

S.C.R.T.D. LIBRARY

UMTA-DC-06-0285-84-2
UMTRIS 84S1

**PUBLIC TRANSPORTATION
AND THE
PRIVATE SECTOR**

SPECIAL BIBLIOGRAPHY



October 1984

Z
7164
.T8
P82

**Urban Mass Transportation Research Information Service
Transportation Research Board**

1984 TRANSPORTATION RESEARCH BOARD EXECUTIVE COMMITTEE

OFFICERS

Chairman: *Joseph M. Clapp*, Senior Vice President, Roadway Express, Inc., Akron, Ohio
Vice Chairman: *John A. Clements*, Commissioner, New Hampshire Department of Public Works and Highways, Concord
Executive Director: *Thomas B. Deen*, Transportation Research Board

MEMBERS

Ray A. Barnhart, Administrator, Federal Highway Administration, U.S. Department of Transportation (ex officio)
Lawrence D. Dahms, Executive Director, Metropolitan Transportation Commission, Oakland, California (ex officio, Past Chairman, 1983)
Donald D. Engen, Vice Admiral, U.S. Navy (retired), Administrator, Federal Aviation Administration, U.S. Department of Transportation (ex officio)
Francis B. Francois, Executive Director, American Association of State Highway and Transportation Officials, Washington, D.C. (ex officio)
William J. Harris, Jr., Vice President, Research and Test Department, Association of American Railroads, Washington, D.C. (ex officio)
Darrell V Manning, Director, Idaho Department of Transportation, Boise (ex officio, Past Chairman, 1982)
Ralph Stanley, Administrator, Urban Mass Transportation Administration, U.S. Department of Transportation (ex officio)
Diane Steed, Administrator, National Highway Traffic Safety Administration, U.S. Department of Transportation (ex officio)

Duane Berentson, Secretary, Washington State Department of Transportation, Olympia
John R. Borchert, Regents Professor, Department of Geography, University of Minnesota, Minneapolis
Ernest E. Dean, Executive Director, Dallas-Fort Worth Airport, Texas
Mortimer L. Downey, Deputy Executive Director for Capital Programs, Metropolitan Transportation Authority, New York, New York
Alan G. Dustin, Vice President and General Manager, New Jersey Transit Rail Operation
Mark G. Goode, Engineer-Director, Texas State Department of Highways and Public Transportation, Austin
Lester A. Hoel, Hamilton Professor and Chairman, Department of Civil Engineering, University of Virginia, Charlottesville
Lowell B. Jackson, Secretary, Wisconsin Department of Transportation, Madison
Alan F. Kiepper, General Manager, Metropolitan Transit Authority, Houston, Texas
Harold C. King, Commissioner, Virginia Department of Highways and Transportation, Richmond
Fujio Matsuda, Executive Director, Research Corporation of the University of Hawaii, Honolulu, Hawaii
James K. Mitchell, Professor and Chairman, Department of Civil Engineering, University of California, Berkeley
Daniel T. Murphy, County Executive, Oakland County, Pontiac, Michigan
Roland A. Ouellette, Director of Transportation Affairs, General Motors Corporation, Washington, D.C.
Milton Pikarsky, Director of Transportation Research, Illinois Institute of Technology, Chicago
Walter W. Simpson, Vice President-Engineering, Norfolk Southern Corporation, Norfolk, Virginia
John E. Steiner, Vice President for Corporate Product Development, The Boeing Company, Seattle, Washington (Retired)
Leo J. Trombatore, Director, California Department of Transportation, Sacramento
Richard A. Ward, Director-Chief Engineer, Oklahoma Department of Transportation, Oklahoma City

The **Transportation Research Board** is a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering. The Board's purpose is to stimulate research concerning the nature and performance of transportation systems, to disseminate information that the research produces, and to encourage the application of appropriate research findings. The Board's program is carried out by more than 270 committees, task forces, and panels composed of more than 3300 administrators, engineers, social scientists, attorneys, educators, and others concerned with transportation; they serve without compensation. The program is supported by state transportation and highway departments, the modal administrations of the U.S. Department of Transportation, the Association of American Railroads, the National Highway Traffic Safety Administration, and other organizations and individuals interested in the development of transportation.

The National Research Council was established by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the

Academy's purpose of furthering knowledge and of advising the federal government. The Council operates in accordance with general policies determined by the Academy under the authority of its Congressional charter, which establishes the Academy as a private, nonprofit, self-governing membership corporation. The Council has been the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in the conduct of their services to the government, the public, and the scientific and engineering communities. It is administered jointly by both Academies and the Institute of Medicine.

The National Academy of Sciences was established in 1863 by Act of Congress as a private, nonprofit, self-governing membership corporation for the furtherance of science and technology, required to advise the federal government upon request within its fields of competence. Under its corporate charter, the Academy established the National Research Council in 1916, the National Academy of Engineering in 1964, and the Institute of Medicine in 1970.

1. Report No. UMTA-DC-06-0285-84-2	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle SPECIAL BIBLIOGRAPHY: PUBLIC TRANSPORTATION AND THE PRIVATE SECTOR		5. Report Date October 1984	6. Performing Organization Code
7. Author(s)		8. Performing Organization Report No. UMTRIS 84S1	
9. Performing Organization Name and Address Urban Mass Transportation Research Information Service Transportation Research Board 2101 Constitution Avenue Washington, D.C. 20418		10. Work Unit No. (TRIS)	11. Contract or Grant No. DTUM60-81-C-72063
12. Sponsoring Agency Name and Address Information Services Technical Assistance Program Urban Mass Transportation Administration Washington, D.C. 20590		13. Type of Report and Period Covered Bibliography 1974-1984	
15. Supplementary Notes		14. Sponsoring Agency Code URT-7	
16. Abstract <p>The 208 citations in this bibliography are related to the involvement of the private sector in fixed-route and paratransit at a time when government support for public transportation is often declining as capital and operating costs are climbing. Until a quarter century ago, the private sector was responsible for much of the public transit in the United States. In the ensuing years, this situation has turned around completely. Now transit and government agencies are looking again to the private sector as a possible solution for some of their problems. The citations in this document—abstracts of technical reports and journal articles—cover the related literature published between 1974 and 1984.</p>			
17. Key Words Bibliographies, Urban Transportation Planning, Public Transit, Private Sector, Paratransit, Taxicabs, Contracting, Management Practices, Operating Costs, Subsidies		18. Distribution Statement Order from: Urban Mass Transportation Research Information Service Transportation Research Board Washington, D.C. 20418	
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages 55	22. Price \$6.50

Z
7164
.T8
P82

CONTENTS

Abstracts of Reports and Journal Articles	1
Source Index	39
Author Index	43
Retrieval Term Index	45

PREFACE

This bibliography of technical reports and journal articles has been produced from the data base of the Urban Mass Transportation Research Information Service (UMTRIS), which publishes *Urban Transportation Abstracts*. All citations are related to the use of private sector resources to perform functions of fixed-route transit or of paratransit.

UMTRIS was developed within the National Research Council (NRC) under a contract with the Urban Mass Transportation Administration (UMTA). The UMTRIS computerized data system incorporates information on planning, building, maintaining, operating, managing, and funding fixed-route transit, paratransit, and automated guideway systems. The UMTRIS concepts and procedures are similar to those of other Transportation Research Information Services (TRIS) within NRC's Transportation Research Board. These include the Highway Research Information Service (HRIS), the Highway Safety Information Service (HSIS), and the Railroad Research Information Service (RRIS).

Urban Transportation Abstracts is produced semiannually by UMTRIS. Each issue incorporates the citations that have been added to the data base in the previous 6 months. A listing of summaries of ongoing transportation research in the United States and Canada is also provided.

In this special publication the abstracts of reports and journal articles are arranged in order of their rising UMTRIS accession numbers. Following the abstracts, three index sections are given—Source Index, Author Index, and Retrieval Term Index. The numbers listed at the end of an index entry appear at the top of the individual citations.

The UMTRIS data base, which is maintained on magnetic tape, is available for computer-generated literature searches in response to specific inquiries. The key to performing a search is to use UMTRIS categories and appropriate retrieval terms, although other data fields such as author, country or origin of the document, or date of publication may also be included. Output of such searches may include abstracts of articles and reports, descriptions of computer programs, and summaries of ongoing research. The output is a computer-printed list similar to the citations that appear in this publication. The fees charged for

UMTRIS file searches and publications reflect the primary support from UMTA and the nonprofit nature of all TRB information services. Additional information may be obtained from UMTRIS.

AVAILABILITY OF DOCUMENTS

An availability statement is included with most of these abstracts. If there is no statement, the address of the publisher or other source may be obtained from the Source Index. Several of the availability sources are used frequently; therefore, they have been abbreviated to conserve space. The abbreviations of these sources and their full addresses are as follows:

ESL

Engineering Societies Library
United Engineering Center
345 East 47th Street
New York, N.Y. 10017
Telephone 212-644-7611

GPO

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Telephone 202-783-3238

NTIS

National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161
Telephone 703-487-4650

OST

Office of the Secretary
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590
Telephone 202-426-4000

TRB

Transportation Research Board
Publications Office
2101 Constitution Ave.
Washington, D.C. 20418
Telephone 202-334-3218

TRRL

Transport and Road Research Laboratory
Crowthorne, Berkshire RG11 6 AU
England
Telephone Crowthorne 3131

ABSTRACTS OF REPORTS AND JOURNAL ARTICLES

080813

URBAN TRANSPORTATION IN SOUTH FLORIDA

The proceedings are presented of a forum for debate of transportation problems in the South Florida urban region especially pertaining to the urban centers of Miami-Ft. Lauderdale-Palm Beach. The forum of public officials, planners, business leaders and citizens suggested and debated recommendations on policy and facility. The results of the discussions indicate that decision-making by both public and private sectors is being undertaken within a new and broadened context requiring major participatory format. Among the urban transportation aspects considered are, the planning process, public transportation as a solution to the transportation problem, urban pollution, congestion and mobility, and the social-economic integration of diverse population groups.

Proceedings of the South Florida Urban Transportation Forum.

Miami University, Coral Gables Feb. 1974, 107 pp, 1 App.

ORDER FROM: Miami University, Coral Gables, Ryder Program in Transportation, Coral Gables, Florida, 33124 Repr. PC

082724

THE MOD: A MODULAR URBAN TRANSPORTATION SYSTEM

The MOD is described as an urban transportation system which is based on a very small, two-passenger automotive rental vehicle using existing city roadways at the exclusion of the private passenger car. The proposed units of the MOD system have an empty weight of 300 pounds and have provisions for easy vertical parking. The MOD system is proposed as a self-supporting operation, run by private enterprise as a public utility. The urban transportation offered by the MOD system generates the set of institutional problems involved in proposals which exclude the private passenger car from the city. /Author/

Protopapa, S IEEE Transactions on Aerospace & Electronic System Vol. 10 No. 6, Nov. 1974, pp 805-810

084379

THE IMPACT OF TRANSIT SUBSIDY ON THE TAXI INDUSTRY

Evidence and arguments are presented concerning the existence and nature of an urban transportation problem of national scope, namely, the taxi-transit competition. The background to the problem and the current situation are examined, and it is suggested that large-scale federal provision of capital for urban public transit systems has a detrimental impact on taxi operations in urban areas. The role of taxis in the urban transport system is significant in terms of numbers of passengers carried and revenue generated. Data examined that equipment grants for more than 100 buses have a detrimental effect on taxi operations. Possible solutions to the taxicab situation fall into five categories: technological improvements; regulatory legislation; financial assistance; legal action; and mergers of taxi companies.

Black, WR (Indiana University, Bloomington) Traffic Quarterly Vol. 28 No. 4, Oct. 1974, pp 619-633, 2 Fig., 2 Tab., 17 Ref.

092722

TRANSPORTATION FOR OLDER AMERICANS. A STATE OF THE ART REPORT

The study examines the transportation demands of the elderly, present delivery systems, taxi and bus modes, the elderly as drivers and pedestrians,

and the scope of the market for elderly transportation needs. The study also examines sources of project funding for transportation (present and future potentials), special problems and constraints in developing transport projects for older Americans (public, special and private transport systems), and future needs for research and programs. The study also contains a set of detailed systems serving the elderly, a bibliography, and other special annexes on driver licensing, reduced fares, school bus laws, and others.

Revis, JS

Institute of Public Administration, Administration on Aging Final Rpt. IPA/AoA-1, Apr. 1975, 727p Grant HEW-93-P-57405/1-01

ACKNOWLEDGMENT: NTIS

ORDER FROM: NTIS, Repr. PC, Microfiche PB-243441/3ST

093019

AN ANALYSIS OF THE DEMAND FOR BUS AND SHARED-RIDE TAXI SERVICE IN TWO SMALLER URBAN AREAS

This report is a study of the demand for the publicly owned, fixed-route, fixed-schedule bus service and the privately owned, demand-responsive transportation service in two smaller urban areas—Davenport, Iowa, and Hicksville, New York. The objectives of the report were to compare the travel patterns and markets of the bus and shared-ride taxi systems, to compare the travel patterns and markets of the shared-ride taxi systems in each study area, to analyze factors and circumstances underlying the choice of either the bus or the shared-ride taxi, and to measure the public sentiment toward each form of public transportation. Information was gathered through on-board surveys, mail surveys, home interviews, and dispatching records and drivers' logs maintained by the taxicab companies. Users as well as non-users of public transportation were interviewed. A bibliography is furnished. Appendices contain Customer Data Record, Vehicle Data Record, and the bus passenger, taxi passenger and household survey questionnaires.

Paper copy also available in set of 6 reports as PB-245 099-SET, PCS27.00.

Middendorf, DP Heathington, KW Davis, FWJ

Tennessee University, Knoxville, Urban Mass Transportation Administration, (UMTA-TN-06-0004) Final Rpt. UMTA-TN-06-0004-75-1, May 1975, 312 pp

ACKNOWLEDGMENT: NTIS, UMTA

ORDER FROM: NTIS, Repr. PC, Microfiche PB-245105/2ST

093020

AN ANALYSIS OF TWO PRIVATELY OWNED SHARED-RIDE TAXI SYSTEMS: EXECUTIVE SUMMARY

The report is the executive summary of a comprehensive study of the markets, economic characteristics and operation of two privately owned, demand-responsive transportation systems in operation in Davenport, Iowa, and Hicksville, New York. Objectives of the study are stated and the study areas examined. In terms of the characteristics of bus and shared-ride taxi usage, the level of ridership, roles of bus and shared-ride taxi service, level of service, market composition, frequency of use, and modal choice determinants are addressed. Revenue, goods movement, and costs are presented in the section on economic considerations. Attitudes toward public involvement, management and organization, and the potential of shared-ride taxi service are discussed.

Paper copy also available in set of 6 reports as PB-245 099-SET, PCS27.00.

Heathington, KW Davis, FWJ Symons, RT Middendorf, DP Griese, SC
Tennessee University, Knoxville, Urban Mass Transportation Administration, (UMTA-TN-06-0004) UMTA-TN-06-0004-75-2, Apr. 1975, 25 pp

ACKNOWLEDGMENT: NTIS, UMTA
ORDER FROM: NTIS, Repr. PC, Microfiche PB-245106/OST

095822
DEMAND-RESPONSIVE TRANSPORTATION SYSTEMS IN THE PRIVATE SECTOR

Two privately owned demand-responsive transportation systems were investigated to determine the economic feasibility and marketability of these systems and the roles that they play in small-to medium-sized urban areas. The 2 systems are operated by innovative taxicab companies that offer door-to-door service in 6-passenger automobiles on a shared-ride basis. This paper summarizes the results of preliminary analyses of some of the basic information collected on the daily operations of these systems. The 2 companies differ in terms of fleet size, service area, fare structure, types of service offered, market strategies, and goals. Those differences are reflected in ridership, level-of-service, and economic characteristics. Preliminary results reveal the systems to be economically viable, marketable, and important components of the total public transportation system.

Heathington, KW Davis, FW, Jr Middendorf, DP Brogan, JD
(Tennessee University, Memphis) *Transportation Research Record* No. 522, 1974, pp 47-55, 1 Fig., 6 Tab.

ORDER FROM: TRB Publications Off, Orig. PC

098516
NORWALK BUS TRANSPORTATION STUDY

This report seeks to review the existing bus system of Norwalk, Connecticut and how it evolved, and then to offer a series of four alternative courses of action that will provide adequate levels of transit service to Norwalk citizens. Structured so that they can be phased in sequence, these alternatives can be presented separately in such a way that combinations of features can be made to form new alternatives which may be more responsive to local inputs. The four alternatives proposed are: (1) preserve existing bus service; (2) Traditional transit improvements; (3) Norwalk local system (This would eliminate intercity service by local bus transit to enable concentration of resources in Norwalk and in other neighboring cities with local bus systems. The intercity traveler would use the railroad or anticipate new service by an intercity bus carrier.); (4) New concept approach for comprehensive transit improvement. (Two types of service would be structured to complement one another; the bus subsystem is point to point; major traffic generators would be connected along a corridor. The taxi element of the system is continuous point to point service for trips originating and terminating in neighborhoods beyond the scope of the spine bus route. Chapters include the 5 year transit development program, existing transit system, bus passenger survey, recommendations, findings and implementation.

This report was sponsored by the Urban Mass Transportation Administration, Department of Transportation.

Tri-State Regional Planning Commission, (TS H-120(7610)) Tech. Rpt. UMTA-IT-09-0014-73-1, Jan. 1973, 110 pp

ACKNOWLEDGMENT: UMTA
ORDER FROM: NTIS, Repr. PC, Microfiche PB 241-423/AS

098661
CHARTER AND SCHOOL BUS OPERATIONS

Policies and procedures are prescribed (governing the provision of charter bus services and reporting of charter bus revenues and expenses by recipients of federal financial assistance for the purchase or operation of buses), procedures are formulated for the development of an agreement concerning charter bus/school bus operations, and discusses modification of prior agreements and amendment of applications for assistance. The revisions of certification are covered, as well as complaint procedures and remedies. Rules regarding reporting and records are also set forth. Interim agreements on charter and school bus operations are presented.

Federal Register Vol. 40 No. 115, June 1975, 13 pp

ORDER FROM: GPO, Orig. PC

099301
ROLE AND EFFECTIVENESS OF CONTRACT MANAGEMENT IN THE TRANSIT INDUSTRY

During the past decade, there has been a growing trend toward public acquisition of failing private transit companies. Many cities recognized however, that they do not have city personnel with the expertise, knowledge, or experience to run the newly acquired systems. Public entities which are responsible for the transit operations of publicly owned transit systems often must be created and take the form of transit authorities, commissions or boards. Many public entities have turned to transit management companies to run the daily operations of their systems. A study of the three major contract management companies and 26 properties managed by them has been conducted. The purpose of the study was to: 1.) survey the three major transit management companies in terms of ownership and history, present size and operating scale, management philosophies and corporate perspective on transit management; 2.) survey the organizational structures of various transit systems operated by contract management, the decision making process and the organization effectiveness. Results and conclusions obtained from this research could be summarized in the following; 1) contract management companies perform a justifiable role in the current state of development in the transit industry; 2) there are three basic types of organization structures utilized by publicly owned-contract managed transit systems. Each of these types tends to have typical characteristics relative to the decision making process within the organization; 3) transit systems associated with each of the major transit management companies tend to have individual characteristics which reflect each company's own operating philosophies and perspective. At the end a number of recommendations have been made relative to contact management and future research.

Prepared as part of a program of Research and Training in Urban Transportation at Marquette University sponsored by the Urban Mass Transportation Administration.

Bakr, MM Robey, D Miller, TS (United States Marine Corps)
Marquette University No Date, 51 pp, 2 Fig., 5 Tab., 13 Ref., 1 App.

126154
STATE OF THE ART OF DEMAND-RESPONSIVE TRANSPORTATION. SPEAKER 3

The clarification of the overall role of the taxi industry in the urban transportation system is identified as the major issue facing the industry today. Taxis are a major element in the urban transportation system; they serve more than 3,400 communities. Taxicabs carry more than 27 percent of the urban public transportation market. The taxi is considered the most flexible and efficient for demand-responsive service and shared use of the taxi in coordination with buses is the best short-range solution to urban transportation problems. It could also be the best long-range solution provided it continues to offer flexibility at favorable overall cost. The need for a flexible public passenger transportation system and the coincidental responsibility of making capital grants and fare subsidies is recognized. The need is indicated for subsidies and for monies to fulfill the need for equipment replacement, research and design of vehicles, and automatic identification-dispatch systems that would increase productivity 20 to 30 percent. The whole area of taxi regulation needs to be examined by the industry and government. There is a need for subsidized rides. A change of legal status is also necessary if the industry is to receive help on a continuing basis from local or federal sources. It is proposed that the taxicab industry and UMTA open discussion on eligibility for grants and the subsidization of particular groups of riders. The discussions should initially center on 4 areas: finance; service standards; entry into the industry and exit of the market; and equitable and consistent rate-making policies.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Boynton, C (Salt Lake City Taxicab Association) *Transportation Research Board Special Report* Conf Paper No. 154, 1975, pp 7-13

ORDER FROM: TRB Publications Off, Orig. PC

126174

**TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES.
SPEAKER 1**

The benefits that could result to the taxi operator and the municipal government from the integration of privately owned and publicly owned transportation systems is discussed, and plea is made for a change in the manner in which financial support is provided to various public transportation services. A comparison of the shared-ride taxi operation with several demand-responsive transportation (DRT) systems reveals that the levels of service of the taxi operations are higher although productivity is low. The demand for service is also higher for the shared-ride systems. Taxi operations are, however, not generally subsidized. DRT services are costly because of low demand, capital intensiveness, high labor rates, restrictions on work rules, and few economic incentives. A publicly owned system that used federal money under a 13-C agreement cannot easily change its type of operation. It has been suggested that efficient services at low operating costs can be provided better by private enterprise. Private operations could receive financial assistance but difficulties in obtaining the assistance was so great that almost no private system did receive assistance. Recently, however, the 2 groups (private and public) have begun discussion on the potential that exists for cooperative venture of the 2 groups.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Heathington, KW (Tennessee University, Knoxville) **Transportation Research Board Special Report** Conf Paper No. 154, 1975, pp 84-86, 2 Tab., 6 Ref.

