davis, F.W., Jr. Intercity Bus Transport: The Tennessee Experience, Tennessee University, College of Business, Knoxville, Tenn., November 1974.

Assessment of the future of intercity bus transportation.

- Friendship Publications. 1979 Bus Industry Directory. Washington, D.C., 1979.
- Greyhound Lines, Inc. Statement by Vern L. Middleton before the National Transportation Policy Study Commission. Hearing held August 8, 1977, Los Angeles, California.

Identifies the need for Federal transport policy which recognizes the role played by the intercity bus industry, particularly in energy conservation, and states industry's fears re deregulation and their concern about government subsidy of Amtrak, and advocates development of intermodal service.

Lewis, A.D. "The Role of the Intercity Bus in Rural Public Transportation." Transportation Research Record 696, (1978): 78-81.

Discussion of this role.

Meier, A. C. and J. P. Hoschek. Over the Road: A History of Intercity Bus Transportation in the United States. Motor Bus Society, Inc., Upper Montclair, New Jersey, 1975.

Miller, J.H., and S.S. Mullen. Proceedings of the Second National Conference on Rural Public Transportation, Penn. Transportation Institute, June 1977.

Proceedings includes formal presentations made at the sessions and resource papers prepared for the conference.

Motor Coach Age. "National Trailways Bus System History." Special Issue, 1982.

Mueller, F.H. "Intercity Bus Industry and Transportation Needs," Institute of Traffic Engineers, <u>Proceedings</u>, annual meeting, September 1972, pp. 311-313.

Analysis of future industry needs.

National Association of Motor Bus Owners. "The Future of the Intercity Motor Bus Industry." Statement by Charles A. Webb before the National Transportation Policy Study Commission, June 24, 1977, Washington, D.C.

Discusses the decline of the intercity bus industry, calls for a refundable tax credit for buses and reviews the capital and operating assistance provisions of the Bus Revitalization Act of 1977 as proposed by NAMBO.

New Jersey Motor Bus Association. Statement by M. Wasserburger before the National Transportation Policy Study Commission, November 16, 1977, Newark, New Jersey.

Discusses the adverse impact of governmental regulations and administration of subisdy programs on private carriers.

Trailways, Inc. Statement of J.K. Murphy before the National Transportation Policy Study Commission, November 15, 1977, Camden, New Jersey.

Comments on the financial decline the intercity bus industry is experiencing and describes in some detail the proposed development of "Travel Centers"--ground transportation centers connecting all modes of passenger transportation which are expected to increase bus passenger travel. Bus industry operating statistics are included.

Transportation Research Board. "The Intercity Bus Industry: Issues and Problems." Background paper for conference on Intercity Bus Transportation, Washington, D.C., Sept 22-24, 1980.

Document based on discussion among participants in a workshop concerned with problems on intercity bus industry convened by TRB in July 1979. Topics covered include: industry profile, industry problems, major issues for conference consideration (market issues, management effectiveness, regulatory reform, subsidy issues), and public policy options.

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Transportation Research Board. <u>Proceedings: Conference on</u> <u>Intercity Bus Transportation</u>. December 1980, Final Report. Prepared for ICC and USDOT.

This report contains a summary and the proceedings of a conference convened by the TRB on Sept 22-24, 1980 to examine the issues involved in federal and state regulations of and subsidies to the intercity bus industry. The principal issues discussed were economic regulation(entry and exit, rate control, preemption and federal-state coordination, and charter and package express services), and subsidies (direct and user side subsidies, cross subsidy, purchase of service contracts, transitional programs, and ground transportation terminals). It was apparent throughout the conference that the regulatory and subsidy issues were interdependent, and that, unlike the situation in regard to recent truck and rail deregulation acts, Congress will have to consider both elements in passing an intercity bus regulatory reform bill.

U.S. Department of Transportation. <u>1974 National Transportation</u> <u>Report. Current Performance and Future Prospects: Summary.</u> Washington, D.C., 1974.

See Part III -- Intercity and rural transportation developments.



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