ORDER FROM: TRB Publications Off, Orig. PC

126175

**TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES.
SPEAKER 2**

Certain features and problems are discussed of the taxi industry which has 190,000 vehicles, carries 25 percent of the commuter traffic and serves 3,400 cities of all sizes. An important feature of the industry is the group riding or demand-responsive transportation service. Contracts have been entered into with schools, and special education schools. Service is provided for welfare recipients and handicapped persons requiring wheelchair service. Package delivery and jitney service are also provided. One of the problems faced by the industry is retention of accumulated revenues. Ninety five percent of the money from the taxi meter goes to employees. During the past 10 years, the industry has moved from employer-employee businesses to a lessee relation in when the company provides licensed system insurance, dispatching, and coordination and rents the car to the driver. The frequent entry-exit problem is illustrated by the service in Washington, D.C. which has 8,000 licensed taxis and an estimated 1,500 on the streets in the best of times. Central coordination will improve the situation.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Boynton, C (Salt Lake City Taxicab Association) **Transportation Research Board Special Report** Conf Paper No. 154, 1975, pp 86-87

ORDER FROM: TRB Publications Off, Orig. PC

126176

**TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES.
SPEAKER 3**

In the field of demand-responsive transportation (DRT), government regulation at every level must be reviewed to permit the inclusion of more modern concepts of the 3 major areas of regulatory concern: chauffeurs, vehicles and service. This review must come soon because the thrust of current recommendations is to provide additional DRT service rather than to provide the means for existing business to meet the problem. In the area of chauffeur regulation, adequate and reasonable regulation must be enforced everywhere because too many licenses depend entirely on the licensing procedure to screen chauffeurs. Research indicates that the regulation of the design and construction of vehicles other than limitation

of seating capacity is practically nonexistent. The regulations concerning age and condition of vehicle is generally left to administrative judgment. The van type vehicle is often omitted, and as a result vehicles rendering jitney and DRT services are unregulated. The point is made that taxicabs, which have historically been the vehicles for the private transportation of one or more persons, must have the opportunity to provide any additional or new DRT services that may be needed. The average DRT vehicle load is well within taxicab capacity. The latter is also suited to package delivery. Partnership with public transit is also a possibility. Improvement in the regulations concerning the limitation of the number of vehicles to be licensed is long overdue. Regulations related to the requirement of financial reliability need to be updated. The enactment of no-fault insurance legislation will reduce accident costs. A further major regulatory feature of DRT industry is the fixing of rates of fare. The rate structures must be revised so that any new DRT service can be provided at the outset at least, by taxicabs or limousines of existing operators or other vehicles provided by the operators.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Samuels, R (Yellow Cab Company) **Transportation Research Board Special Report** Conf Paper No. 154, 1975, pp 87-91, 2 Ref.

ORDER FROM: TRB Publications Off, Orig. PC

126177

**TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES.
SPEAKER 4**

The successful operation is described of a demand-responsive transportation (DRT) system in Huntington Park, California, and the opinion is expressed that DRT operation is entirely compatible with taxicab operation. The employees of the taxicab company (the successful bidders for the city's DRT operation), took only 3 hours for adjusting to the new operations. The city which uses federal revenue sharing funds to buy the services, is supplied with drivers, vehicles and vehicle maintenance. The cost to the city is \$8.25/hour. Rates are 25 cents for children, adults and senior citizens alike. Two buses are operated from 9:00 a.m. to 6 p.m., and carry an average of 95 passengers/day/bus. The vehicle used is a 16-passenger van. A third bus is now needed (to meet the growing ridership) with a lift for handling of the handicapped, particularly those in wheelchairs. After 9 months of operation, it is concluded that no matter how high the ridership is, at the current rate structure, the operation will never be profitable.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Greyschock, DG (All American Cab Company) **Transportation Research Board Special Report** Conf Paper No. 154, 1975, pp 91-92

ORDER FROM: TRB Publications Off, Orig. PC

126178

**TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES.
SPEAKER 5**

This paper pursues the proposition that a demonstration program is needed to evaluate the potential for taxicabs for providing various paratransit services, and specifies, in general terms, a program of empirical investigation and experimentation designed to test and evaluate promising service innovations for taxicabs. Regulations seldom deal adequately with the various shared-ride services (jitney, dial-a-ride-, hail-a-ride, subscription) that taxicabs can provide. Taxicab operations by the private sector have not been eligible for the UMTA Capital Grant Program. A promising subsidy mechanism is one in which the public body negotiates a contract with a transportation provider to offer certain specified services at reduced fares; public funds are paid to the operator to supplement fare revenues. A second subsidy mechanism is the use of tickets sold to target group travellers at reduced rates and redeemed at the full fare value by the transportation provider (variations of this mechanism are also suggested). Benefits and potential problems with these services (jitney, dial-a-ride, hail-a-ride, subscription) and subsidy mechanisms are discussed. Transforming innova-

tions in taxi services from ideas to implementation involves 2 major steps: broadening the knowledge base, and the dissemination of information relating to these factors to planners etc. Analyses conducted on the lines outlined here could provide a basis for the development of planning guidelines and demonstrations.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Kirby, RF (Urban Institute) **Transportation Research Board Special Report Conf Paper No. 154, 1975, pp 92-98, 3 Ref.**

ORDER FROM: TRB Publications Off, Orig. PC

126179

TAXIS AND OTHER PRIVATE TRANSPORTATION SERVICES. SPEAKER 6

This paper expresses the opinion that the nations need for demand-responsive transportation (DRT) could be met by independent taxi-paying businesses, and deplors the current tendency toward socialization of transportation. For more than 25 years Long Island's taxicab industry has, in fact, been a DRT system. It has paid its way while fares have been maintained low. It has accomplished this within the confines of the existing socioeconomic system and without any direct subsidy through transit bills, tax relief, or price support for inequitable fuel costs.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Hirsch, S (Orange and White Taxi Systems) **Transportation Research Board Special Report Conf Paper No. 154, 1975, pp 98-99**

ORDER FROM: TRB Publications Off, Orig. PC

126189

EVALUATING DEMAND-RESPONSIVE TRANSPORTATION SYSTEMS. SPEAKER 2

Development trends in cities and their implication for urban transportation systems are briefly reviewed. The CBD-focused, fixed-route transit systems are mismatched to the evolving needs of increasingly low-density and multinucleated cities. Regionwide door-to-door systems such as those in Orange and Santa Clara counties, in Rochester and in Ann Arbor, overcome this mismatch. Conjectures as to how these regionwide systems might evolve are presented, and some criteria for their success are listed (double current transit ridership; achieve full decongested traffic flow without car disincentives; achieve mostly decongested flow with some car disincentives; increase current transit ridership 10 times; and provide 99 percent availability in time and space) are discussed. A figure is presented which compares a flexible-route system with a fixed-route system offering the same level of service, defined as the ratio of walk, wait, and trip time to the best no-wait direct route. Figures also show that the higher the service level, the greater the proportion of flexible-route elements in a total system. The two-phase evolution of the system over time is described; the first phase is that in which coverage of the low-density suburbs is being added, and the second is that after complete coverage is achieved. Experience suggests that these new systems cannot pay for themselves while at the same time attracting a higher level of use. Apart from the problem of overall subsidy, there should be an internal-to-the-system cross subsidy between high- and low-productivity elements. Private taxi operators lead to the issue of private capital and public subsidy. These systems are seen to lend themselves ideally to incremental planning and implementation.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Ward, JD (Department of Transportation) **Transportation Research Board Special Report Conf Paper No. 154, 1975, pp 146-153, 10 Fig., 2 Ref.**

ORDER FROM: TRB Publications Off, Orig. PC

126191

POLITICAL AND PUBLIC POLICY ISSUES RELATED TO DEMAND-RESPONSIVE TRANSPORTATION. SPEAKER 1

The role played by the state in cooperating with local and federal agencies in sharing the risks that fall to innovators of DRT will be debated by the legislature, which will seek to develop a means of bridging the needs of local jurisdictions and the strengths of the federal government with state resources and thereby share in the risks that innovations in service and technology will entail. Demand-responsive transportation (DRT) is seen as an attempt to solve some of the problems of congestion and pollution, and the immobility of the poor and the elderly. It must, however, be realistic and efficient in implementation. It must be realized that most DRT systems have not generated demands greater than 10 requests/square/mile/hour; ridership surveys show that the majority of rides have not replaced automobile trips. Concern for efficiency is an important factor; the California legislature opposed DRT because of its labor-intensive nature and the resulting costs. Several communities in California are developing contracts with the private sector to transport the immobile. In Los Angeles, positive steps are being taken with respect to the private sector; the supply of taxicabs has been increased in its franchise areas and jitney services are being experimented. In Santa Clara county, an experimental countywide DRT and arterial bus system is being inaugurated.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Ingalls, WM (East Riverside, County of, California) **Transportation Research Board Special Report Conf Paper No. 154, 1975, pp 160-161**

ORDER FROM: TRB Publications Off, Orig. PC

126192

POLITICAL AND PUBLIC POLICY ISSUES RELATED TO DEMAND-RESPONSIVE TRANSPORTATION. SPEAKER 2

The paper focuses on UMTA's view relating to the potential of paratransit or demand-responsive transportation (DRT), and discusses some of the policy implications. The future of community paratransit service, characterized by the flexible routing and scheduling of small vehicles to provide shared-occupancy, door-to-door, personalized transportation service within smaller communities and suburban neighborhoods is virtually assured. However, the biggest scope for the future expansion of paratransit lies in its becoming an element of integrated metropolitan transportation systems. An effective urban transportation system, one that will provide a high level of service at the least cost, requires a mix of vehicles, service levels, and operating regimens, tailored to the different demand conditions, widening densities, and travel patterns prevailing in particular corridors and subareas of the metropolitan region. UMTA will encourage applicants to be more mindful of the immediate and near-term transportation needs of metropolitan areas. UMTA will also want to know to what extent long-range transportation plans can be implemented in a more time-phased, incremental fashion. Examples of potential new paratransit applications are listed, and quoted as examples of the ways in which paratransit could complement (not compete with) existing transportation services. UMTA would like to know whether prearranged feeder service to line-haul commuter buses and trains could be provided by private operators at a cost that commuters could afford. It is emphasized that single-mode transportation systems, be it paratransit, rail, or freeway systems, cannot offer a solution to all transportation problems.

Presented at the Fifth Annual International Conference on Demand-Responsive Transportation Systems conducted by the TRB, Nov. 11-13, 1974, Oakland, Calif.; and co-sponsored by American Public Transit Association, California DOT, Alameda-Contra Costa Transit, MIT, UMTA and Technology Sharing Program of U.S. DOT.

Orski, K (Urban Mass Transportation Administration) **Transportation Research Board Special Report Conf Paper No. 154, 1975, pp 162-165**

ORDER FROM: TRB Publications Off, Orig. PC

127467

RECREATION ACCESS STUDY

This study was conducted from the perspective of the user, to learn the role which transportation plays in recreation decisions, and from the perspective of the recreation area, to see how current access affects the areas. An inventory of regionally significant recreation resources under the jurisdiction of Federal and State governments was developed. In examining access to sample of these recreation areas, the following recurrent problems were identified: congestion at approaches to recreation sites at peak times; inadequate internal circulation systems; lack of adequate public transportation access; haphazard private development; and degradation of the physical environment with overaccommodation of the heavy reliance on private automobiles. In accordance with current energy, environmental, and economic concerns, several recommendations, none of which involve new legislation or or new programs, are made. Briefly, these recommendations are directed toward the following objectives: increased attention by transit operators to opportunities to provide routes, schedules, and marketing efforts to increase recreational tripmaking by transit; reduction of Federal, State, and local regulations which impede efficient, profitable, and attractive transportation service by motor bus operators and other private interests; and development by land management and recreation agencies of investment and management practices which foster alternatives to auto access.

Office of the Secretary of Transportation Aug. 1975, 18 pp

127495

EVALUATION

The failure of the transportation process or program is traced to lack of management. The basic cause of this failure is human, not technical. In evaluating the transportation programming process, reference is made to a linear alignment (from planning to programming to right-of-way acquisition to construction) and to factors of time, funds, and manpower generally for individual projects and possibly grouped. The evaluation of success must seriously consider the role of transportation in meeting the needs and the desires of society, the role of each level and unit of government, the role of private enterprise in establishing and accomplishing reasonable objectives, the balance of resources among all functions of publicly funded programs, and the performance of individual agencies and units in their assigned roles with available resources. In the discussion which follows, the Federal Highway Administration's viewpoint is put forward: programming is necessary; and the Administration is committed to restoring it with a minimum requirement of federal presence in an evaluation process. The Urban Mass Transportation Administration has statutory objectives against which to measure progress, and certain national objectives of air quality and energy conservation. However, these are not operational objectives. Such objectives, it is suggested could be the improvement of the quality of service for the "transit independents"; improvement of mobility of the transit dependents; and the reduction of automobile usage because such usage serves as a surrogate for certain more basic goals such as improved environmental quality and energy conservation.

Proceedings of a conference held March 23-26, 1975 at Orlando, Florida. See individual sections, HRIS 127487-127495.

Revell, WL (Post, Buckley, Schuh and Jernigan, Incorporated) Lamm, LP. Discussor (Federal Highway Administration) Orski, CK, Discussor (Urban Mass Transportation Administration) **Transportation Research Board Special Report No. 157, 1975, pp 67-72**

ORDER FROM: TRB Publications Off

129946

PARATRANSIT: THE COMING OF AGE OF A TRANSPORTATION CONCEPT

The nature and potential of paratransit is examined, and the question of what accounts for its growing popularity is considered. The family of services known collectively as paratransit arose in the 1960's with rapid suburbanization and the need for transportation services that would approximate the convenience and ubiquity of the automobile, yet preserve the inherent economy and efficiency of public transportation. The concept of multipurpose community paratransit services are of special promise. Outstanding examples of such services are to be found in El Cajon, California, and Westport, Connecticut. In central cities paratransit can serve as a valuable complement to regular transit. The use of taxis to replace buses on routes that are little frequented, has been successful in

German cities such as Munich, Stuttgart, and West Berlin. Potentially, the most far-reaching opportunity for paratransit lies in the concept of paratransit/transit operations. Although paratransit is not an alternative to the traditional transit services, it represents a viable mode in the current search for energy-saving transportation systems.

Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research, and sponsored by the Urban Mass Transportation Administration.

Orski, CK (Urban Mass Transportation Administration) **Transportation (Netherlands) Vol. 4 No. 4, Dec. 1975, pp 329-334, 7 Ref.**

131318

PUBLIC TRANSPORTATION IN JAPAN: CONTRASTS AND CONCLUSIONS

Emphasis on the rail mode in Japan is examined. The Japanese National Railways is a dominant factor in both the intercity and commuter passenger services. Japan has subways in seven urban areas, several of which are also served by privately owned suburban railways. The author discusses ticketing, service and control, and travel habits of the Japanese. Convenience, comfort, safety and dependability of trains are seen as a reason for the popularity of public transport in Japan.

Krambles, G **Transit Journal Vol. 1 No. 3, Aug. 1975, pp 29-38**

ORDER FROM: American Public Transit Association, 1100 17th Street, NW, Washington, D.C., 20036 Repr. PC

132341

THE BUS AND COACH INDUSTRY: ITS ECONOMICS AND ORGANIZATION

The author outlines the development of the coach and bus industry from 1896 to the present time, its social and economic impact, administration, and its function. A detailed study is conducted of infrastructure costs, economies of scale, changing policy under monopoly and in competition, problem of insufficient demand, and that of competition and integration. The future of the coach and bus industry is examined in detail, and proposals for the amendment of the Road Traffic Act, 1960, designed to remove discriminatory provisions from the act, are appended. /TRRL/

Hibbs, J (City of Birmingham Polytechnic, England) Dent (JM) and Sons Limited 1975, 224 pp, Figs., Tabs., Refs.

ACKNOWLEDGMENT: TRRL (IRRD-215243)

ORDER FROM: Dent (JM) and Sons Limited, Aldine House, Albermarle Street, London, England

133209

SMALL CITY TRANSIT: BREMERTON, WASHINGTON: PRIVATELY OPERATED SUBSCRIPTION BUS SERVICE TO AN INDUSTRIAL SITE

Bremerton, Washington, is an illustration of a privately operated, profitmaking subscription bus service. This case study is one of thirteen examples of a transit service in a small community. The background of the community is discussed along with a description of the implementation process and operational characteristics of the transit service. The process through which the community responds to the specific needs for transit service within the local context is stressed.

See also PB-251 505.

Kendall, D Misner, J

Transportation Systems Center, Urban Mass Transportation Administration, (DOT-TSC-UMTA-76-5-4) Final Rpt. DOT-TSC-UMTA-76-75, UMTA-MA-06-0049-76-4, Mar. 1976, 10 pp Contract MA-06-0049

ACKNOWLEDGMENT: NTIS, UMTA

ORDER FROM: NTIS PB-251504/7ST

134677

COMPARISON OF PRIVATELY AND PUBLICLY OWNED DEMAND-RESPONSIVE SYSTEMS

Urban transportation planners usually agree that urban systems can be put into 3 categories. One of these, multiple or shared-ride, demand-responsive systems, has received comparatively little investigation and consideration as a workable form of urban public transportation. This paper deals with

this form of urban transit. Six publicly owned shared-ride systems are compared with 2 privately owned systems. Similar variables are observed, and conclusions are drawn from the observations. The information indicates that the private systems are servicing a large area with a smaller seating capacity. Both are attracting the same market segments, but the private systems are obtaining a higher average fare. This, coupled with the lower costs of the private operation, enables the private systems to operate at a profit while the majority of public systems operate at a deficit.

Davis, FW Heathington, KW Alford, R Symons, R Middendorf, D (Tennessee University, Memphis) **Transportation Research Record** No. 559, 1976, pp 11-20, 3 Fig., 4 Tab., 6 Ref.

ORDER FROM: TRB Publications Off, Orig. PC

134678

SUMMARY OF ORGANIZATION AND ENVIRONMENTAL REVIEW OF 2 PRIVATELY OWNED, SHARED-RIDE TAXICAB SYSTEMS

Steadily decreasing ridership on traditional urban transportation modes has prompted concern about urban transportation systems. This paper deals with 1 level of such a system—privately owned, shared-ride, demand-responsive services. The intention of this paper is to provide an introduction to some of the basic characteristics and concepts of taxicab service in urban areas. It has been written primarily for the use of those who are generally uninitiated in the subject area but who are nevertheless interested in alternative methods of providing urban public transportation service. The paper serves as a starting point for more detailed study of taxicab systems and services, and it serves to develop an awareness of the operating environments and functional structure that have proved fundamental to the success of any organization. Thus it follows that the way in which a privately owned, demand-responsive taxicab system organizes itself, provides itself with the necessary personnel, equipment, facilities, and services, and formulates and follows an operating strategy will be the fundamental factor in making the system a workable enterprise. This paper, then, examines the functional structures of taxicab systems, the requirements and characteristics of the people who operate them, the regulatory environments in which the systems operate, and the various pricing strategies that the systems may follow.

Heathington, KW Davis, FW Alford, R Symons, R Middendorf, D (Tennessee University, Memphis) **Transportation Research Record** No. 559, 1976, pp 21-32, 9 Ref.

ORDER FROM: TRB Publications Off, Orig. PC

134684

MOBILITY CLUB: A GRASS-ROOTS SMALL-TOWN TRANSPORT CONCEPT

The dispersion of relatively small numbers of people in rural environments is a substantial barrier to collective means of travel such as conventional bus service or demand-responsive transit. Accordingly, this paper proposes and analyzes an approach based on ride sharing in private automobiles that might provide significant relief for the problems of rural immobility. This solution, termed a mobility club, can be implemented within the work-force and financial resources of most small towns and rural communities. Trip desires of individuals without automobiles are matched to the trip-making intentions of persons with automobiles by the mobility club telephone dispatcher or ride broker. A companion feature is the method proposed for increasing the number of "travel friends," that is, the number of persons who are well enough acquainted to trust traveling together. This paper discusses the operational, administrative, and institutional aspects of the mobility club concept. An example is presented to illustrate the magnitude of the potential driver-member supply and trip-making desires of residents without automobiles in a sample rural and small-town environment. Operating expenses, fare structures, and subsidy considerations are outlined. Some simple steps to assist individuals who may wish to start a mobility club are given.

Yukubousky, R Fichter, D (New York State Department of Transportation) **Transportation Research Record** No. 559, 1976, pp 89-100, 5 Fig., 4 Tab., 4 Ref.

ORDER FROM: TRB Publications Off, Orig. PC

135034

LEGAL AND INSTITUTIONAL ISSUES IN IMPLEMENTING PUBLIC OR PRIVATELY SPONSORED CARPOOLING PROGRAMS IN CANADA

This study of 4 different types of carpooling (car pools, dynamic car pools, van pools, and bus pools) considers aspects related to implementation, regulations, and liability, and discusses specific case studies. In the conventional carpool, passengers and drivers are known to each other; dynamic carpooling can be arranged by radio, TV or the newspapers, and involves picking up passengers at designated stops; poolers may also combine to purchase a van or the van may be purchased by the employer; bus pools are run at specified times between a community and an employment center. The study concludes that the question of who should implement a carpooling program should be considered after the program is drawn up. Driving license requirements and taxi regulations vary, and the attitude of the transit authorities to exclusive franchise rights of transit systems are also known to vary. The liability of the driver of a carpool vehicle to the passenger, the liability of passengers to injured third parties, employer liability, and taxation are also discussed.

Glasbeek, S

Transportation Development Agency Oct. 1975, 116 pp, 1 Tab.

ACKNOWLEDGMENT:

ORDER FROM: Roads and Transportation Association of Canada, 1765 St Laurent Boulevard, Ottawa, Ontario K1G 3V4, Canada

136802

AN ANALYSIS OF COMMUTER VAN EXPERIENCE

The report analyzes the planning, organization, and operation of commuter van programs (often called van pools) in the U.S. and Canada. More than 30 existing operations have been examined and classified by considering the major organizational arrangements for providing the service. The potential benefits van commuting generates for the users, employers and community are discussed, and the paper presents guidelines on the demand environment and indicates the service characteristics that are likely to be important in attracting riders. Major legal issues including public regulation, competition with bus transit, liability and insurance, and implications of driver compensation are also reviewed. The potential for widespread van programs and the proposals for large-scale, areawide van service are also discussed.

Paper copy also available in set of 2 reports as PB-252 303-SET, PC\$8.00.

Miller, GK Green, MA

Urban Institute, Urban Mass Transportation Administration, (UMTA-DC-06-0120) Final Rpt. UI-5050-2-2, UMTA-DC-06-0120-76-1, Feb. 1976, 41 pp

ACKNOWLEDGMENT: NTIS, UMTA

ORDER FROM: NTIS, NTIS Price, /MF\$2.25 PB-252304/1ST

136915

A COMPENDIUM OF PROVISIONS FOR A MODEL ORDINANCE FOR THE REGULATION OF PUBLIC PARA-TRANSIT

This report comprises a complete set of provisions for the regulation of various types of public para-transit transportation. Its preparation consisted for five stages: Collection and analysis of the statutes of every state, the ordinances of some 600 municipalities and several multi-state compacts; the compilation, comparison, and the organization and drafting of the sections; considerations of varying attitudes concerning several philosophies of regulation as revealed by the existing regulations; research into the needs which would appear from the implementation of new forms of public para-transit transportation; and the assembly of the COMPENDIUM. On the pages opposite the text are cross-references, comments by the authors, some legal warnings, and generalizations intended to assist the user in the selection process. The sections of the COMPENDIUM are: Definitions; ambiguities; the licensing authority; operating licenses; vehicle licenses; chauffeur's and attendant's licenses; fees and penalties; financial responsibility; inspection of vehicles; books and records; reports; service of notice, etc.; hearings; affiliates; taxicabs; liveries and limousines; non-transit buses; jitneys; ambulances and cabulances; criminal offenses; police powers not infringed; amendments; and, partial invalidity.

Samuels, RE

International Taxicab Association, Urban Mass Transportation Administration. (UMTA-IL-06-0029) UMTA-IL-06-0029-76-1, Feb. 1976, 235 pp Contract IL-06-0029

ACKNOWLEDGMENT: NTIS, UMTA
ORDER FROM: NTIS PB-253182/OST

138440

TAXICABS IN MULTIMODE PARATRANSIT OPERATIONS

The history of taxicab operations in the paratransit mode is briefly reviewed, and comments are made with regard to its future. The statistics for taxicab operations (the number and types of vehicles, and employee level) are noted. The major concern of the industry at the present time, are maintaining and expanding ridership, controlling costs, diversifying operations, and integrating services with other modes. To provide an equitable arrangement in public transportation, the industry advocates the following: subsidize the rider; enter into contractual arrangements for public transportation with private companies which are the most cost efficient; and provide direct subsidies for capital improvements and operations to private companies that are currently providing services below replacement and operating costs of a new system. Areas for future research are: ridership characteristics; liability insurance rates and alternatives such as self insurance; the termination of demonstration projects; comparative studies of various transportation modes, and measures of productivity.

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Gallagher, RV (International Taxicab Association) **Transportation Research Board Special Report No. 164, 1976, pp 31-34, 6 Ref.**

ORDER FROM: TRB Publications Off

138445

INTEGRATION OF PARATRANSIT AND CONVENTIONAL TRANSIT: PROBLEMS AND POSITIVE DIRECTIONS

This discussion of the problems underlying the integration of conventional and paratransit alternatives in urban areas notes that legislation and the current regulatory framework severely constrain innovation, and points out the folly of expansion of the conventional peak-time transit fleet by traditional methods. A change from the homogenous origin-destination type to a heterogeneous market-oriented process is encouraged, and a restructuring of the urban public transportation system is advocated. Policy decision-making must seek to change conventional private transit systems to meet consumer demands for mobility. The integration with paratransit alternatives provides the only possibility for attracting sufficient ridership to public transportation to permit the achievement of desired urban transportation goals. The organization (transit management, transit officials, private suppliers, and transit users) of the conventional systems and the federal role in such systems are discussed, and comments are made. The organization for regional public transportation is reviewed, and figures are used to illustrate the traditional planning process, the target market approach to urban transportation, the organization of metropolitan regional transportation authority, and the product and functional orientation of regional transportation authority.

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Mundy, RA (Tennessee University, Knoxville) **Transportation Research Board Special Report No. 164, 1976, pp 73-80, 5 Fig., 6 Ref.**

ORDER FROM: TRB Publications Off

138447

THE FEDERAL GOVERNMENT AND PARATRANSIT

This exploratory effort to identify several federal policy issues and to review significant experience, discusses the issue of taxi-transit competition, the legal aspects of "transit", and the integration of taxicabs into transit planning and subsidy policy. Issues raised by paratransit innovations are considered, and the application of section 13c is discussed. The questions are discussed about the precise boundary between private and mass transportation, about how to integrate taxis into transit planning, about the eligibility of shared-ride taxi service for transit subsidies, and about public policy with respect to the fair treatment of private companies harmed by

publicly subsidized competition. Paratransit poses significant issues of potential competition with conventional transit, particularly with respect to van-pool and special services. Paratransit also poses issues in the area of labor protection (section 13c).

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Altshuler, A (Massachusetts Institute of Technology) **Transportation Research Board Special Report No. 164, 1976, pp 89-104, 12 Ref.**

ORDER FROM: TRB Publications Off

138450

PRIVATE CARRIERS AND URBAN TRANSPORTATION

This paper considers the current role of private carriers, discusses the issues facing private carriers, and makes recommendations with regard to research in this area. Variations in the kind of service provided by private carriers turn largely on the degree of privacy desired by the passenger first hiring the vehicle, the capacity of the vehicle, and the control over the points of origin and destination of the trip and the route travelled. The spectrum of vehicles employed are listed, and the characteristics of prospective passengers are briefly described. The financial potential of demand-responsive transportation is considered and the regulation of such transportation is discussed. Many improvements in practice would have been implemented if they were not inhibited by local regulations, some of which may also inhibit the development of paratransit. The industry is faced with cost increases that result from legislative acts that go beyond the ability of the industry to recoup by greater fares. This creates financial problems that must be met by subsidy. Relation between operators and the federal government is discussed. A major area of research is in the area of implications and problems underlying the exposure of all public carriers to liability arising from the operation of the various vehicles employed in paratransit.

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Samuels, RE (Yellow Cab Company) **Transportation Research Board Special Report No. 164, 1976, pp 120-126**

ORDER FROM: TRB Publications Off

138461

EFFECT OF GOVERNMENTAL CAPITAL AND OPERATING ASSISTANCE ON THE DEVELOPMENT OF PARATRANSIT—WORKSHOP 2

The workshop discussion focussed on how federal money will be spent on paratransit in the next few years, particularly UMTA money, and how the precedents established by the expenditure of these funds will shape the future development of this field of transportation. The workshop noted that where new services are being created (particularly demonstrations), potential conflicts can be reduced by dealing directly with uncertainties. User-side subsidies for approved paratransit and transit seem least likely to adversely impact labor and private operators and most likely to benefit target groups with specific unidentified transportation needs. The workshop also found that mechanisms of cooperation that render the greatest efficiencies of all available resources are to be preferred to the creation of numerous isolated projects that have separate client groups and paratransit equipment. Emphasis on services rather than suppliers ought to foster the fuller use of private sector resources, existing transit systems, and centralized paratransit systems for specialized client needs. Areas for further study as well as recommendations made by the workshop are listed.

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Burco, RA (Oregon Department of Transportation) **Transportation Research Board Special Report No. 164, 1976, pp197-200**

ORDER FROM: TRB Publications Off

138462

INSTITUTIONAL CHANGES NEEDED TO FOSTER THE DEVELOPMENT OF PARATRANSIT—WORKSHOP 3

The workshop which sought to examine the roles of organizations responsible for the planning, funding, implementation, operation and

coordination of various paratransit and transit services, described the type and impact of regulation on the provision of paratransit service, as well as institutional and legal changes. Labor arrangements for different paratransit services were examined, and the current and potential roles of private paratransit providers were reviewed. A first step in assisting new services would be to get adequate representation for paratransit operators in metropolitan planning organizations (MPO). Possible actions in the field of regulations are listed, and suggestions are made regarding insurance of paratransit vehicles. Courses of action are also suggested regarding the initiation of new paratransit services, and the UMTA section 16b2 program for providing capital funds for selected private non-profit transportation projects. Guidelines are presented for coordinating transit and paratransit. Other issues covered include: ombudsman for paratransit operators; the substitution of paratransit operations in low-volume routes; the redirection of public policy; fares; and integration with urban transportation services.

Paratransit: Proceedings of a conference held November 9-12, 1975 conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Shiatte, KW (New York State Department of Transportation)
Transportation Research Board Special Report No. 164, 1976, pp201-205

ORDER FROM: TRB Publications Off

138466

CONFERENCE SUMMARY

Salient points discussed at the conference are noted, critical issues are examined and future directions of paratransit are considered. Implementation problems associated with labor, insurance and regulations (particularly the last) were much discussed, and it is noted that regulations that are outdated, conflicting and inconsistent should be updated. The need is also noted for adequate education and information transfer at several levels including transfer at the microlevel. The question of how to ensure that paratransit alternatives will be given consideration in the planning and resource allocation process is considered, and it is suggested that UMTA and other federal agencies should be more involved in the planning process. The transportation system management element can be an effective mechanism to ensure that urban areas consider paratransit alternatives, regulatory issues, and alternative providers of transportation. The issue of using private operators to implement new paratransit services is considered and the primary responsibility for coordination of transportation is discussed. The development of an integrated system using both conventional and paratransit services, and the federal role in such services are also discussed.

Paratransit: Proceedings of a conference held November 9-12, 1975, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration.

Roos, D (Massachusetts Institute of Technology) **Transportation Research Board Special Report No. 164, 1976, pp219-222**

ORDER FROM: TRB Publications Off

141404

LESSONS FOR TRANSPORTATION POLICY DRAWN FROM PUBLIC HOUSING, URBAN RENEWAL, AND OTHER FIELDS

Goal achievement in transportation programs appears more likely if policy-makers, program analysts, and educators learn from the experiences of people in nontransportation programs. Expensive mistakes, dead-end approaches, and negative impacts that can be avoided in transportation policies are illustrated with analogies to the implementation problems and program impacts of public housing and urban renewal. Evaluations of public housing programs suggest that the mere provision of new mass transit facilities and services is unlikely to change the basic values and behavior preferences of many population segments despite the hopes of planners, environmentalists, and mayors. The transformation of large-scale, impersonal public housing programs to smaller scale, personalized, and home-owner rehabilitation programs has transportation analogies in pedestrian and private vehicle access improvement programs. Subregional transit services run by managers sensitive to community and traveler needs appear likely to improve population mobility more than investments in costly downtown-oriented linehaul systems. Evaluations of urban renewal programs suggest that urban transportation system management policies must consider the nature, extent, and incidence of negative social, psychological, and economic impacts associated with various strategies to

reduce automobile ownership and use. As with relocation housing, comparable public transportation services must be available to affected car users, or adequate financial compensation should be made available. The paper concludes by specifying the institutional implications to reflect lessons from nontransportation fields. New services are suggested to help transportation suppliers and the traveling public. Professional transportation education improvements are recommended.

Prepared for the 54th Annual Meeting of the TRB held in Washington, D.C.

Gurin, DB (Urban Mass Transportation Administration)
Transportation Research Record Conf Paper No. 583, 1976, pp 15-28, 1 Tab., 14 Ref.

ORDER FROM: TRB Publications Off

145337

DEMAND RESPONSIVE TRANSPORTATION: AN INTERPRETIVE REVIEW

The problems and potential of several demand responsive transportation (DRT) modes are examined in this paper. The analysis provides suggested recommendations to decision makers, as well as policy analysts and transportation planners. Included in the definition of DRT are the auto, taxi, rent-a-car, jitney, dial-a-bus, car pool, and subscription bus. The main conclusions are: (1) decision makers should not focus on taxis, rent-a-car, jitney, dial-a-bus, car pool, or subscription bus to reduce congestion and pollution without disincentives to auto use; (2) jitneys can help the transit poor, and jitney development by the private sector should be encouraged, particularly along routes currently overloading public transit where resistance from transit operators is likely to be the least. Or, jitneys might be encouraged to feed public transit, if this proves politically feasible. (3) Since the greatest potential of dial-a-ride is in helping the poor and elderly rather than reducing congestion, decision makers should consider providing vouchers to the poor and elderly for use on taxis before considering the public provision of an entire dial-a-ride system. (4) Local decision makers, as well as state agencies supporting local demand responsive transportation, should support efforts to increase the supply of taxis. Recognizing the political difficulties involved in increasing the supply, compromise solutions aimed at encouraging incentives for competition, such as leased cabs, should also be encouraged. /Author/ /TRRL/

Higgins, T **Transportation (Netherlands) Vol. 5 No. 3, Sept. 1976, pp 243-256, 2 Fig., Refs.**

ACKNOWLEDGMENT: TRRL (IRRD 222585)

148238

TRANSPLAN 76: INITIAL IOWA TRANSPORTATION PLAN

This plan which stresses the roles played by the public and private sectors in providing transportation services is presented in seven sections which cover: statewide transportation planning, the Iowa Transportation Policy, modes, needs, resources and programming, critical issues, and public investment in transportation. Iowa has been using a needs study approach for more than 15 years as its basic highway planning tool. The Iowa Transportation Plan is concerned with the socio economic and environmental consequences of transportation investments as well as decisions on types and timing of investments and funding sources. Iowa's transportation policy supports the establishment of an adequate and safe multimodal transportation system. Air, waterway, rail, transit, road and pipe transit modes are considered, and financial needs and resources are discussed. Passenger and freight modes and planning values related to energy intensiveness are discussed, and freight and passenger cost characteristics are noted.

Iowa Department of Transportation Mar. 1976, 274 pp, 82 Fig., 67 Tab., 6 Ref.

ORDER FROM: Iowa Department of Transportation, Planning and Research Division, Des Moines, Iowa, 50319

148243

CONSEQUENCES AND CAUSES OF PUBLIC OWNERSHIP OF URBAN TRANSIT FACILITIES

The reasons for the shift from private to public ownership of urban transit facilities are the subject of the paper. The regulation theory suggests that this shift is due to the increasing severity of regulation, while the declining-market and externalities hypotheses suggest that increases in automobile

ownership are the reason for reduced profits and public ownership. Regression results indicate that profit margins of privately owned systems are higher when regulation is by a state rather than a local agency. Changes in profit margins over time are found to be directly related to increases in automobile ownership. /Author/

Pashgian, BP (Chicago University) *Journal of Political Economy* Vol. 84 No. 6, Dec. 1976, pp 1239-59, 7 Tab., 7 Ref., 1 App.

156099

BUS AND SHARED-RIDE TAXI USE IN TWO SMALL URBAN AREAS

The demand for publicly owned fixed-route, fixed-schedule bus service was compared with the demand for privately owned shared-ride taxi service in Davenport, Iowa, and Hicksville, New York, through on-board surveys and cab company dispatch records and driver logs. The bus and shared-ride taxi systems in Davenport competed for the off-peak-period travel market. During off-peak hours, the taxi tended to attract social-recreation, medical, and personal business trips between widely scattered origins and destinations, while the buses tended to attract shopping and personal business trips to the CBD. The shared-ride taxi system in Hicksville, in addition to providing many-to-many service, competed with the countywide bus system as a feeder system to the Long Island commuter railroad network. In each study area, the markets of each mode of public transportation were similar. There were no statistically significant differences between bus and shared-ride taxi users in Davenport relative to ability to drive, household income, employment status, number of automobiles available to the household, and physical capabilities. Bus and shared-ride taxi users in Hicksville differed slightly in age, household income, number of automobiles available to the household, and distance from home to bus stop. In general, a major portion of the market of both shared-ride and taxi systems were of people likely to be dependent on some form of public transportation for some of their trips. /Author/

Middendorf, DP (Peat, Marwick, Mitchell and Company) Heathington, KW (Tennessee University, Memphis) *Transportation Research Record* No. 606, 1976, pp 48-53, 2 Tab., 8 Ref.

ORDER FROM: TRB Publications Off

156101

INTEGRATED URBAN TRANSPORTATION SYSTEMS: CHALLENGE FOR THE FUTURE

Paratransit has been described as a bridge between the conventional automobile and conventional transit. Certain concepts, such as taxi and car pooling, have developed from the automobile side, and other concepts, such as subscription bus service and dial-a-ride, have developed from the transit side. As service concepts continue to develop and there is movement from both sides toward the center, certain conflicts are inevitable. Two major cultures, privately operated taxi companies and publicly operated transit companies, that have previously operated independently and differently must now learn to understand each other's environment and work together. However, to view the problem simply as taxi versus transit or public versus private is naive. As in all situations involving the assimilation of different cultures, patience, time, and understanding are required. Paratransit is a melting pot of different approaches, in which gradual assimilation will occur while fundamental differences remain. Paratransit provides the opportunity to increase available options with respect to both the service that is provided and the providers of service. Service can be successfully integrated—at one level by interfacing paratransit services with one another and at a higher level by interfacing paratransit with conventional fixed-route transit in a complementary manner. /Author/

Roos, D (Massachusetts Institute of Technology) *Transportation Research Record* No. 608, 1976, pp 4-10, 3 Ref.

ORDER FROM: TRB Publications Off

156107

EVALUATION OF DRT SYSTEMS IN RICHMOND AND SANTA BARBARA

This study evaluated system performance and the economics of a publicly operated demand-responsive transportation system in Richmond, California, and a privately owned and operated demand-responsive transit service in Santa Barbara, California. The systems were evaluated from the

viewpoint of users, nonusers, and system operators. The major conclusion from the research was that ownership and operation of demand-responsive transit by the private sector demonstrate significant potential and should be given serious consideration by policy makers. By subsidizing a private operator at approximately \$1.00 per passenger-trip, it should be possible for a local government to provide increased mobility to transit-disadvantaged sectors of the population with a greater degree of efficiency and equity than would be possible if the service were operated by a transit district. /Author/

Kadesh, E (Environmental Protection Agency) *Transportation Research Record* No. 608, 1976, pp 42-47, 8 Ref.

ORDER FROM: TRB Publications Off

156122

ESTABLISHING CONTRACTUAL RELATIONSHIPS FOR DEMAND-RESPONSIVE TRANSPORTATION SERVICES

As interest in demand-responsive transportation systems has grown, increased attention has focused on making use of the experience and resources of the private sector in providing these services. Recent experiences have shown that establishing satisfactory relationships between public agencies that want to foster these services and private operations may be difficult because of the different constraints and objectives that characterize the public and private sectors. An important part of such relationships is the contract that binds the two parties. The authors review recent contracting experiences; identify the goals, objectives, and constraints that characterize each sector; and suggest a contract framework that seeks to reconcile potentially conflicting objectives of the two sectors. /Author/

Alschuler, DM Flusberg, M (Multisystems, Incorporated) *Transportation Research Record* No. 608, 1976, pp 107-112, 12 Ref.

ORDER FROM: TRB Publications Off

156125

PAST ACCOMPLISHMENTS AND FUTURE DIRECTIONS OF PARATRANSIT: A DISCUSSION

The major topics discussed with respect to paratransit include the following: The three most significant accomplishments to date regarding paratransit, APTA's view of paratransit and the potential for public and private cooperation; the role of ITA in paratransit; the role of the federal government in paratransit; and, the three most important short-term objectives with respect to paratransit, and how to achieve them. The major accomplishment of paratransit is the identification of the wide range of available services that fall between the driver and his private automobile and buses. As a result of the government and academic's interest in taxicabs, the ITA has become more active in determining its role vis a vis the federal government. Paratransit has demonstrated that the present transportation system must be considered a multidimensional system in which services are going to be better tailored to individual needs. UMTA, in cooperation with APTA should share in a definitive program of planning for paratransit, striving for efficiency and implementing paratransit in ways which would compliment the existing transportation system. UMTA is seen as facilitating innovation at both the local and state levels of government. Through research and demonstration programs UMTA has been able to examine the various aspects of paratransit services as well as the delivery and integration of these services. Also, UMTA must assure that there be equity in the distribution of services within the urban area. In the short-run, each urban area should seek to establish effective coordination of its transit services, including the many facets of paratransit; UMTA must assure that there are effective laws to protect existing institutions that are providing transportation; and lastly, the existence of privately owned paratransit services and the removal of regulations that prevent those privately owned paratransit services from functioning on a shared-ride basis must be recognized.

Transportation Research Record No. 608, 1976, pp 122-130, 4 Ref.

ORDER FROM: TRB Publications Off

157787

IMPROVING JOB ACCESS FOR THE URBAN POOR

Transportation planners are beginning to learn that different population groups have different travel needs. This paper summarizes what has been learned about the work-related travel requirements of the metropolitan

poor. It begins with a description of likely travelers, the already motivated poor; their preferences for good jobs paying at least \$2.20 per hour; and the types of available jobs, most of which are unpleasant jobs paying unacceptable wages around \$1.60 per hour. The needs likely to be faced by poor people when they have to travel-in search of work, to apply for a job, and to commute-require flexibly routed and scheduled vehicles. The suitability of buses, car pools, and private autos to meet these needs is considered, and their availability and service inadequacies are identified. Programs are recommended to reduce the need to travel for work-related purposes, to foster self-help transportation by facilitating car ownership among non-car owning households, and to provide better transport options such as taxis or dial-a-bus systems for those who cannot help themselves. /Author/

This article appeared in Highway Research Record No. 473, Transportation for the Disadvantaged.

Gurin, DB Highway Research Record No. 473, 1973, pp 16-27, 26 Ref.

ORDER FROM: TRB Publications Off

163336

CAR POOLING BY PRIVATE VEHICLES [Samaakning i privata fordon]

This publication suggests a program for investigation of the possibilities of increasing the degree of car pooling journeys to and from work. The first part of the study is a theoretical preparation for the second practical part in which a number of demonstration projects are to be carried out. The first stage contains an inventory and analysis leading to the formation of hypotheses. The hypotheses are to be tested by an investigation into traveller experience and attitude in the test areas to be used in the second stage. The demonstration projects are to be carried out on the basis of a car pool organization with resources to administer and support the tests. The activity is coordinated with the local authority and public transport company planning. The results of every subproject are to be evaluated and the consequences analysed, after which the overall results are to be systematized. /TRRL/ [Swedish]

Vesterlund, Y
Chalmers University of Technology, Sweden Monograph Meddelande 77-1976, 1976, 33 pp, 4 Fig.

ACKNOWLEDGMENT: TRRL (IRRD-225947), National Swedish Road & Traffic Research Institute

163543

USER-SIDE SUBSIDIES FOR SHARED RIDE TAXI SERVICE IN DANVILLE, ILLINOIS: PHASE I

An UMTA Service and Methods Demonstration has been implemented in Danville, Illinois. The purpose of the demonstration is to test the use of a user-side subsidy on a shared ride taxi service for handicapped and elderly persons. This report presents time series and survey data analysis on the workability, cost-effectiveness and impacts of the project during Phase I. The demonstration has proven that a user-side subsidy can be workable and cost effective. Project demand has been moderate and costs per passenger trip have proven to be very low. Members of the target group and general public have responded very favorably to the project. UMTA and the Project Staff are now planning an expansion of the demonstration to include a user-side subsidy for all persons on privately operated regularly scheduled fixed route service. /UMTA/

Sponsored by DOT, UMTA, Office of Transportation Management and Demonstrations.

Fitzgerald, PG
Crain and Associates, (DOT-TCS-UMTA-77-19) UMTA-IL-06-0034-77-1, June 1977, 234 pp, 9 Fig., 33 Tab., 12 App. DOT-TSC-10 81 Total Funds:

ACKNOWLEDGMENT: UMTA
ORDER FROM: NTIS PB-292805/9ST

163584

RECOMMENDED STATEWIDE TRANSPORTATION GOALS POLICIES AND OBJECTIVES

This publication which represents the policy element of the California Transportation Plan, covers the basic principles and policies to be used in transportation decision-making, as well as the applications and implemen-

tations of the policies. The way in which California's transportation system interacts with the social, economic, and natural environment of the state is described, future alternative directions are discussed, and transportation problems and the effect on them of continuing current policies are explored. Eight policy principles to guide decision-making are established. These principles relate to: provision of transportation services by the private sector; efficient use of existing system; full analysis of alternatives; pavement for transportation by users; and regulations. Government (state, local and regional) responsibility in transportation is discussed, and policies are presented to minimize adverse effects of transportation decisions on energy, capital, safety, and labor resources. Environmental protection is considered in policies on land use, air quality, noise and community disruption. Principles relating to transportation issues and problems are formulated and applied to specific transportation problems. Institutional, financial and regulatory changes resulting from these policies are discussed, and short and long range actions are recommended.

California State Transportation Board Mar. 1977, 243 pp

ORDER FROM: California State Transportation Board, 1120 N Street, P.O. Box 1139, Sacramento, California, 95085

165773

PRE-DEMONSTRATION ACTIVITIES OF THE WESTPORT INTEGRATED TRANSIT SYSTEM

In August 1976 the Urban Mass Transportation Administration of the U.S. Department of Transportation awarded a demonstration grant to the Westport Transit District (WTD) to examine the feasibility of combining shared-ride taxi service and other paratransit services with conventional bus services in Westport, Connecticut. This report describes the Westport, Connecticut, Service and Methods Demonstration Project involving integrated transit operations and paratransit services, and documents and assesses the implementation process associated with this demonstration. This report focuses on documenting and assessing the brokerage role performed by the WTD in implementing shared-ride services. The contents include a discussion of the institutional and operational elements involved in contracting with local taxi operators to provide shared-ride service. In addition, arrangements for system maintenance, marketing, and public information dissemination are described. Implications from the Westport pre-demonstration experience are potentially of interest and applicability to other locales. /FHWA/

Sponsored by the Urban Mass Transportation Administration, under contract to the Transportation Systems Center.

Furniss, RE
CACI, Incorporated, (DOT-TSC-UMTA-77-33) Intrm Rpt. UMTA-MA-06-0049-77-7, July 1977, 81 pp Contract DOT-TSC-1082

ACKNOWLEDGMENT: UMTA, NTIS
ORDER FROM: NTIS PB-271998

166436

REGULATING AND INSURING PRE-ARRANGED RIDE SHARING

The report describes possible approaches to regulating and insuring pre-arranged ride sharing (inc. carpools, vanpools, subscription buses), and summarizes the arguments which have been put forward on behalf of various approaches. Also it surveys the approaches actually being adopted in a cross section of the states. The possible regulatory approaches described vary from no regulation to comprehensive regulation covering entry, fares, service, safety, insurance, and competition with other operators and other modes. The arguments pro and con are found to center on the question of protection of pre-existing conventional transit operators. The survey results (from a 12 state survey undertaken in cooperation with the Federal Energy Administration and the Federal Highway Administration) indicate that carpools are not regulated in any state while subscription buses are regulated as common or contract carriers in 11 of the 12. The situation with respect to vans is varied with four states not regulating any vanpools four states regulating all types of vanpools and the remainder regulating some types of vanpools, generally those operated by third parties. The general trend is found to be toward de-regulation with all four of the states not regulating vans adopting this stance since 1973.

Womack, JP

Massachusetts Institute of Technology, Department of Transportation
Final Rpt. DOT/OS-76T-33, Sept. 1976, 59 pp Contract DOT-OS-50240

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-269574/OST

166459
EVOLUTION OF THE KNOXVILLE TRANSPORTATION BROKERAGE SYSTEM

A demonstration project designed to explore the feasibility and transportation service impacts of the transportation brokerage concept is currently underway in Knoxville, Tennessee. The transportation broker seeks to identify and match transportation supply and demand across a wide range of users, providers, and modes. The report describes the brokerage system concept and documents the activities leading to the implementation of the brokerage system in Knoxville. Included is a discussion of the various institutional and regulatory barriers to participation by private providers and how some of these were overcome. The Knoxville pre-operational experience is potentially of interest and applicability to other locales.

Skorneck, AJ
CACI, Incorporated, Urban Mass Transportation Administration
Intrm Rpt. DOT-TSC-UMTA-77-10, Oct. 1976, 72 pp Contract DOT-TSC-1082

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-270103/5ST

167307
COM-BUS: A SOUTHERN CALIFORNIA SUBSCRIPTION BUS SERVICE

The evolution and operations of the COM-BUS Subscription Commuter Bus Service are documented. COM-BUS is a privately owned organization operating at a profit without any form of subsidy. COM-BUS serves approximately 2,000 commuters per day on 47 routes which provide service in Ventura, Los Angeles, and Orange counties. A majority of the routes use chartered passenger buses with from 38 to 47 seats. A fleet of eight 13- to 16-passenger minibuses are used on routes where demand is insufficient to warrant the larger buses. Service provides a fairly personalized morning pickup, with major portions of the runs to work destinations being express and using freeways. In the evening, passengers are picked up at their work locations, and runs to their initial origins are accomplished. Because of its method of management operations, COM-BUS maintains subscription levels (weekly seat reservations paid for in advance) at better than 90 percent. COM-BUS was organized and now operates with a minimum of capital outlay, and is managed by essentially volunteer support. Travel times using COM-BUS are only slightly longer than those for private automobiles making the same trips. COM-BUS fares are considerably less than corresponding costs to operate a private automobile for a similar trip. The success of COM-BUS is particularly important in view of current heavy subsidies required for most transportation systems, and in view of the tendency of Southern California commuters to reject mass transit and to use private means instead.

McCall, CHJ
CACI, Incorporated, Transportation Systems Center, Urban Mass Transportation Administration Final Rpt. DOT-TSC-UMTA-77-13, 1200-24-77, May 1977, 106 pp Contract DOT-TSC-1082-6

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-272470/6ST

169761
EVOLUTION AND OPERATIONS OF THE RESTON, VIRGINIA COMMUTER BUS SERVICE

The report focuses on documenting and assessing the evolution and operations of the Reston Commuter Bus (RCB). RCB is a good example of a community group overcoming many legal, regulatory, and institutional constraints to develop and refine a viable commuter bus service for community residents. UMTA sponsored this review and assessment of RCB because the RCB approach to commuter bus service is of potential interest and applicability to other communities across the country. RCB is a community-based nonprofit corporation which operates a non-subsidized, weekday, peak-period express commuter bus service operating between Reston, Virginia, and Washington, D.C. area employment centers. RCB is

managed essentially by volunteer support. Since 1968 RCB has contracted with public and private carriers to operate the service. The current RCB service is supplied by a private carrier. This report examines the current RCB service operations, the development of the service and the organization, as well as ridership, cost, and productivity data. It addresses the viability of RCB service in terms of contractual costs of transportation weighed against the revenue generated by system ridership. System productivity is addressed over time by comparing actual and breakeven load factors.

Furniss, RE
CACI, Incorporated, Transportation Systems Center, (UMTA-MA-06-0049) Final Rpt. DOT-TSC-UMTA-77-47, Aug. 1977, 149 pp Contract DOT-TSC-1082

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-275792/OST

174177
URBAN TRANSPORTATION IN NORTH AMERICA. 4. PARA-TRANSIT

Para-transit is defined as a form of public transportation since the user is transported in a vehicle driven by someone else, the ride is shared with others, and service is provided in an organized and systematic way. It is considered that para-transit can take many forms such as dial-a-bus, jitneys, shared taxis, subscription services, van pools, and public automobile service using small vehicles. In summary, para-transit refers to a class of urban transportation modes that utilizes small vehicles on existing streets and highways. The author describes various forms of para-transit and provides information on the operations of existing demand responsive transit systems in the United States, Canada and Europe. Reference is also made to the jitney, or shared taxi, and examples quoted of their operation in the USA, Caracas, Venezuela and Manila in the Philippines. Other systems are also described, and it is suggested that the objective of all such systems is to improve mobility by making better use of what already exists and at a reasonable cost. The major impediments to realizing these benefits are felt to be in the areas of regulations, insurance, control of vehicles and drivers, and labour. /TRRL/

Hoel, LA (Virginia University) **Transportation Planning and Technology** Vol. 4 No. 2, Jan. 1978, pp 71-80, 16 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 231398)

176494
ISSUES IN THE ECONOMIC REGULATION OF URBAN PUBLIC TRANSPORTATION

This paper considers the question of more versus less regulation and the role of alternative institutional approaches. Provisions for entry and exit from urban transportation markets are discussed, as well as the constraints and incentives experienced by existing carriers. A fundamental difference is noted regarding the potential of competition as an alternative to regulation and planning as an incentive in present institutions for decision making in urban transportation. The issue of entry and exit in the provision of urban transportation service is closely related to the issue of the desirability of competition. The potential of competitive alternatives to conventional fixed-route transit-systems was discussed, and ride-sharing systems, jitneys, fee-paid carpooling, commuter bus operations and special paratransit services were considered. Both public and private operators expressed the view that regulation unduly restricted the prerogatives of management and was unresponsive to public needs. Support was expressed for greater flexibility for existing operators both transit and taxi, to experiment with changes in fares and service without being locked into the change. Comments are made on the brokerage concept. It is noted that dissatisfaction with the regulatory system appears to reflect the inherent, irreconcilable contradictions of competing objectives by participants in the regulatory process as well as the limitations of the institutional structures. Much of the disagreement about desirable institutional structures is based in part on significant differences in objective for urban transportation. New mechanisms must be developed to resolve the conflicts between certificated carriers and new entrants and for addressing the problem of how to regulate new modal alternatives.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transpor-

tation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Tye, WB (Charles River Associates, Incorporated) **Transportation Research Board Special Report No. 181, 1978, pp 68-71**

ORDER FROM: TRB Publications Off

176495

ISSUES OF REGULATION UNDER PRIVATE AND PUBLIC OWNERSHIP

This paper discusses the transition from private to public ownership, and comments on the regulation under private and public ownership. The shift from private to public operations changed the focus and the standards for the evaluation of systems. The question that is now raised related to how many people the system serves, how well it serves them, and the capacity of the policy, regulatory and management structure to meet the objectives established for public transportation within the community. Regulation under private ownership involved regulation related to fare and the service (quantity, quality, safety) provided by private transit companies. When privately owned systems become public, the authorities in many situations were vested with the power, authority, and jurisdiction to exercise the functions necessary for maintaining public transportation as an ongoing function, sometimes restricted only by the intent that the system should be self-financing and self-liquidating. Many regional authorities have been given the power to regulate not only their own operations but also those of other systems that operate in their areas. Some transit systems suffer from the requirement that permission be requested from several levels of authority before decisions are made. Many authorities have been faced with making major regulatory decisions without having the needed expertise and data to handle the question adequately.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Buchanan, RC (National City Management Company) **Transportation Research Board Special Report No. 181, 1978, pp 71-73**

ORDER FROM: TRB Publications Off

176497

ELIMINATE, DECREASE, OR IMPROVE REGULATION OF URBAN PUBLIC TRANSPORTATION?

The constraints that regulation represents and the concepts on which they are based are discussed, and the merits and limitations of the free market in urban transportation are evaluated. The family of urban transportation modes, the characteristics of each mode and the regulatory conditions necessary to yield the best service are reviewed. The paper noted that discussions of regulation in urban transportation actually focus only on paratransit and are therefore relevant only to small cities and low-density areas, with the exception of taxis, which are applicable to all cities. Urban transportation is an area where free market does not exist. The paper also notes that revision of some regulatory practices (decrease in some areas and increase in other areas) is desirable. It is pointed out that conditions in Western European cities are very similar to our cities, and therefore experiences in cities with better transportation than ours are highly relevant to us. The goal of public regulation is to ensure adequate public service and protect public interest; this can be achieved by full coordination between modes, between public and private transportation, as well as coordination of regulation with short-and long-range planning.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Vuchic, VR (Pennsylvania University, Philadelphia) **Transportation Research Board Special Report No. 181, 1978, pp 76-79, 11 Ref.**

ORDER FROM: TRB Publications Off

176504

CASE STUDY OF THE PROBLEMS OF TRANSIT REGULATION IN WASHINGTON, D.C.

The enactment of the statute and agency, the Washington Metropolitan Area Transit Regulation compact and the Washington Metropolitan Area Transit Commission (WMATC) are described, and the WMATC's regulatory performance is reviewed. It is noted that Washington's transit regulatory scheme excludes essential transportation elements from the scheme, has inappropriate protection for existing operators, and provides only limited enforcement capability to the responsible regulatory agency. The regulatory agency for the implementation of the scheme was limited in its outlook and the capabilities of its staff. Its activities were further narrowed by events to a concentration on rate matters to the exclusion of the pursuit of service improvements. Without the cooperation of the regulated companies, it is powerless to effect service improvements. Those segments of the for-hire transportation operations that come under the most active (though still limited) regulation, i.e. regular-route bus operators, collapsed within a decade. Those that did not, i.e., taxicabs, charter bus operators, and sightseeing companies, survived as private operators.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Schneider, DN, Jr (District of Columbia Department of Transportation) **Transportation Research Board Special Report No. 181, 1978, pp 118-120**

ORDER FROM: TRB Publications Off

176512

COLLECTIVE BARGAINING AS A PROBLEM-SOLVING PROCEDURE IN URBAN TRANSIT WITH DISCUSSION

The paper focuses on the areas of changes in collective bargaining in transit that could contribute to a better labor-management relationship. The findings from several studies are reviewed, and a series of questions which will stimulate discussion is raised. The parties and their objectives in collective bargaining are discussed, and the critical issues are explored. One study of collective bargaining in the Southeast found decentralization in publicly owned agencies, i.e., mass transit employees concerns are negotiated and included in a labor agreement that is separate from that of other municipal employees. Comments are made on such aspects as the power to make policy decisions, and on the differences between private and public systems. The Southeast study showed that the shift from private to public ownership had little impact on the collective bargaining process, and that the budget-making process exerted no influence on collective bargaining. It was also found that most of the mass transit properties appear to be relatively unaffected by state or federal labor laws. Institutional and economic issues are discussed. Comments are made on the resolution of impasses in industrial disputes.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Smith, JA, Jr (University of North Florida) **Transportation Research Board Special Report No. 181, 1978, pp 157-162, 1 Fig., 1 Ref.**

ORDER FROM: TRB Publications Off

176514

POLITICS OF COLLECTIVE BARGAINING WITH DISCUSSION

The question of whether the collective bargaining procedures that have developed in the private sector fit the public sector is considered. The collective bargaining process is seen to consist of bargaining, lobbying, electioneering, exhorting and politicking (bleeping). In the transportation field, the process developed more and more toward the type of collective bargaining that exists in the private sector. As the bargaining or bleeping process develops, there is inevitable movement toward larger units or units that are more influenced by what occurs in other units. Also, the depth of the decision making process increases with the increasing number of political jurisdictions in the cities. The question of who is the decision maker is considered. The dominant factors in making collective bargaining work in the public sector are problems of decision making by the employer and the question of fare.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Kheel, T (Battle, Fowler, Lidstone, Jaffin, Pierce & Kheel)
Transportation Research Board Special Report No. 181, 1978, pp 167-168

ORDER FROM: TRB Publications Off

176517

THE DECISION-MAKING ENVIRONMENT OF URBAN TRANSPORTATION

The government's influences on the size and shape of the transportation equipment market and the unpredictability of that influence are discussed, as well as the operators' influence on the market. The uncertainty that characterizes government funding of transit is also present in the supply of private capital. Ways in which such uncertainties could be mitigated are considered. The constraint that labor imposes on transit operations is also considered. The ways in which the organizational and institutional environment could be reshaped to encourage better performance are listed: in certain contexts free transit could provide universal mobility while meeting specific social goals; competition in the supply of transit equipment and infrastructure would be stimulated more by subsidizing capital availability through low interest, proprietary interest. Other ways mentioned here include the conversion of some transit systems into employee-owned cooperatives; research into the demand aspects of transit; consumer education; and the examination of fundamental concepts such as capacity on urban transportation etc.

This paper appeared in Transportation Research Board Special Report No. 181, Urban Transportation Economics. It contains proceedings of Five Workshops on Pricing Alternatives, Economic Regulations, Labor Issues, Marketing, and Government Financing Responsibilities held by Transportation Research Board. Sponsored by Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration of DOT; Environmental Protection Agency; and Federal Energy Administration.

Gellman, AJ (Gellman Research Associates) **Transportation Research Board Special Report No. 181, 1978, pp 199-201**

ORDER FROM: TRB Publications Off

178749

CONTRACT MANAGEMENT IN THE TRANSIT INDUSTRY

During the past decade, there has been a growing trend toward public acquisition of failing private transit companies. Many government agencies and public entities have turned to transit management companies to run the daily operations of their systems. The transit management companies offer a range of services which include assistance in a number of functional areas in transit management. The purpose of the study was to examine the organizational structure, the decision making process and certain attributes of the organization performance for transit systems operated under contract management. The study has focused on 26 transit properties managed by three major contract management companies. The study

showed that management companies mesh into three basic types of local organization structures. Each of these types possesses certain characteristics. Each management company was also found to be more associated with a certain type of property and local organization. The organization, often, reflected the company's own operating philosophy and perspective on transit management. Results of the study could also be used to look at the merits of contract management in situations similar to those experienced by the transit industry. /Author/

This article appeared in the Transportation Research Record No. 662, Planning and Design of Rapid Transit Facilities.

Bakr, MM (Wisconsin University, Parkside) Robey, D (Florida International University) Miller, TS (United States Marine Corps)
Transportation Research Record No. 662, 1978, pp 34-41, 2 Tab., 11 Ref.

ORDER FROM: TRB Publications Off

179077

DEFINITION, OBJECTIVES, AND IMPLICATIONS OF TSM

Transportation system management is a process for planning and operating a unitary system of urban transportation. Its key objective is conservation of fiscal resources, of energy, of environmental quality, and of quality of urban life. Broader implications of and issues raised by the TSM concept include (a) the need for a national policy on urban conservation (the federal government cannot set local land use policy, but it must restore locational neutrality to its programs); (b) institutional challenges (all elements of the urban transportation system cannot be treated in a unitary way unless the various governments cooperate fully); (c) federal support of TSM (UMTA may need transit operating funding to seed TSM operations); and (d) urban transportation and private ownership (UMTA should attempt some demonstration of private ownership of multipurpose urban transportation systems). /Author/

From TRB Special Report No. 172, Transportation System Management, proceedings of a conference held November 7-10, 1976, conducted by the Transportation Research Board, and sponsored by the Urban Mass Transportation Administration and the Federal Highway Administration of the U.S. DOT in cooperation with the Institute of Transportation Engineers.

Patricelli, RE (Urban Mass Transportation Administration)
Transportation Research Board Special Report No. 172, 1977, pp 14-17

ORDER FROM: TRB Publications Off

183474

PUBLIC RESPONSIBILITY FOR THE PRIVATE SECTOR OF TRANSPORT

A plea is made for better rationalisation of transportation resources. The role of the taxi cab in modern urban society is examined and suggestions made for increased public responsibility in relation to the industry. /Author/TRRL/

Australian Transport Research Forum Fourth Annual Meeting, May 24-26 1978, Perth. Forum Papers.

Rochfort, P (New South Wales Taxi Council)
Director General of Transport, Western Australia, (0313-6655) 1978, pp 139-159

ACKNOWLEDGMENT: TRRL (IRRD 234195), Australian Road Research Board

183502

SMALL SCALE URBAN PUBLIC TRANSPORT: LESSONS FROM THE INDONESIAN EXPERIENCE?

Small scale motorised vehicles carrying seven to eleven passengers constitute the backbone of public transport in most larger Indonesian cities. This paper describes the technology of the bemo, the organisation under which it operates, and its role in the public transport systems of East Javanese cities of Malang and Surabaya. The impact of the recent introduction of city buses to Surabaya is discussed. In the light of Indonesian experience, suggestions are made for some simple innovations in Australian public transport systems, in particular for the introduction of unscheduled shared taxis on semi-fixed routes. /Author/TRRL/

Australia Transport Research Forum, Fourth Annual Meeting, May 24-26, 1978, Perth, Forum Papers.

Dick, HW (Newcastle upon Tyne University, England)
Director General of Transport, Wesern Australia, (0313-6655) DA-
0678R, 1978, 112 p. Contract MA-7-38026

ACKNOWLEDGMENT: TRRL (IRRD-234193), Australian Road
Research Board
ORDER FROM: PB-283474/5ST

184192

TAXICAB FEEDER SERVICE TO BUS TRANSIT

The use of taxicabs as feeders to fixed-route transit is discussed. Reasons for involving privately operated taxicabs as feeders to publicly subsidized systems are presented and three existing systems are described to illustrate some of the benefits and problems associated with this innovative type of operation. The major questions about feeder service pertaining to economics, quality of service, and demand are reviewed, and the institutional issues that may inhibit using taxicabs as feeders are discussed. A proposal is outlined for an experimental demonstration for a large urban area. /Author/

This paper appeared in Transportation Research Record No. 650, Paratransit Services.

Miller, GK (Urban Institute) **Transportation Research Record No.**
650, 1977, pp 1-7, 2 Fig., 5 Ref.

ORDER FROM: TRB Publications Off

184577

**A COMPREHENSIVE TRANSPORTATION PLAN FOR THE
ELDERLY AND HANDICAPPED**

The major factors that led to the initiation of Tacoma's Transportation Plan for the Elderly and Handicapped were the continued interest given by UMTA to the transportation needs of the elderly and handicapped, and also that Tacoma has been operating a transportation program to assist transportation-disadvantaged individuals since 1973. Therefore, in 1976, the City requested and received funding to support a one-year study to examine the needs of mobility-restricted citizens and to offer a variety of alternatives that might provide the needed services. The study group examined the background of the transportation problems in Tacoma and found that the elderly and handicapped are confronted by numerous barriers that inhibit their ability to travel within the city. The five phases of the Plan were to develop citizen coordination, establish objectives, collect and analyze census data, develop scenarios for system development, and to generate the selection process. The options for meeting the transportation needs were accessible fixed-route service, demand-responsive transportation operated by public sector, operated privately for profit sector, operated privately for non-profit sector, and multi-modal (combined systems). Before making recommendations, it was necessary to compare these alternatives, from which the most viable option was to be selected. The study group recommended that the City Council consider the combined fixed-route demand-responsive system alternative, which utilizes taxis and the existing bus fleet. /UMTA/

King, L
Puget Sound Council of Governments UMTA-WA-09-0013-78-1, Nov.
1977, 226 p. Contract UMTA-WA-09-0013

ACKNOWLEDGMENT: UMTA
ORDER FROM: NTIS PB-284136/AS

185863

**AN OVERVIEW OF RIDESHARING AND MASS TRANSIT
EMPLOYER INCENTIVES**

The report reviews the incentives currently being used by public and private sector employers to encourage employee use of ridesharing and mass transit as an alternative to the single occupant vehicle and identifies a few successful incentive programs. The legal and institutional aspects of employer sponsored incentive programs are discussed in some detail. Existing carpool matching systems and costs are briefly discussed.

Tucker, JWJ
Environmental Protection Agency Final Rpt. EPA/908/1-78/002,
Mar. 1978, 58 p.

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-283277/2ST

189345

**TRANSIT PROBLEMS IN SMALL CITIES AND NON-
URBANIZED AREAS: INVENTORY OF TRANSPORTATION
SERVICES IN PLACES LESS THAN TEN THOUSAND
POPULATION OUTSIDE OF URBANIZED AREAS**

This report summarizes the type and level of transportation services (taxi, specialized transportation services, intracity and intercity buses) available in places between 2,500 and 10,000 population outside of urbanized areas in 48 contiguous states and the number of such services serving these communities. It also includes a section summarizing information on places under 2,500 population. In places (2,500-10,000), the inventory highlights the following unexpected results: Taxi-75% of total companies served 3 or 4 places, 18% had contracts with agencies, and State is second most common regulator and City government is the least common; Specialized Transportation Services-13% of all vehicles were equipped for non-ambulatory, 9% of the places had more than one specialized service, 50% provided demand-responsive service, and local governments operated 23% of the systems; Intercity Buses Service-service provided to only 42% of places sampled, and 7% had contracts received a subsidy; Intracity Bus Service-5% of the systems were large metropolitan systems, 52% were privately owned, and only 21% were countywide. Of the 291 sample places with population between 100 and 2,500, 27 sample places were served by 40 taxi systems; 47 were served by 54 specialized transportation systems, and 32 had intercity bus service. Four of the systems (13%) stated that they had passenger service contracts or subsidies from state or local governments. Of the 32 systems reporting capital funding assistance, two received 16 (b) 2 funding. This inventory report contains many charts/fact sheets regarding the transportation services examined. /UMTA/

Sponsored by the Department of Transportation, Urban Mass Transportation Administration.

Jackson, AF McKelvey, DJ
North Carolina Agricultural and Technical State U, (NC-11-0004)
UMTA-NC-11-0004-79-1, Apr. 1978, 99 p.

ACKNOWLEDGMENT: UMTA, UMTA
ORDER FROM: NTIS PB-291402/6ST

191375

**PROCEEDINGS OF THE NATIONAL CONFERENCE ON
RURAL PUBLIC TRANSPORTATION (2ND) HELD AT
UNIVERSITY PARK, PA. ON JUNE 1-3, 1977**

The proceedings comprise the addressees, presentations, and resource papers given at the conference. Subjects include maximizing the use of existing resources, the state's role in rural transportation, the role of taxicabs and intercity bus services, marketing and behavioral aspects, organizational options, demand estimation and system design, securing and maintaining support, and policy considerations in rural public transportation.

See also PB-262808.

Miller, JH Mullen, SS
Pennsylvania Transportation Institute, Department of Transportation
Proceeding PTL-7805, June 1977, 194 p. Contract DOT-PS-70369

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB-292154/2ST

193699

**COMPARISONS OF PRODUCTIVITY OF FOUR MODES OF
SERVICE IN ORANGE, CALIFORNIA**

The Orange County Transit District has operated a community-service transit program in the city of Orange, California, since May 1975. Because of an adverse court ruling and a subsequent successful appeal, this service underwent four modal changes. These four modes provide a unique opportunity for comparison. In order of implementation, they were a demand-responsive dial-a-bus, a three-loop fixed-route bus system, a two-loop fixed-route bus system, and a demand-responsive dial-a-taxi system. The four systems were compared by using five performance indicators. The two demand-responsive systems were found more efficient and effective than the fixed-route systems. The dial-a-taxi system, during its first 3 months of operation, compared very favorably to the dial-a-bus system, and continues to show monthly improvements on each indicator. The information gained in this study may be of limited transferability, but the data suggest that dial-a-taxi can be very efficient and effective in serving cities or

suburban areas with population densities of 1900/sq km (5000/sq mi) or less. /Author/

This paper appeared in TRB Special Report 184, Urban Transport Service Innovations.

Hollinden, A Blair, R (California University, Irvine) McKelvey, DJ, Discussor (National Transportation Policy Study Commission)

Transportation Research Board Special Report No. 184, 1979, pp 49-55, 3 Fig., 4 Tab., 12 Ref.

ORDER FROM: TRB Publications Off

193701

COSTS AND PRODUCTIVITIES OF INNOVATIVE URBAN TRANSPORTATION SERVICES

The aspects of supply and demand that determine the costs and productivities of paratransit services are described, the variations in performance of the services are explained, and ways of improving them are suggested. Publicly owned dial-a-ride services are observed to be very expensive operations and, although the potential for cost reduction exists, these trip costs will probably remain high. The current practices of ubiquitous dial-a-ride services and extremely low fares are questioned. It is also suggested that increased participation in paratransit operations by the private sector—the taxi industry—promises significant improvements in the cost performance. /Author/

This paper appeared in TRB Special Report 184, Urban Transport Service Innovations.

Bhatt, K (Urban Institute) **Transportation Research Board Special Report No. 184, 1979, pp 63-71, 4 Tab., 4 Ref.**

ORDER FROM: TRB Publications Off

193709

INVOLVING THE PRIVATE OPERATOR

Issues related to the use of the excess capacity in paratransit resources provided by taxicab operators are discussed, and recommendations are made. The local nature of the daily surface transportation of people is stressed. The decisions regarding options available under federal and state public transportation programs that most directly affect efforts to more effectively use existing public transportation resources, including private operators, are local. The states should provide technical assistance to those local governmental entities that lack the staff and economic resources to support permanent public transportation research and planning. The states should also exercise leadership in harmonizing public transportation planning and optimizing state and local programs and funding mechanisms to supplement federal efforts. Before additional paratransit funding sources are approved, the states should identify and understand the use of the paratransit funds already available in their jurisdictions through federally funded categorical programs. They should seek to reallocate these existing monies to purchase paratransit services more effectively than in possible under present circumstances of fragmentation, duplication, and waste. Reforms at the federal level are ultimately necessary to achieve this. More must be done at the regional level to identify existing public and private paratransit services and resources. Advisory committees to metropolitan planning organizations are recommended composed of public transportation decision makers, users, and public and private providers. The need for local reregulation to implement innovations in meeting paratransit demand is addressed. The roles of independent owner drivers and lease drivers, shared-ride taxi services, and fuel-tax relief equal to that granted transit are discussed as reforms required to enable the private operator to gain control over operating costs and provide for easier entry into the taxi market for entrepreneurial drivers. Labor considerations under section 13c of the Urban Mass Transportation Act of 1964 need not have only negative connotations in the use of private operators for paratransit service. As taxicab operators move into shared-ride services and function as mass transportation companies, with or without Urban Mass Transportation Administration monies, their employees may qualify for section 13c protection whether or not they are unionized. /Author/

This paper appeared in TRB Special Report 184, Urban Transport Service Innovations.

Leyval, ER (California Taxicab Owners Association) **Transportation Research Board Special Report No. 184, 1979, pp 109-116, 8 Ref.**

ORDER FROM: TRB Publications Off

195939

ELDERLY AND HANDICAPPED TRANSPORTATION OPERATIONS STUDY

This study focuses on the coordination and consolidation of transportation services for the elderly and handicapped in the New Haven, Connecticut area. The report focuses on the areas of vehicle control, financial control, and system evaluation. In some cases, analyses have been up-dated during the preparation of this final report. The proposed near-term system is intended to provide a plan for the integration of services. Initially, it is proposed that this involve services currently offered or planned by three local agencies: the City of New Haven Office of Human Services; the Easter Seal Rehabilitation Center; and the Greater New Haven Transit District. Integration would be accomplished through purchase of service agreements between each agency and a local private transportation operator. This approach represents a cross between system consolidation and system coordination, and attempts to achieve the economies of consolidation while allowing participating agencies to retain a degree of identity and control. A purchase of service agreement based on payment per passenger is also proposed. The vehicles (10 to 12 passenger vans) for the service are to come from a combination of public and private sources. To improve the management of the system, it is proposed that an automated computer-aided scheduling/financial control system be designed and implemented. To facilitate the implementation and monitoring of the service, some degree of coordination between participating agencies is required. This report discusses operating framework, vehicle control, financial control, reporting requirements, cost analysis, and system implementation.

Multisystems, Incorporated, (IT-09-0069) Final Rpt. UMTA-IT-09-0069-79-1, July 1978, 134 p. Contract IT-09-0069

ACKNOWLEDGMENT: UMTA

ORDER FROM: NTIS PB-295071/AS

196047

TRANSPORTATION FUNDING: PRIVATE SECTOR VIEWPOINTS—PART 2

This is a report on the second part of a two-part ENO Foundation conference on funding of transportation systems. This second session was concerned with the viewpoints on transportation funding held by the private sector, representing the air, highway, rail, transit, and water modes. The funding needs and sources of funding for each mode were considered.

From the Joint Conference ENO Foundation Board of Directors and Board of Consultants, October 26 and 27, 1977.

Traffic Quarterly Apr. 1978, pp 223-262, 3 Fig., 3 Tab.

196819

AN OVERVIEW OF PARATRANSIT ACTIVITIES IN CANADA

This paper reviews the development of paratransit services in Canada since 1970 in dial-a-bus, privately operated systems, transportation pooling options and specialized services for the handicapped. It also outlines the role of the federal, provincial and municipal governments as well as the private operators in fostering paratransit systems implementation. The paper deals with the difficulties of evaluating paratransit projects since evaluation relies mostly on subjective judgement due to a lack of quantifiable performance criteria. It outlines a list of criteria against which all the Canadian paratransit projects are evaluated. These criteria can be summed up in five main categories: systems performance, operational efficiency, economics, social impact and environmental impact. Finally, the paper attempts to predict the future paths of paratransit development in Canada. /TRRL/

Performed by the Canadian Surface Transportation Administration, Urban Transportation Research Branch.

Lehuen, A Suen, L

Department of Transport, Canada Monograph Apr. 1978, 59 p., 3 Fig., 13 Tab., 31 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 240808), Roads and Transportation Association of Canada

197450

KNOXVILLE COMMUTER POOL. ANNUAL REPORT

The Brokerage Bureau, commonly known as the Knoxville Commuter Pool (KCP), came into being on October 23, 1975, through a formal agreement between the Urban Mass Transportation Administration and the City of

Knoxville. Currently the KCP is a part of the City government; however, its services actually extend over a region comparable to the East Tennessee Development District. KCP has acted to integrate vanpools into the general ridesharing system which includes carpools, transit buses, and privately operated express buses. One of the most significant accomplishments of the KCP was the establishment of credibility and awareness among the local business community and the general public, concerning ridesharing. This annual report presents a concise description of the background, objectives, organization, and accomplishments of the Knoxville Transportation Brokerage Project. Special attention is given to details of employer/employee participation, concentrated program efforts in the Central Business District, and a telephone information and brokerage service. The vanpool program is described in detail, including maintenance, the transition of the vans to private ownership, and the formation of an association of private vanpool owner/operators. Other aspects of the project are also covered, including the development of computer matching capacity, social service brokerage, a downtown fare free bus zone, and promotion and advertising.

See also the report dated Nov 1978, Volume 1, PB-292592.

Beeson, JD

Knoxville Commuter Pool, Urban Mass Transportation Administration
UMTA-TN-06-0006-78-2, Nov. 1978, 80 p.

ACKNOWLEDGMENT: NTIS

ORDER FROM: NTIS PB-295046/7ST

260219

PUBLIC PARTICIPATION IN URBAN TRANSIT SERVICE

The trend in transit operations is toward public ownership and operation of services. The only questions are: when, how, and how much. The trend in public operations is to establish regional authorities or taxing districts with a provision of service to the urbanized area and to proportion taxes to the population served. Comparative statistics indicate that: (1) Large transit systems have fleets of reasonable age regardless of ownership; (2) smaller systems show private systems having fleets over 15 yr of age, and public operations with average fleet ages under 7 yr; (3) private systems provide service more efficiently than public operations with number of passengers carried per vehicle mile at 3.32 for private systems compared to 2.91 for public operations; (4) the number of annual transit rides per capital versus is higher for private systems (40.1 vs 34.2); (5) private systems have more employees per unit of service and per vehicle owned; and (6) private systems are more productive in terms of the number of passengers served.

This publication was presented at the July 17-20, 1972, ASCE National Transportation Engineering Meeting, held at Milwaukee, Wisconsin.

Ferreri, MG, Executive Vice President (Simpson and Curtin Incorporated) ASCE Journal of Transportation Engineering Vol. 99 No. TE4, Proc. Paper 10121, Nov. 1973, pp 701-710, 1 Fig., 5 Tab.

262445

RESOURCE PAPER-WORKSHOP 2: POLICY PLANNING

This paper which defines responsibilities and discusses how states meet the issues of transportation planning, recognizes that the prevailing national and state situation is one of a multiplicity of separate, uncoordinated and often conflicting modal policies. The product and the process of transportation planning are defined. The policy analysis or policy planning which precedes and follows policy determination, and the hierarchy in the levels of policy processes are discussed. Policy planning and statewide transportation planning are more than a delineation of facility and service plans for intercity passenger and freight systems at the statewide scale. They include recommendations for changes in federal, state, local and private transportation policies. It is observed that the consequences of existing and proposed policies must be examined. For the former, past and current trend data may be instructive. Consequences may be traced out by making illustrative plans under present or assumed constraints or, alternatively, by estimating plan output. Professional aid is emphasized in specifying the consequences and circumstances to provide the background against which evaluation can be made. Transportation policy issues are grouped in 6 classes. A discussion of the allocation of responsibilities for the provision of transportation facilities and services, covers the aspects of new responsibilities for the states; obsolete jurisdictions; construction versus operation; and federal-assistance policies. Traditional transportation decision-making, independent authorities, comprehensive planning, public participation, litigation, and pass-through funds are aspects of the decision-making process that are reviewed. The integration is reviewed of privately provided

public transportation into the state system (traditional regulatory theory; railroad branch lines). Changing the demand for transportation facilities and services (land use and transportation, selective provision of transportation facilities and services, changing government control of development, changing government policies to affect land development; peaking characteristics; accidents and pollution; energy and transportation) is reviewed. Funds for transportation (transportation needs and plans; funding arrangements) and charging for transportation are also reviewed in detail.

This report is part of five workshops of a conference, Issues in Statewide Transportation Planning, held February 21-24, 1974 at Williamsburg, Virginia.

Breuer, R. Schad, FD (New York State Department of Transportation) Transportation Research Board Special Report No. 146, 1974, pp 64-87

ORDER FROM: TRB, Orig. PC

300040

PRIVATE BUS OPERATIONS IN URBAN AREAS-THEIR ECONOMICS AND ROLE

This paper is concerned with the role that privately-operated bus services might play in urban areas of Australia, vis-a-vis services provided by public operators. It shows that a given level of bus service can be provided substantially more cheaply by private than public operators, and that the majority of the cost savings arise from better utilization of staff and lower wage rates and associated on-costs. Expansion of the role of private services is therefore a possible means of reducing the levels of urban public transport subsidies. The principles which should underlie subsidy schemes for private operators are discussed. /Author/TRRL/

From the Papers of the Fifth Australian Transport Research Forum, Sydney, 18-20 April 1979.

Wallis, IP (Travers Morgan (R) Proprietary Limited) New South Wales Ministry of Transport, Australia, (0313-6655) Conf Paper 1979, pp 705-722, 1 Fig., 4 Tab., 7 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 239183), Australian Road Research Board

300697

PRIVATE ENTERPRISE TECHNIQUES IMPROVE PRODUCTIVITY OF RURAL TRANSIT SYSTEMS IN IOWA

The primary objective of the Iowa Department of Transportation rural transit program is increased productivity—to be able to produce more output (passengers carried) while using less input (money). When the department assumed control of rural transit in 1976, it became obvious that traditional methods of developing rural transit would hinder, if not actually negate, progress toward the objective of improved productivity. Consequently, the private enterprise philosophy of management was implemented. This philosophy dictated the consolidation of the 275 rural transit systems into 16 systems and the elimination of nonproductive systems, provided authority equal to responsibility, holding specific people and agencies responsible for results, and implemented management and business decisions into an area of social work. The results, after 3 years of effort on a statewide basis, show that the output has increased by 33 percent and the input has decreased by 10 percent. The implications of these results are that transit in general (urban, rural, or intercity) can benefit from consolidating authority and responsibility, managing by objectives, and making decisions that are based on economic and productivity analyses. /Author/

This paper appeared in TRB Record No. 696, Rural Public Transportation.

Fritz, TL (Trailways, Dallas) Transportation Research Record No. 696, 1978, pp 34-38, 1 Fig., 4 Ref.

ORDER FROM: TRB Publications Off

300701

COORDINATION, COSTS, AND CONTRACTING FOR TRANSPORTATION SERVICES

Studies of contractual and cooperative agreements among U.S. social-service agencies that provide transportation services have shown that one of the most serious barriers to coordination among agencies is lack of knowledge about transportation costs. In this paper, categories of transportation costs and services developed by the Institute of Public Administration as cost-accounting guidelines for transportation projects are identified

and defined. The issue of allocation of data collection responsibilities among the personnel of transportation projects is discussed. Cost accounting and reporting systems developed under Section 15 of the Urban Mass Transportation Act of 1964 (as amended) are related to the Institute of Public Administration guidelines to provide a basis for cost-sharing agreements among transportation agencies. /Author/

This paper appeared in TRB Record No. 696, Rural Public Transportation.

Revis, JS (Institute of Public Administration) **Transportation Research Record** No. 696, 1978, pp 46-55, 1 Fig., 4 Tab., 2 Ref.

ORDER FROM: TRB Publications Off

301313

FORT WORTH'S PRIVATELY OWNED SUBWAY SYSTEM

For the past 14 years a small subway system has been carrying passengers into and out of the central business district (CBD) of Fort Worth, Texas. It has two unique features: It is privately owned, and passengers ride it for free. In the early 1960s, two merchants in Fort Worth hit on the idea of providing subway service to their downtown department store from a large parking lot on the banks of the nearby Trinity River. They bought second-hand electric trolley cars from Capitol Transit Company of Washington, D.C., modified them extensively, dug a tunnel from the edge of the parking lot to the lower level of their store, and began operating the subway in February 1963. Tandy Corporation bought the department store in 1967 and continued to operate the subway, which carried nearly 15,000 passengers/d. Tandy is now rebuilding the subway cars to give them a squared-off configuration and many refinements. Introduction of these refurbished cars will coincide with the opening of Tandy Center—an eight-block complex of office buildings and shopping malls in downtown Fort Worth that the subway system will serve. There has been some preliminary exploration of the feasibility of extending the subway system several blocks south through the CBD. This short-haul do-it-yourself subway system has proved that shoppers and downtown workers can be induced to leave their automobiles in a fringe parking lot and ride into the heart of the city by light-rail transit. /Author/

This paper appeared in TRB Special Report No. 182, Light-Rail Transit: Planning and Technology.

Scott, PD (Tandy Corporation) **Transportation Research Board Special Report** Conf Paper No. 182, 1978, pp 88-91

ORDER FROM: TRB Publications Off

301866

COMPETITION AND SUPPLY IN LONDON TAXIS

The article examines reasons for the expansion of the London taxi trade and assesses the influence of tourist demand and competition from the hire car trade. The trend of real prices for taxis is compared with that of buses and underground rail services. The author considers the influence of changes in productivity, shifts to input prices, and innovation. This study involves an exploration of supply, especially of drivers, and of the cost structure underlying fares. A principal feature is found to be the radical changes in labour contracts for London taxis associated with free entry subject to quality constraints. /TRRL/

Beesley, ME (London Graduate School Of Business Studies) **Journal of Transport Economics and Policy** Vol. 13 No. 1, Jan. 1979, pp 102-131, 1 Fig., 10 Tab., 11 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 241343)

303917

OPPORTUNITIES FOR INCREASING COMPETITION IN THE PROVISION OF PARATRANSIT SERVICES

The goals and objectives are examined that could be served by encouraging competition among various paratransit providers in a community. It is argued that subsidy mechanisms could be used to enhance such competition but that two major factors—statutory labor-protection provisions and local regulatory environments—act as barriers to this approach. Several instances in which paratransit implementation attempts have been affected by state or local restrictions are described, and the experiences, benefits, and problems of three methods for increasing competition among service providers—expanding services under existing regulation, requiring bidding for price and service contracts, and user-side subsidies—are

discussed. Finally, it is concluded that equity between private providers and publicly subsidized systems should be studied. (Author)

This paper appeared in TRB publication Special Report No. 186: Paratransit, 1979.

Rechel, RE (Institute of Public Administration) **Transportation Research Board Special Report** No. 186, 1979, pp 44-51

ORDER FROM: TRB Publications Off

305900

THE WESTPORT CONNECTICUT INTEGRATED TRANSIT SYSTEM

The purpose of the project was to demonstrate the feasibility of combining shared-ride taxi and other paratransit service with conventional fixed-route bus service in Westport, Connecticut. The project focused on the Westport Transit District (WTD) playing a major brokerage role which involved contracting with private operators for the provision of shared-ride service. The report is an evaluation of the Westport Demonstration implementation, operations, and impacts; it covers a six month planning period and two full years of service operations. The planned and actual project implementation is described including important Federal litigation initiated against the project by one of the two local taxi operators. The report also describes the integrated fleet management and vehicle deployment strategies utilized by the WTD to provide regular fixed-route, supplemental fixed-route, shared-ride taxi, and special markets services. Arrangements for system integration in the areas of maintenance, marketing, public information, and fare structure are also discussed. The evaluation examines ridership markets, system productivity, service economics, and community impacts.

Furniss, RE

CACI, Incorporated, Urban Mass Transportation Administration
UM927/R9742, UMTA-CT-06-007-79-1, July 1979, 211p Contract
DOT-TSC-1082

ACKNOWLEDGMENT: NTIS

ORDER FROM: NTIS PB80-129877

307964

COLONIAL TAXI COMPANY OF BETHEL PARK, PENNSYLVANIA—PRIVATE ENTERPRISE IN PARATRANSIT

The purpose of this paratransit agency case study was to develop basic instructional materials to support university classroom and professional short course training in local paratransit planning. This curriculum material consists of 6 separate documents—a guide and 5 paratransit case studies—titled: Paratransit Resource Guide; The Seattle/King County Commuter Pool Program—Paratransit and Rush Hour Congestion; Colonial Taxi Company of Bethel Park, Pennsylvania—Private Enterprise in Paratransit; The Paratransit Services of the Choanoke Area (North Carolina) Development Association—Rural Transit in Coordinated Human Services Transportation; The Dial-A-Bat Paratransit Service of Brockton, Massachusetts, Area Transit—Public Transit in Coordinated Human Services Transportation; and Knoxville, Tennessee, Commuter Pool—Matching Markets to Modes with Paratransit Brokering.

Report 3 of 6, Paratransit Case Studies.

Oklahoma University, Urban Mass Transportation Administration,
(OK-11-0001) UMTA-OK-11-0001-79-3, June 1978, 60 p.

ACKNOWLEDGMENT: NTIS

ORDER FROM: NTIS PB80-103252

308066

THE VALLEY TRANSIT DISTRICT: SPECIALIZED TRANSPORTATION FOR THE ELDERLY, HANDICAPPED AND LOW-INCOME IN THE LOWER NAUGATUCK VALLEY, CONNECTICUT

A multifaceted demonstration with special emphasis on service to the elderly and handicapped has been operating since January 1973. Valley Transit District (VTD) achieved operational status as a transit district in Connecticut after a demonstration grant ended, and is providing services to its target population and the general public. It has had a large impact on the mobility of a small portion of the target population, with lesser impacts on the general public. This report covers the entire period of the demonstration program. Four types of service are operated by VTD: fixed-route, demand responsive door-to-door, subscription, and contract services.

An automated fare collection system using credit cards and monthly billings was used from 1973-1975. Fare subsidization for handicapped and elderly citizens was facilitated by this computerized system which bills sponsoring agencies. The user-side subsidies and monthly billings were continued after 1975 using manual methods. Of the target population of 12,000, 600 are regular, heavy users of the VTD system. VTD users are mainly low-income and autoless elderly from small households. The system operates 10 vehicles daily; average hourly cost is near \$12. Earned revenues are derived from user-side subsidy funds. VTD has withstood several challenges in regulatory and institutional areas from private bus operators and has expanded services throughout the demonstration. (UMTA)

Sponsored by the Department of Transportation, Urban Mass Transportation Administration.

Kocur, G
Cambridge Systematics, Incorporated, (CT-06-0003) Final Rpt.
UMTA-CT-06-0003-79-1, Feb. 1979, 310 p. Contract DOT-TSC-1083

ACKNOWLEDGMENT: UMTA
ORDER FROM: NTIS PB80-113087

309147 INCREASING THE ROLE OF TAXIS IN URBAN PUBLIC TRANSPORT

The plea that taxis should be playing a greater role in urban public transport has been heard for many years. In Australian cities the only noteworthy attempt to facilitate this aim has been the introduction of some limited multiple-hire schemes. Innovative taxi operating schemes have been introduced in overseas cities aimed at reducing expenditure by the publicly operated transport organisations and at the same time increasing the revenue of the taxi industry. One of these schemes involves replacing buses with taxis on routes experiencing low passenger demand. This concept, known as "route-taxis", can be implemented in a number of different schemes. A theoretical study was undertaken for a specific bus route in Perth and a methodology was developed to ascertain the order-of-magnitude costs and benefits of replacing the bus service, at certain times, with a route-taxi. The study also identified a number of administrative and operational constraints that could hamper the introduction of route-taxi schemes. These constraints and a number of other issues relating to route-taxis are discussed in this paper. (TRRL)

This paper was presented at the Transportation Conference, Adelaide, November 14-16, 1979.

Koltasz, E
Institution of Engineers, Australia No. 79/11, 1979, pp 5-9, 2 Tab., 5 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 239406)

309859 THE ECONOMICS OF CONTRACT BUS SERVICES

An analysis is made of the prices charged by privately owned bus and coach companies for works and school contract services in a particular area. A regression equation is obtained which relates the contract price to the type of contract (works or school), vehicle size and distance run. This equation is used to compute the fare required for a works contract service to break-even at varying loads and journey lengths. This shows that it is unlikely that, because of their low capacity, break-even services could be operated with minibuses. In order to break-even at stage bus fares, a contract coach service would need to attract about 25 passengers. Increased loads would result in proportionally lower fares. To become financially attractive to car drivers a service would need to carry 40 passengers for an average journey length of at least 10 km. It is shown that, on average, each vehicle earned about \$150 per week from its peak hour contracts. Standard costing indicates that an equivalent period of stage-carriage operation would cost at least \$200 per week. (Author/TRRL)

Jackson, RL Martin, PH
Transport and Road Research Laboratory Monograph LR899, 1979,
13 p., 5 Fig., 3 Tab., 9 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 244415)

310025 THE ORGANISATION AND ROLE OF PRIVATE BUS AND COACH COMPANIES

A study of the organisation and operating methods of privately owned bus and coach companies is reported. It shows that the industry is a growing one dominated by relatively small companies which play a significant role in providing local road passenger transport. Notable features of private bus and coach companies are their apparently low overheads, the flexibility of their full-time staff and the extent of use of part-time drivers. Peak school contracts form the main basis of their work and many have all their vehicles committed to at least one such contract during peak periods. This peak work is supplemented by a smaller number of works contracts. Off-peak work is more limited and varied, consisting of a mix of other school services, transport of shift workers, social services work, licensed road service operation, various one-off contracts and, in the case of minibus operators, parcel and school meals deliveries. At the weekends and during the summer holidays many operators run day outings or licensed services to the coast or other places of entertainment and interest. Their costing methods lead many private operators to charge comparable prices for both peak and off-peak work. Such methods contrast with that used by many publicly-owned companies which lead to a much higher level of pricing in the peak. (a) (TRRL)

Jackson, RL Martin, PH
Transport and Road Research Laboratory Monograph SR485, 1979,
18 p., 2 Fig., 3 Tab., 6 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 244402)

311713 ACCESSIBILITY MEASURES AND THEIR SUITABILITY FOR USE IN TRIP GENERATION MODELS

Accessibility measures which have been used in a number of previous studies are reviewed and their applicability for use in trip generation modelling appraised. The paper then outlines the ideal requirements of accessibility, measures for use in trip production modelling work and then proceeds to define a number of private transport, public transport and 'all modes' (private and public) accessibility measures. These are then tested using data collected in Middlesbrough, and the 'best' measures together with the improvement in the explanatory power of the trip production models by the introduction of the accessibility measures, determined. (a) (TRRL)

Leake, GR (Leeds University, England) Huzayyin, A (Cairo University, Egypt) *Traffic Engineering and Control* Vol. 20 No. 12, Dec. 1979, pp 566-572, 2 Fig., 1 Tab., 23 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 244891)

313230 JOINT DEVELOPMENT REPORT

This report is a status report of joint development activity in cities across the nation, documenting research conducted between July 1976 and June 1979. This document is in three parts. Part One discusses legal, organizational, and procedural issues which were observed in the case study research documented in Part Two. Part Two is a status report of national joint development activities, current as of May 1979, and includes seven city summaries and 26 project case studies. Part Three presents brief status reports of 29 projects. This report also contains a public/private process chart which illustrates the steps necessary for joint development and an examination of the Transportation Corridor Development Corporation (TCDC). The city and project cases discussed in this report are presented in a case study format. Each study presents the kind and size of the project(s), the actors involved, a description of the area immediately surrounding the stop, and the contributions and payoffs of both the public and private sectors.

Prepared in cooperation with Harmon (Robert J.) and Associates, Inc., Washington, DC. and Ross, Hardies, O'Keefe, Babcock and Parsons.

Sharpe, CP Dixon, S Case, B Kurtzman, J Modisette, L
Rice Center for Community Design and Research, Urban Mass
Transportation Administration UMTA-TX-11-0006-80-1, June 1979,
175p Grant DOT-UMTA-TX-11-0006

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB80-150139

313640

JOINT DEVELOPMENT: MAKING THE REAL ESTATE-TRANSIT CONNECTION. EXECUTIVE SUMMARY

The publication describes the public and private sectors' roles in joint development-real estate that is closely linked to public transportation station facilities. It includes general conclusions about transit planning, joint development ventures, and joint development deal making. The Summary Guide highlights implementation techniques by focusing on four key issues: (1) What agreements and arrangements are necessary among developers, transit authorities, and other public agencies; (2) How these arrangements, or "deals," are made; (3) How improved transit planning can lead to more frequent and efficient implementation of joint development projects, and (4) How communities can use transit to guide or encourage development. The Guide is designed to provide information to both public and private sectors, and aid practitioners in maximizing the benefits of the Nation's investments in public transportation facilities.

Urban Land Institute, Department of Transportation Final Rpt. DOT/I-79-13, July 1979, 19 p. Contract DOT-UMTA-DC-06-0183-(79)

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB80-163454

314651

RURAL PUBLIC TRANSPORTATION COORDINATION EFFORTS: A SECTION 147 DEMONSTRATION PROGRAM, TECHNICAL MANUAL

The rural transportation projects of the 147 demonstration program were developed in a complex environment of individual transportation needs; competing human service service agency, public, and private transportation providers; and multiple levels of government. Those projects which were the most successful dealt directly with these elements by coordinating project efforts to conform to the needs and desires of the local community. By doing so, they developed a strong community identification which was translated into sponsorship and other forms of community support. In this technical manual coordination and the role it played in developing successful programs is discussed. Throughout the technical manual, there is one overriding conclusion: Coordination must begin early, involve as many participants as possible, and be carried forward through the planning, implementation and operations of a project. The four sections develop this point as it applies to: community support, regulatory considerations, coordination with public and private operators, and coordination with human service agencies. Community support begins early and continues throughout the successful project's life. By developing strong working relationships and a firm understanding of the local transportation environment many projects turned written proposals into successful and greatly appreciated local transportation operations. (Author)

Supported by DOT, FHWA, UMTA, and Office of the Secretary.

Ketola, HN
Applied Resource Integration Limited Final Rpt. Number 3 of 5, Aug. 1979, 38p

315403

JOINT DEVELOPMENT MARKETPLACE

On June 25, 26, and 27, 1978, more than 600 persons met in Washington, D.C. to learn about and discuss emerging joint public-private development opportunities throughout the United States. One hundred forty-six private companies and firms were represented. Seventy-eight cities and urban counties sent their mayors or other senior officials. Thirty-six of these cities and counties exhibited plans for more than 100 joint development projects, and their representatives were available—in formal site marketing sessions and informally—to answer questions about them. Top Federal officials, including Secretary of Transportation Brock Adams and Assistant to the President Jack Watson, emphasized the opportunity for a creative partnership among all levels of government and the private sector in the revitalization of our cities. Nationally recognized leaders in the fields of urban planning and economic development, development, urban transportation, land development, and real estate investment discussed joint development from their particular perspectives and took part in a series of workshops relating to public-private negotiations and the planning of joint development projects. The JOINT DEVELOPMENT MARKETPLACE—as the title indicates—was designed to be a marketplace for projects ready for development and a marketplace for ideas. In this respect it differed from the traditional Federally sponsored activity, at the

conclusion of which is brought forth a transcript of the proceedings and a series of recommendations. The value of the JOINT DEVELOPMENT MARKETPLACE was in being there, seeing what others had to offer, exchanging experiences, and making contacts.

Proceeding from the Joint Development Marketplace, held at the Shoreham Americana Hotel, Washington, D.C., June 25-27, 1978.

Public Technology, Incorporated Proceeding June 1978, 217 p, Tabs., 2 App.

326269

SHARED RIDE TAXI SERVICES AS COMMUNITY PUBLIC TRANSIT

This report examines the use of taxi firms as the providers of publicly supported demand responsive transit (DRT). The use of taxi firms as DRT providers raises a number of important institutional and performance issues. Accordingly, the primary purposes of this study are: (1) to analyze the issues associated with taxi firm provision of publicly sponsored community transit services, including the institutional reasons for contracting, competition for contracts, and contractual arrangements and their effects; and (2) to evaluate the performance of taxi-based community transit systems and the consequences for taxi firms becoming public transit providers, including legal implications, operational changes, labor-management relations, impact of subsidization, and effects of contracting on the firm's financial situation and future plans. Shared ride taxi (SRT) performance is evaluated in terms of cost-efficiency and effectiveness, and is also compared to that achieved by other forms of community level transit.

Teal, RF Fielding, GJ Giuliano, G Marks, JV Goodhue, RE California University, Irvine, Urban Mass Transportation Administration, (UMTA-CA-11-0017) Final Rpt. UMTA-CA-11-0017-80-2, Mar. 1980, 242p

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB80-226475

328963

THE RUNAROUND: USER-SIDE SUBSIDIES FOR MASS TRANSPORTATION IN DANVILLE, ILLINOIS

In August 1977, the City of Danville, Illinois was awarded a two-year amendment to an Urban Mass Transportation Administration Service and Methods Demonstration grant to test the application of a user-side subsidy concept supporting fixed-route transit to be provided by private transportation companies. This document discusses Phase II and the second year of Phase I. The distinguishing feature of a user-side subsidy is that providers of a service receive the subsidy only in amounts proportional to the number of people who use the service. The user-side subsidy arrangement offers a number of strong advantages over more conventional subsidy arrangements, and the overriding advantage is its value in promoting efficient use of transportation resources. This report discusses service provided by private contractors who were selected on a competitive basis every four months.

Koffman, D Bloomfield, P
Crain and Associates, Urban Mass Transportation Administration, Transportation Systems Center Final Rpt. UMTA-IL-06-0034-80-1, Apr. 1980, 380p Contract DOT-TSC-1408

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB81-151375

329513

CITY OF EL PASO PUBLIC TRANSIT ADMINISTRATION ENERGY CONTINGENCY PLAN

The purpose of this plan is to outline the strategies that the Department of Public Transit Administration will deem necessary to implement in the event of petroleum shortages. It is primarily designed to maximize the transit system capacity and supplement with paratransit and ridesharing services. The strategies are discussed relative to the severity of the fuel shortage and point of implementation: establish energy contingency task force; improve efficiency of existing transit system; increase or establish thirty day diesel shortage; coordinate fuel allocation procedures; increase bus fleet size by rehabilitation of buses and purchase of new buses; expand marketing program through public information, multimodal telephone hotline, and integration of share-a-ride program; expand park and ride facilities with increased express routing and a transfer policy of express to

local and visa versa; institute reverse commute patterns; institute corridor routing; expand carpooling/ridesharing; spread peak ridership with variable work hours and user fee in peak hours; coordination with other transportation providers, i.e., school districts, intercity carriers, paratransit, and private taxicab companies; decrease deadhead mileage by establishment of satellite terminals and bus parking agreements; explore potential of alternative fuels technology; reduce weekend service; reduce non-peak service; institute skip stops; and eliminate other services such as charter service, tripper service, and Saturday and Sunday service.

El Paso, City of Texas UMTA-TX-09-0120, Oct. 1980, v.p., Figs., Tabs., 7 App.

ORDER FROM: El Paso, City of, Texas, Public Transit Administration, El Paso, Texas

330832

TRANSIT SUBSIDIES AND REGULATION: LESSONS FROM THE ISRAELI EXPERIENCE

The Israeli transport sector, like those of many other countries is subject to complete government control with regard to fares, entry into the market, terms of operation and subsidies. It is unique, however, in that the fares charged are remarkably low and that the major transit mode, buses, is operated by privately owned companies. This paper explores what makes this low level of fares possible and in doing so examines the principal characteristics of the sector. It shows that this phenomenon cannot be explained by the amount of subsidy given to the operators but must be attributed to other factors, mainly the efficiency in the production of the services, which is motivated by the profit maximization objective of the operators. The paper further argues that government policies regarding subsidy and regulation are generally inefficient as they cause misallocation of resources. (Author/TRRL)

Berechmans, J (Tel-Aviv University, Israel) *Transportation (Netherlands)* Vol. 9 No. 4, Dec. 1980, pp 369-388, 1 Fig., 5 Tab., 10 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 252132)

ORDER FROM: Elsevier Scientific Publishing Company, P.O. Box 211, Journal Division, 1000 AE Amsterdam, Netherlands

331090

EVALUATION OF VARIOUS APPROACHES TO PROVIDING PUBLIC TRANSPORTATION SERVICE IN AREAS LESS THAN 200,000 POPULATION

The study was divided into three phases. The first two phases were carried out simultaneously, while the third phase involved a synthesis of findings. Phase I identifies the geographic, social, and economic characteristics of Texas cities relevant to mass transit use. The cities were then classified according to the observed characteristics, to provide assistance in choosing from among the available options. The pertinent characteristics were identified through a regression analysis of census data. The classification was made by using the statistical technique factor analysis. The research was limited to cities with at least 10,000 population in 1970. Cities smaller than this are unlikely to have sufficient demand to warrant transit service and they generally lack the administrative capacity to initiate public service in a new field. The different types of transit-paratransit alternatives suitable for Texas cities were identified in a second phase. Information on the operating, managerial, legal, and economic aspects of the alternatives was also assembled. The alternatives examined were conventional fixed-route bus, jitney, Dial-A-Ride, subscription bus, vanpooling and carpooling, taxi and shared taxi, and, briefly, bicycles. In the third phase, the characteristics of the cities identified in Phase I were matched with the characteristics of the transportation systems described in Phase II. The phases were synthesized through a matrix which gives a rating of each transit option for each type of city. General guidelines for estimating costs and revenues were also developed in this phase. (Authors)

Black, A Walton, CM Ellison, R Derr, G
Texas University, Austin, Texas State Department of Highways & Public Transp. (Res Rpt. 1051-1F) Final Rpt. Aug. 1980, 205p, Figs., Tabs., 86 Ref., Apps. Contract Res Stdy 3-10-761051

ORDER FROM: Texas University, Austin, Center for Transportation Research, Austin, Texas, 78712

331374

THE FEASIBILITY OF LATE EVENING TAXI—TRANSIT COORDINATION

As a result of the underutilization of fixed-route transit service during late evening hours, the City of Madison, Wisconsin became interested in exploring the feasibility of utilizing taxis to supplant or supplement the fixed route service during late evening hours. Based on data analysis, three alternative taxi/transit coordination scenarios were developed and analyzed: replacement of buses with taxis operating on fixed routes, replacement of fixed-route service, and shortening of fixed-routes and the provision of neighborhood feeder services. It was concluded that some form of taxi feeder service is the most promising in terms of cost-effectiveness. The type of feeder service specifically recommended is known as "cycle many-to-one," in which taxis circulate through each service area on a 30-minute cycle, returning to the transfer point to meet each line haul vehicle and thus ensuring coordinated transfers. Passengers transferring from the line haul to a taxi would be able to do at the transfer point. Sufficient slack time would be included in both taxi and line haul schedules to ensure that transfers are coordinated. One of the major advantages of the feeder alternative is that it is possible to implement it in a step-by-step process. Staging the implementation minimizes initial expenditures and provides the opportunity to refine system operations before the system is fully operational. Also, it allows the community some time to understand and accept the new system.

Wisconsin Department of Transportation, Multisystems, Incorporated
May 1979, 108p, Figs., Tabs., Refs., 1 App.

ORDER FROM: Wisconsin Department of Transportation, 4802 Sheboygan Avenue, Madison, Wisconsin, 53702

334029

LEGAL IMPEDIMENTS TO RIDESHARING ARRANGEMENTS

The most significant impediment in state laws to forming ridesharing arrangements are laws requiring motor vehicles transporting passengers for compensation to qualify as common or contract carriers. In recognition of the undesirability of such requirements, the legislatures of 32 states have adopted an exception to permit pooling without approval of the state public utility commission. Thirteen states do not have any such specific exceptions, and 6 states have motor carrier laws which regulate common but not contract carriers. Another impediment to ridesharing arrangements is the cost of availability of insurance. This report discusses compulsory insurance laws, guest statutes, no-fault laws, lapse in insurance coverage and workmen's compensation laws. This report also discusses whether ridesharing vehicles are commercial motor vehicles or buses, and the consequences of considering them as such. Aspects such as inspection, authority to acquire vans, the number of passengers, and hitchhiking restrictions are discussed. State fair labor standards acts, and income tax laws and their relation to ridesharing are also covered. Comments are made on the use of state-owned vehicles for ridesharing.

Kearney, EF (National Comm on Uniform Traffic Laws & Ordinances)
Department of Transportation Dec. 1979, 67p

ORDER FROM: GPO

334539

SUBSIDIZED SHARED-RIDE TAXI SERVICES

Issues associated with the recent development of subsidized shared-ride taxi (SRT) service are analyzed based on a study of experience in California, where subsidized SRT has already become the predominant form of demand-responsive transportation. One set of issues concerns service provision and includes the institutional reasons for contracting, competition for contracts, contractual arrangements and their effects, and the cost-efficiency of subsidized SRT. A second major set of issues concerns the consequences for taxi firms of becoming public transit providers and includes legal implications, operational changes, labor-management relations, the impact of subsidization, and the effects of contracting on firms' financial situation and future plans. The issue analysis provides the basis for a discussion of the policy implications of California's experience with SRT. (Author)

This paper appeared in *Transportation Research Record* No. 778, Paratransit 1980.

Teal, RF Marks, JV Goodhue, RE (California University, Irvine) **Transportation Research Record** No. 778, 1980, pp 25-32, 11 Ref.

ORDER FROM: TRB Publications Off

335196

LOCAL RESPONSES TO MEETING THE TRANSPORTATION NEEDS OF THE HANDICAPPED: THE EXPERIENCES OF SIX TEXAS CITIES

The attempts of six Texas cities to meet the transportation needs of handicapped citizens by making extensive use of existing community transportation providers are described. An analysis of these experiences reveals that intuitive solutions to providing cost-effective services for handicapped riders are often simplistic. In particular the analysis found that (a) contracting with an existing provider is only cost-effective if the provider is asked to perform traditional services and not innovative ones, (b) contracting with an existing provider can only generate cost savings if a city is willing to trade off direct control and supervision for lower unit costs, (c) dedicated services (vehicles and drivers) can provide a high level of service but often at high unit costs, (d) segregating riders who require minimal assistance from those who require extensive assistance can reduce costs if different providers are used for each group, and (e) every limitation on rider eligibility and contract service provision generates the need for additional administrative staff, which can significantly increase unit costs. The experiences of the six Texas cities suggest that solutions to the problem of devising transportation services for special groups depends on careful analysis of the capabilities of existing community providers; a firm understanding of the trade-offs between levels of service, cost, and control; and some hard decisions about what level of transportation service a community expects and to which special groups it should be delivered. (Author)

This paper appeared in **Transportation Research Record** No. 784: **Providing Transportation Services for the Elderly and Handicapped**.

Rosenbloom, S (Texas University, Austin) **Transportation Research Record** No. 784, 1980, 39-45, 3 Tab., 1 Ref.

ORDER FROM: TRB Publications Off

335197

COMPARISON OF FINDINGS FROM PROJECTS THAT EMPLOY USER-SIDE SUBSIDIES FOR TAXI AND BUS TRAVEL

Experiments with user-side subsidies began about four years ago. The Urban Mass Transportation Administration Service and Methods Demonstration program has funded a series of projects and monitored others already in operation to determine the workability of user side subsidies in different settings as they are applied to different forms of public transportation. Results from 13 applications of user-side subsidies as a means of improving the mobility of transit-dependent persons are presented. Examples of public and private providers, paratransit and fixed-route services, small to medium-sized cities, and limited (target market) eligibility, including a variety of subsidy levels, payment mechanisms, and fare policies, are discussed and examined. Generalizations are made, where possible, about administrative policies, fare-discount strategies, and project impacts. (Author)

This paper appeared in **Transportation Research Record** No. 784: **Providing Transportation Services for the Elderly and Handicapped**.

Kendall, D (Information Resources, Incorporated) **Transportation Research Record** No. 784, 1980, pp 45-52, 1 Tab., 10 Ref.

ORDER FROM: TRB Publications Off

335629

PUBLIC AND PRIVATE TRANSPORT IN AUSTRALIAN CITIES: I. AN ANALYSIS OF EXISTING PATTERNS AND THEIR ENERGY IMPLICATIONS

Data from a wide range of sources have been collated to examine past trends and existing patterns of public and private transport in Australia's five biggest cities. Energy consumption by type of fuel has been used to compare modal energy efficiencies and per capita transport energy consumption in each city. Significant differences were found between the five cities in the level of private travel, provision of public transport, public transport patronage and transport energy consumption per capita. Much of the variation appears to be associated with the use of electrified fixed rail

systems. Electric trains and trams were shown to be the most energy-efficient form of public transport in Australian cities, to attract the highest patronage and to use an insignificant amount of total transport energy. By contrast, cities with public transport based mainly on buses and diesel trains have lower public transport utilisation, perform less energy-efficiently and have higher transport energy consumption per capita due to greater private car usage. It is concluded that encouraging a well-integrated public transport system with electric trains and trams as a backbone has the potential to save significant quantities of liquid fuel. (a) (TRRL)

Newman, P Kenworthy, J (Murdoch University, Australia) **Transport Policy and Decision Making** Vol. 1 No. 2-3, 1980, pp 133-149, 3 Fig., 8 Tab., 15 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 253901), Institute for Road Safety Research

ORDER FROM: Martinus Nijhoff Publishers, P.O. Box 22, Dordrecht, Netherlands

335630

PUBLIC AND PRIVATE TRANSPORT IN AUSTRALIAN CITIES: II. THE POTENTIAL FOR ENERGY CONSERVATION THROUGH LAND USE CHANGE

An attempt has been made to explain observed difference in public and private transport and per capita energy consumption in five Australian cities by reference to a number of non-land use and land use variables. Non-land use variables were considered inadequate to explain the differences in transport and energy patterns. However, numerous significant correlations were found between the seven key transport parameters and various land use indicators representing density, centralisation and traffic restraint characteristics. The correlations suggest a key role for these three factors in giving a competitive edge to public transport and increasing the feasibility of cycling and walking. A policy combining densification, centralisation and traffic restraint measures is recommended as an effective way of promoting transport energy conservation in the short and long terms.(a) (TRRL)

Newman, P Kenworthy, J (Murdoch University, Australia) **Transport Policy and Decision Making** Vol. 1 No. 2-3, 1980, pp 149-167, 7 Tab., 57 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 253902), Institute for Road Safety Research

ORDER FROM: Martinus Nijhoff Publishers, P.O. Box 22, Dordrecht, Netherlands

335789

BUS SHELTERS MEAN A HEALTHY INCOME FOR TORONTO

Toronto's department of public works and Mediacom Industries Ltd have made an arrangement whereby Mediacom would manufacture, install and maintain bus shelters at their own cost for the privilege of displaying advertising. A percentage of the revenue from the advertising is given as commission to the city. There is no doubt that this arrangement is beneficial to the municipality. (TRRL)

MacLean, S **Civic Public Works Magazine** Vol. 33 No. 1, Jan. 1981, pp 20-21, 3 Phot.

ACKNOWLEDGMENT: TRRL (IRRD 254199), Roads and Transportation Association of Canada

ORDER FROM: Roads and Transportation Association of Canada, 1765 St Laurent Boulevard, Ottawa, Ontario K1G 3V4, Canada

342930

STARTING UP. HOW TO RUN A COMMUNITY MINIBUS. A COMPREHENSIVE GUIDE, SECOND EDITION

This guide was written to assist groups running their own vehicles and for those who are thinking of getting involved. It is aimed at showing what resources are needed, how and where to get them, and exactly what the venture involves. It covers the aspects of vehicle selection, costing (at September 1980 prices), organization (adoption of a constitution, to register or not), sources of funds, operation of minibus and day-to-day organization, legal aspects, and custom-built vehicles. (TRRL)

Taylor, J Armitage, R

Starting Up Community Transport Monograph Oct. 1980, 39p, Figs., Tabs., Photos., Refs.

ACKNOWLEDGMENT: TRRL (IRRD 256238)
ORDER FROM: TRRL

343553

EVALUATION OF THE ROCHESTER, NEW YORK COMMUNITY TRANSIT SERVICE DEMONSTRATION-VOLUME II: EVALUATION REPORT

The primary purpose of the Rochester Community Transit Demonstration was to test a strategy for providing cost-effective demand-responsive transit service in suburban areas. Services were planned to have sufficiently low operating costs so that the communities could afford to continue these services after the demonstration. Cost-effectiveness was sought by encouraging close community involvement, using small vehicles, and inviting competitive bidding for new paratransit service operations. The demonstration project was an outgrowth of the Rochester Integrated Transit Demonstration, which took place between April 1975 and October 1977. In the new demonstration, both public and private operators provided Dial-A-Ride and handicapped services, and their performances were compared. The demonstration also included a unique funding strategy that shifted responsibility to the local towns served by Dial-A-Ride vehicles. This report evaluates the results of process, the level of service provided to users, the demand response, and the services' operating efficiency. The implications of the Rochester experience are summarized for the benefit of other localities interested in implementing similar services. An epilogue section, documenting activities that have occurred since the demonstration ended is also included.

Newman, DA Holoszy, M
SYSTAN, Incorporated, Urban Mass Transportation Administration, Transportation Systems Center Final Rpt. SYSTAN-D161-7, UMTA-NY-06-0048-81-2, Oct. 1980, 178p Contract DOT-TSC-1416

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB81-212433

343582

PARATRANSIT HANDBOOK: A GUIDE TO PARATRANSIT SYSTEM IMPLEMENTATION VOLUME I-PARTS 1-3

The Paratransit Handbook has been developed as a guide to aid public officials, planners, system operators, and interested community groups in planning, designing, implementing, operating, and evaluating integrated paratransit systems. The Handbook represents a compendium of techniques and experience drawn from existing Dial-A-Bus and shared-ride taxi paratransit systems. Five interrelated sections contained in two volumes comprise the Handbook.

oSee also PB81-222135.

Billheimer, JW Lave, RE Jones, P Fratessa, C Newman, D
SYSTAN, Incorporated, Urban Mass Transportation Administration, Transportation Systems Center, (UMTA-MA-06-0054) Final Rpt. DOT-TSC-UMTA796VOL-1, Feb. 1979, 443p Contract DOT-TSC-1392

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB81-222127

343583

PARATRANSIT HANDBOOK: A GUIDE TO PARATRANSIT SYSTEM IMPLEMENTATION VOLUME II-PARTS 4 AND 5

The Paratransit Handbook has been developed as a guide to aid public officials, planners, system operators, and interested community groups in planning, designing, implementing, operating, and evaluating integrated paratransit systems. Volume II, Part 4, Service Components, Regulations, Analytical Procedures, and Sources (SCRAPS) contains detailed information to complement the planning and design process. Volume II, Part 5, The Appendices, also includes references, a glossary, summaries of individual system characteristics, and other technical material.

oSee also PB81-222127.

Billheimer, JW Lave, RE Jones, P Fratessa, C Newman, D
SYSTAN, Incorporated, Urban Mass Transportation Administration, Transportation Systems Center, (UMTA-MA-06-0054) Final Rpt. DOT-TSC-UMTA796VOL-2, Feb. 1979, 365p Contract DOT-TSC-1392

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB81-222135

345223

CONTRACT OPTIONS FOR PRIVATE ENTERPRISE BUS SERVICES

This paper was presented at Session 5: Regulations Versus Competition in the Eighties. In overseas countries, centralised transport authorities have for many years entered into contractual arrangements with privately-owned services to supplement publicly-owned networks. This practice will spread in Australia during the 80's. Victoria has already legislated to allow the State Minister of Transport to enter into contracts with private bus operators, and similar action has been foreshadowed in other states. This paper considers the factors which must be taken into account in costing a transport service, and evaluates the options which exist for translating these into contract form. It notes methods used overseas and in Australia and suggests an alternative approach which recognises the differing cost elements in transport operation. Advantages and disadvantages of each contract format, applying to both operator and contractor, are briefly outlined to provide a basis for discussion of each (a). (TRRL)

Papers from the 6th Australian Transport Research Forum, Brisbane, October 22-24, 1980.

Schrader, MC (Bus Proprietors' Association (Vic))
Queensland Metropolitan Transit Authority, (0313-6655) 1980, pp 249-263, Figs., Tabs., Photos., Refs.

ACKNOWLEDGMENT: TRRL (IRRD 250650), Australian Road Research Board
ORDER FROM: Australian Road Research Board, P.O. Box 156, Bag 4, Nunawading, Victoria 3131, Australia

345239

THE TAXI INDUSTRY-PRIVATE ENTERPRISE IN PUBLIC TRANSPORT

This paper was presented at session 5: Regulation Versus Competition in the Eighties. The secondary private enterprise operator faces problems, which force him to compete with the primary public transport oriented system, instead of working as a complement to that system. Outmoded regulations stand in the way of progress, but is deregulation the answer? World transport systems are changing to accommodate the different needs of the individual. The fuel conscious society is beginning to place more importance on transport alternatives, as private motorists are finding it increasingly difficult to compete with transport systems which are being progressively updated and hence becoming more efficient, as witnessed in the modernisation of the Japanese rail system. Australia must not and cannot be left behind. It is crucial that Australia keep pace with the changing world emphasis. To do this, it is necessary to critically analyse existing transport systems. Future recommendations will result as a consequence of this analysis. (Author/TRRL)

Papers from the 6th Australian Transport Research Forum, Brisbane, October 22-24, 1980.

Collins, G (New South Wales Taxi Council)
Queensland Metropolitan Transit Authority, (0313-6655) 1980, pp 265-277, Figs., Tabs., Photos., 5 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 250632), Australian Road Research Board
ORDER FROM: Australian Road Research Board, P.O. Box 156, Bag 4, Nunawading, Victoria 3131, Australia

345421

TRANSIT-CAR FINANCING: A BREAK THROUGH?

The Internal Revenue Code has been changed to make provision for the rolling stock of public transit entities, including both railcars and buses, to be eligible for accelerated depreciation by private entities that might enter into sale and leaseback arrangements with the operators of public transit services. Ability to write off for tax purposes in 5 years a railcar which has a 35-year useful life presents substantial leverage to corporations which are looking for ways to obtain depreciation advantages within their own tax structure. The effect of this change in tax law on the New York City Transit Authority is discussed; up to \$200,000 can be saved on a \$1 million car. NYCTA has bids for supply of 1,736 new transit cars in hand where the new funding can be applied. Already it has buses and commuter rail cars being delivered where the new depreciation is applicable. NYCTA

President John Simpson makes observations on transit car procurement and on the problems which have plagued transit agencies recently.

Railway Age Vol. 182 No. 18, Sept. 1981, pp 29-32, 1 Phot.

ORDER FROM: ESL

345748

PUBLIC TRANSPORT IN PARIS

The purpose of this note is to describe the public passenger transport system of Paris with particular reference to the increase in traffic achieved in recent years, which has been contrasted to the declining use of public transport in London. Because the circumstances applying in the two cities differ greatly, the comparisons are restricted to issues of general organization and policy. Details are given of the development and transport plans for the Paris region, public transport in Paris (provided by (1) the RATP - Regie Autonome des Transports Parisiens-which operates the metro underground railway, the reseau express regional- RER-regional metro and the urban and suburban bus services. It corresponds broadly to London Transport; (2) the SNCF- Societe Nationale des Chemins de Fer Francais-which operates the suburban surface railways equivalent to British Railways in the London area; (3) APTR-Association Professionnelle des Transports Routiers-65 privately owned bus companies providing services in outer suburban areas and new towns), regional public transport finance, recovery of traffic by RATP, and the future of public transport in the Paris region. (TRRL)

Greater London Council Monograph No. 383/0231 T/MT, Nov. 1980, 24p, 4 Fig., Tabs., 11 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 257816)

ORDER FROM: Greater London Council, County Hall, London SE1 7PB, England

345961

RETROSPECTIVE VIEW OF DIAL-A-RIDE SERVICE IN ROCHESTER, NEW YORK

For one year, the Rochester-Genesee Regional Transportation Authority (RGRTA) offered dial-a-ride service to the general public in four suburbs under two different institutional arrangements. The public operator, Regional Transit Service, and a private operator, Paratransit Enterprises, each provided service in two communities. They also provided demand-responsive service to the elderly and the handicapped throughout Rochester. This unique arrangement was part of the Rochester community transit demonstration, an outgrowth of the earlier Rochester integrated transit demonstration, both projects funded by the Urban Mass Transportation Administration Service and Methods Demonstration program. The community transit demonstration was specifically designed to test cost-effective demand-responsive transit strategies. RGRTA sought competitive bids from paratransit operators and asked communities to fund a share of the operating deficits for postdemonstration services. Thus, the demonstration made it uniquely possible to compare service levels, ridership, and costs for public and private dial-a-ride that served both the general public and the elderly and the handicapped. By the end of the demonstration, three of the four communities found that they could not afford to continue paratransit services by using local subsidies. One town, however, developed an innovative funding strategy and supported dial-a-ride services for five additional months. By 1980, no general market dial-a-ride services were operating, although the cost-effectiveness of private operation was successfully demonstrated. Today, RGRTA supports privately operated paratransit services for the elderly and the handicapped throughout the county. The activities of the demonstrations are reviewed and implications are derived that may be useful to others considering implementing demand responsive transit service. (Author)

This paper appeared in Transportation Research Record No. 818, Design of Public Transport Services.

Newman, DA (SYSTAN, Incorporated) Sharfarz, D (Rochester-Genesee Regional Transportation Auth) Abkowitz, M (Rensselaer Polytechnic Institute) **Transportation Research Record** No. 818, 1981, pp 26-33, 1 Fig., 1 Tab., 5 Ref.

ORDER FROM: TRB Publications Off

349007

THE TAXI AND PRIVATE HIRE CAR INDUSTRIES IN ENGLAND AND WALES

A number of past studies have provided information on the operation of taxis (hackney carriages) and private hire cars in London, however little is known about these forms of transport elsewhere. For this reason, in late 1980, the Transport and Road Research Laboratory carried out a survey of all district councils in England and Wales (the regulating authorities for taxis and hire cars outside London), and analysed data held by the home office, to determine the existing state of the provincial industries. Comparisons were made with the situation in the capital using data supplied by the public carriage office. The results of the work are given in this report and clearly indicate that the importance of taxis and hire cars in providing public transport has been increasing in recent years. Not only has their availability improved but the fares charged for them have fallen in real terms. Such trends contrast markedly with those observed in the conventional stage carriage bus industry. (A) (TRRL)

Coe, GA Jackson, RL

Transport and Road Research Laboratory, (0305-1293) Monograph NLR 1011, 1981, 20p, 4 Fig., 8 Tab., 11 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 259030)

ORDER FROM: TRRL

349103

BUSINESS PLAN FOR A COMMERCIAL, THIRD-PARTY VANPOOL OPERATION

Vanpool rate schedules that are based primarily on meeting costs in a break-even operation discourage participation by the greater number of short-distance riders. As a result, this business plan is based on the supposition that, if vanpool rate schedules were directly related to the gasoline cost of travel by automobile, vanpooling would have much broader appeal, and might even be profitable. Of course, profit is not a necessity. This plan would also be useful in an unsubsidized, nonprofit operation. The plan itself is based on a computer-optimized model, created largely from 3M vanpool data. This model uses a pricing strategy that is indexed directly to the cost of gasoline. Other important features and assumptions are shown as well as profitability, cash flow, and internal rate of return over a seven-year time period.

This paper appeared in Transportation Research Record No. 823, Current Status of Ridesharing Activities.

Herk, LF, Jr (ZM, Technology Enterprises Division) **Transportation Research Record** No. 823, 1981, pp 63-68, 7 Fig., 2 Tab., 2 Ref.

ORDER FROM: TRB Publications Off

349742

ORGANIZATIONAL PLANNING FOR CONTRACTED RURAL PUBLIC TRANSIT SERVICES

A framework for organizing a transit authority to contract with the private sector for service delivery is presented. It is based on a case study of the Franklin County, Massachusetts, Regional Transit Authority. Public pressure is mounting for a reduction in the size of government and the return of many functions to the private sector. Transit authorities in rural and small urban communities can meet this challenge by contracting with private-sector organizations for the delivery of transit services. Use of contracted services will change the focus of the authority's management. Based on a clear division of functional responsibilities between the authority and the contractor, planners must construct an organizational framework to reflect the authority's functions and to provide the managerial skills required to direct the contractor and evaluate performance. Overemphasizing any single area of skill will diminish the effectiveness of the authority in meeting local transportation needs.

This paper appeared in Transportation Research Record No. 831, Rural Public Transportation: Fifth National Conference Proceedings.

Roblin, RA (Dynatrend, Incorporated) **Transportation Research Record** No. 831, 1981, pp 28-33, 3 Fig., 2 Ref.

ORDER FROM: TRB Publications Off

349746

PROCUREMENT OF SMALL TRANSIT VEHICLES

Two aspects of the procurement process for small transit vehicles are described: financing and the bid process. The following financing sources

are discussed: (a) federal transportation programs, (b) the Farmers Home Administration, (c) leasing, (d) private financing, (e) non-transportation-specific federal programs, and (f) coordination of vehicles secured from different sources. Although all potential sources of federal funds are generally becoming increasingly limited, there are a number of alternatives to federal transportation programs. In addition, new, creative financing methods are being developed in the private sector. Given today's funding realities, coordination of existing programs and vehicles is essential. Federal procurement requirements are described and the bid process is followed through from advertisement, preparation of bid documents, and prebid conference to evaluation of bids. Suggestions for contract provisions in such areas as warranty, delivery, inspection, life-cycle costing, and the timing of the process are provided.

This paper appeared in Transportation Research Record No. 831, Rural Public Transportation: Fifth National Conference Proceedings.

Cutler, M (Massachusetts Exec Off of Transport & Construction)
Transportation Research Record No. 831, 1981, pp 48-53, 1 Fig., 4 Ref.

ORDER FROM: TRB Publications Off

361076

RIDESHARING NEEDS AND REQUIREMENTS: THE ROLE OF THE PRIVATE AND PUBLIC SECTORS

This report contains the proceedings of a conference which focused on research activities that addressed the needs of ridesharing practitioners and policymakers, on funding research in the areas of greatest need, and on stimulating new research, both funded and unfunded. This report consists of 4 parts. Part 1 notes the conference aims and includes the keynote address, a summary of conference themes, and closing remarks. Part 2 presents the workshop discussions and recommendations. The workshops covered the following areas: roles and responsibilities, productivity, long-range impacts and issues, travel behavior and marketing implications, organizational issues, operations, and evaluation. Part 3 contains the resource papers prepared for the conference. Part 4 lists the participants and their affiliations.

Transportation Research Board Special Report No. 193, 1981, 83p, Figs., Refs.

ORDER FROM: TRB Publications Off

361445

PRIVATELY-PROVIDED URBAN TRANSPORT SERVICES. ENTRY DETERRENCE AND WELFARE

Although there are comparatively few examples of privately-provided urban transit services, research suggests that such services are generally possible. The article estimates a simulation model to test the hypothesis that existing public utility's transit services serve to deter private-carrier entry. If such entry does occur the article questions the certainty that a welfare gain results. The author outlines a welfare criterion, independent of the distribution of consumers surplus gain, which allows the conclusion that such a gain is very often likely to be the result. (TRRL)

Viton, PA (Pennsylvania University, Philadelphia) *Journal of Transport Economics and Policy* Vol. 16 No. 1, Jan. 1982, pp 85-94, 5 Tab., 9 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 260085)

ORDER FROM: London School of Economics and Political Science, Houghton Street, Aldwych, London WC2A 2AE, England

361607

SCHOOL BUS USE FOR NON-SCHOOL TRANSPORTATION

This Information Bulletin discusses the fundamental issues involved in using school buses for non-school transportation in either a crisis or non-crisis situation. The degree to which the issues that will be discussed represent obstacles to school bus use varies from state to state and from county to county. It also varies depending upon the context in which the need emerges to implement such use. Broadly speaking, there are five pairs of contexts, the former in each pair being the easier scenario in which to implement a school bus use program: (1) Energy crisis or other emergency condition vs. Non-crisis situation; (2) Service is needed for elderly and handicapped or other special user group vs. Regular, fixed-route or feeder service is needed for commuters or general public; (3) School buses are owned and operated by a private company vs. School buses are owned and

operated by the public sector; (4) The need for transportation arises in a rural area vs. The need arises in a suburban or an urban area; and (5) Service is needed for offpeak periods vs. Service is needed during the peak periods. The difference in the set of circumstances in each pair changes the perspective with which the need is viewed by those who would be responsible for initiating and implementing such programs. The problems and obstacles are generally accentuated in the latter scenario in each case.

A Report of the Transportation Task Force of the Urban Consortium for Technology Initiatives.

Public Technology, Incorporated, Department of Transportation DOT-I-80-42, HS-032 630, Sept. 1980, 67p, Tabs., 1 App.

ACKNOWLEDGMENT: National Highway Traffic Safety Administration
ORDER FROM: NTIS PB82-149253

361859

THE HIRING OF BUS LINES BY THE RATP [L'AFFRETEMENT DE LIGNES D'AUTOBUS PAR LA RATP]

Since 1974, the RATP hires a number of bus lines from private firms to serve the suburbs. Traditionally the RATP serves Paris and the inner suburbs while the APTR (Association Professionnelle des Transporteurs Routiers Publics de Voyageurs de la Region Parisienne) serves the outer suburbs. On the borders of these two zones urban development is taking place rapidly, and problems of coordination between the RATP and the APTR arose. In an attempt to solve these difficulties, the RATP is hiring buses for the operation of some public transport lines. Experiments with hire were set up in the western suburbs and in new towns. The hiring contract taken generally for 8 years give the RATP the right to operate the bus lines and to fix tariffs. The RATP pays the private firm a price proportional to the number of kilometer/bus travelled. This system helped to solve the problems of coordination between networks and to create new networks. [French]

RATP—Bulletin de Documentation et d'Information June 1979, pp 27-34, 1 Fig., 2 Tab., 9 Phot.

ACKNOWLEDGMENT: TRRL (IRRD 112661), Institute of Transport Research, TRRL

ORDER FROM: Regie Autonome des Transports Parisiens, 53 ter Quai des Grands Augustins, 75271 Paris Cedex 6, France

365270

FREE ENTERPRISE URBAN TRANSPORT

This report provides an overview that describes a number of public transport systems abroad, largely in developing countries, that operate at a profit, and indicates action that enable the United States to develop networks of fast, reliable urban public transport services responsive to users' needs, at prices that most can afford. Chapter 2 of this report provides examples of different types of urban public transport that run at a profit while providing good service. Chapter 3 describes the characteristics of successful urban public transport systems. Chapter 4 reviews the private provision of public transport in U.S. cities and considers the possibilities of their expansion. Chapter 5 outlines how lessons from abroad can be applied to U.S. transportation systems.

Roth, G Wynne, GG
Multisystems, Incorporated, Urban Mass Transportation Administration, (UMTA-DC-06-0150) Final Rpt. UMTA-DC-06-0150-82-1, Jan. 1982, 67p Contract DOT-UT-90008

ACKNOWLEDGMENT: NTIS

ORDER FROM: NTIS PB82-205683

365712

TAXICAB INNOVATIONS: SERVICES AND REGULATIONS

This 135-page report describes the links between service innovations and free enterprise, regulations, and technological innovations with regard to taxi services. A major focus of the report is taxi regulatory reform, with specific material on the experiences of Dallas, San Diego, Dade County, Seattle, and Chapel Hill included. The report should be of special relevance to taxi operators and state or local officials.

Proceedings of the National Conference on Taxicab Innovations held at Kansas City, Missouri on May 5-6, 1980.

Public Technology, Incorporated, Office of the Secretary of Transportation DOT-I-81-20, May 1980, 135p

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB83-109975

366965

IMPROVED TRANSPORTATION BETWEEN MIDTOWN PASSENGER TERMINALS

Midtown Manhattan, an area of 3 sq mi, has the densest concentration of commercial activity in the city with 1.1 million workers, 10 million shoppers and a residential population of 100,000. The area is served by 5 major public transportation terminals, 4 of which were located primarily to serve intercity passengers. With the exception of the East Side Airlines Terminal, the primary flow in all these facilities is now commuters. An inventory of all rapid transit, bus and taxi service that can provide for inter-terminal movement was made and methods of disseminating information on such travel collected. An estimate of inter-terminal passenger flows was made. Possible low-cost and short-term improvement programs were developed and evaluated. Some alteration of existing bus services is possible to make movement more convenient and a van-type ridersharing taxi service was suggested for a demonstration service. Improvements in information services were also suggested.

Port Authority of New York and New Jersey, Urban Mass Transportation Administration Tech Rpt. UMTA-1T-09-0069, Mar. 1982, 95p, Figs., Tabs., Refs., 1 App.

ORDER FROM: Port Authority of New York and New Jersey, One World Trade Center, New York, New York, 10048

367772

THE TEXAS VANPOOL PROGRAM

The Texas vanpool programme is a cooperative effort involving the Texas Energy and Natural Resources Advisory Council, a state agency, about 100 vanpool programme coordinators (almost all in the private sector), and various other state offices. This report outlines the development of the programme, describes it from the employer's point of view, and evaluates its fixed operating and total costs, and savings to the company operating a van pooling system. (TRRL)

Proceedings of Seminar K on Public Transport, held at the PTRC Summer Annual Meeting, University of Warwick, England.

Roeseler, WG (Texas A&M University)
Planning and Transport Res and Computation Co Ltd, (0143-4403)
Proceeding 1981, pp 77-86, 1 Tab., 6 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 262771)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

367774

THE PROVINCIAL TAXI AND PRIVATE HIRE CAR INDUSTRIES

This paper reports the findings of a survey of all district councils in England and Wales (the regulating authorities for taxis and hire cars outside London) at the end of 1980 to establish the nature of licensing and operation in their respective areas. Data are presented on the number of vehicles licensed at the time of the survey, trends in the magnitude of the industry in particular areas, quantity control, and fares. Comparisons are made with the bus and coach industries. (TRRL)

Proceedings of Seminar K on Public Transport, held at the PTRC Summer Annual Meeting, University of Warwick, England.

Coe, GA Jackson, RL (Transport and Road Research Laboratory)
Planning and Transport Res and Computation Co Ltd, (0143-4403)
Proceeding 1981, pp 111-129, 4 Fig., 8 Tab., 14 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 262773)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

368196

USER-SIDE SUBSIDIES: DELIVERING SPECIAL-NEEDS TRANSPORTATION THROUGH PRIVATE PROVIDERS

The user-side subsidy is a method for delivering low-cost transportation services to selected groups of travelers. Under a user-side subsidy program, certain target groups of users are permitted to purchase trips from a transportation provider at fares that are below those charged to the general public. For each subsidized trip delivered, the provider receives a voucher,

scrip, or a ticket from the user, which can be redeemed at the subsidizing agency for an agreed-on value—usually the full-fare value of the trip. Over the past several years, the Service and Methods Demonstration Program of the Urban Mass Transportation Administration has been exploring various applications of the user-side subsidy concept through a number of demonstration and case-study evaluations. This paper summarizes and compares the major evaluation findings from these projects to make some general statements about the overall feasibility and cost-effectiveness of providing special needs transportation services through user-side subsidies. It examines the concept from the perspective of three principal groups—the subsidizing agency, the user, and the transportation provider. Relevant issues of concern to each of these groups are identified and discussed and those issues most relevant to federal policymakers are highlighted.

This paper appeared in Transportation Research Record No. 850, Issues in the Provision of Transportation Services for the Elderly and the Handicapped.

Spear, BD (Transportation Systems Center) Transportation Research Record No. 850, 1982, pp 13-18, 2 Tab.

ORDER FROM: TRB Publications Off

369009

TRAVEL IN URBAN AREAS. PUBLIC TRANSPORT OR PRIVATE TRANSPORT? THE CASE OF PALERMO [GLI SPOSTAMENTI IN AREA URBANA. MEZZO PUBBLICO O MEZZO PRIVATO? IL CASO DI PALERMO]

The objective of this study is to determine the limits of interpretability of transport phenomena by analytical methods. It is shown that by the application of a behavioural model to the use of public and private transport, it is possible to evaluate parameters which explain the interdependence between the user and the functional variables of the means of transport. The study was carried out in Palermo, Italy. [Italian]

Corriere, F (Facolta Di Ingegneria Di Palermo) Vie e Trasporti Vol. 51 No. 488, Mar. 1982, pp 199-210, 3 Fig., 9 Tab., 7 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 263745)

ORDER FROM: Casa Editrice la Fiaccola, Via Ravizza 62, Milan, Italy

369096

STATE OF THE ART REVIEW OF DEMAND ANALYSIS FOR RIDESHARING

This paper reviews and summarizes the techniques currently used in the estimation of ridesharing demand. The techniques have been grouped by the type of basic approach used: (1) techniques developed from consideration of the formation of ridesharing units. This category includes the estimation of area-wide ridesharing potential by estimation of possible matches and the identification of characteristics of the population that shares rides; (2) techniques which are classified as household travel decision models. These include utility maximization models and household travel decision simulations; (3) techniques concerned with high occupancy vehicle treatment effects on demand and supply for traffic equilibrium. Recommendations for further research are included.

Transportation Planning Practice Proceedings of Seminar M held at University of Warwick, July 13-16, 1981.

Kostyniuk, LP (Michigan University, Ann Arbor) Planning & Transport Res & Comp, Sum Ann Mtg, Proc No. P212, 1981, pp 35-49, 2 Tab., Refs.

ACKNOWLEDGMENT: TRRL (IRRD 263719)

ORDER FROM: PTRC Education and Research Services Limited, 110 Strand, London WC2, England

369161

TRANSIT'S FISCAL SURVIVAL

With the phase-out of UMTA Section 5 (urban) and Section 18 (rural) funds for operating subsidies scheduled, transit managers and political leaders are looking to the possibility that some systems may cease to operate. This article discusses local financing options which include higher fares, non-farebox operating revenue, third-party participation (route guarantees from major employers and central business district merchants or other sources), local taxation, private sector involvement (funding of transit terminals, advertising) and some specific mechanisms used for smaller systems. Avoiding financial pitfalls is examined, including inad-

quate local tax base, inadequate farebox revenue, cash shortfalls at operating agencies, declining productivity and high maintenance costs.

Flagg, LW, III *Transitions* 1982, pp 1-15

ORDER FROM: ATE Management and Service Company, Incorporated, 617 Vine Street, Suite 800, Cincinnati, Ohio, 45202

370055

JOINT DEVELOPMENT PROTOTYPES IN THE NORTHEAST CORRIDOR

While Federal policy favors joint development and some funding remains available for such projects, this article describes six real estate projects initiated by local governments and private agencies aimed at concentrating development around transportation facilities to improve transit accessibility and increase trip-generating land uses at such points. There is often sufficient interest by the private sector in joint cooperation is essential. Suburban sites are more attractive to private developers than center-city sites; office and commercial space is more attractive than retail or residential developments. Both rail and highway access are essential; sites must be adjacent to the central business districts of the municipalities in which projects are located. In some cases the former railroad or transit station is recycled; in other cases it is replaced. Details of specific Northeastern projects are given and other general conclusions are made.

Lutin, JM (Gibbs and Hill, Incorporated) Bergan, JP (Boston Architectural Center) *Transportation Quarterly* Vol. 37 No. 1, Jan. 1983, pp 5-22, 4 Fig.

ORDER FROM: Eno Foundation for Transportation, Incorporated, P.O. Box 55, Saugatuck Station, Westport, Connecticut, 06880

370870

CAN SMALL BUSES AND TAXIS BE OF MORE USE IN SCHEDULED TRANSPORT? [KAN SMAABUSS OG DROSJE FAA STOERRE PLASS I RUTETRAFIKKEN?]

On sections of the transportation network with few passengers, it can in certain cases be favourable to change from large buses to minibuses or taxis. The change to smaller buses can if necessary be combined with introduction of ordered schedules. An important condition for making the change to taxis, is that the saved driving time for drivers on the big buses can be capitalized, especially on scheduled trips with overtime payment. This was ascertained through a project with minibus and taxis in the county of Oestfold. The project is part of a Greater Nordic Cooperation Project in the field of untraditional transportation in rural areas. [Norwegian]

Froeydsdal, E *Samferdsel* Vol. 21 No. 3, Apr. 1982, pp 14-16, 2 Fig., 2 Tab., 1 Phot., 1 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 265423), Norwegian State Highway Laboratory

ORDER FROM: Institute of Transport Economics, Roaa, P.O. Box 24, Oslo 7, Norway

371551

ALTERNATIVE RURAL SERVICES: A COMMUNITY INITIATIVES MANUAL

The aim of this manual is to help local communities support, retain and even provide themselves facilities and services which have closed, are threatened with closure, or simply never existed at all. The chapter dedicated to transport discusses the improvement of existing services and means of encouraging greater use of the facilities offered. It mentions a number of options involving relatively unconventional forms of transport: community buses, car sharing, social car schemes, sharing of taxis and hire cars, post buses, school buses, hired village buses, shared car ownership, and work buses. Brief details are given of the existing licensing system established in 1930 and amended by subsequent legislation. (TRRL)

Woollett, S
National Council for Voluntary Organisations Monograph 1982, 113p

ACKNOWLEDGMENT: TRRL (IRRD 265757)
ORDER FROM: National Council for Voluntary Organisations, 26 Bedford Square, London, England

371553

PUBLIC/PRIVATE-SECTOR COOPERATION IN URBAN TRANSPORTATION: LESSONS FROM RIDE SHARING EXPERIENCES IN CONNECTICUT

An important characteristic of urban transportation policy and planning today is the increasing role that the private sector is playing in identifying and implementing transportation projects. For example, a recent examination of the possible forms of such involvement found that there were four major categories of action that could be used to classify recent private-sector efforts in urban transportation: (1) aid to and/or provision of transportation services; (2) formation of advocacy or advisory groups whose purpose is to influence public policy; (3) sponsorship of transportation studies; and (4) provision of management assistance to public agencies (Gordon, 1982). In many of these efforts, the successful implementation of a project or program required close cooperation between public and private-sector officials. The purpose of this paper is to examine the characteristics of this interaction and explore the implications for transportation planning and policy. Examples of public/private-sector interaction in two Connecticut cities, Hartford and Stamford, are used to illustrate the characteristics of successful transportation program implementation. Although the examples are limited to two cities, and are mainly concerned with one major category of action (ridesharing), the characteristics of the process used and of the results can be applied to other situations where public/private-sector interaction is desired. (A) (TRRL)

Meyer, MD Gordon, S (Massachusetts Institute of Technology) *Transportation (Netherlands)* Vol. 11 No. 3, Sept. 1982, pp 235-250, 1 Tab., 12 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 265843)
ORDER FROM: ESL

371578

TRIP: THE TRANSPORTATION REMUNERATION AND INCENTIVE PROGRAM IN WEST VIRGINIA, 1974-1979

Between July 1974 and June 1979, the State of West Virginia was host to the largest Federal demonstration program for improving rural transit service called Transportation Remuneration Incentive Program (TRIP). The remuneration part of TRIP (ticket sales program) was a user-side subsidy scheme entailing the statewide sale of discounted travel tickets to qualifying low-income elderly and handicapped persons. The other part of TRIP (transit development program) entailed the provision of technical and planning assistance, buses, and operating subsidies for rural bus service in five of the state's eleven planning and development regions. This report describes and evaluates a five-year federal and state financed demonstration of state-administered subsidies for rural transit users and providers in West Virginia. The demonstration pioneered the use of multi-modal user-side subsidy tickets for some 12,000 low-income elderly and handicapped residents of West Virginia and the creation of new or expanded rural bus service in the five regions. Significant mobility improvements were experienced by the eligible group of TRIP ticket recipients and by clients of social service agencies, who were often provided special service by the rural bus systems. The taxi industry also benefits because taxis were chosen for about 40 percent of ticket recipients trips. Viable rural bus service persists in the five regions, aided in part by TRIP ticket use and in part by continuing local, state, and federal support.

Curry, DA
Crain and Associates, Incorporated, Urban Mass Transportation Administration, (DTS-243) Final Rpt. UMTA-WV-06-0008-82-1, DOT-TSC-UMTA-82-23, July 1982, 145p Contract DOT-TSC-1408

ORDER FROM: NTIS PB83-144055

371615

LIGHT RAIL AND DEVELOPMENT: CONSTRAINTS AND CONDITIONS

This paper discusses work carried out for the Urban Mass Transportation Administration (UMTA) on the economic impacts of the Buffalo Light Rail Rapid Transit System (LRRT). The system is the culmination of two decades of corridor planning that saw appreciable changes in planning criteria and justification of system benefits. Two major policy issues are addressed. The first issue is the extent and scope of economic development that will depend on or derive from the LRRT system. The second is the role transit system policy will play in regional development policy. In Buffalo, population decline, intraregional population and employment

shifts, and the effectiveness of the existing transit system were major considerations as these issues were discussed. Recent retail activities are examined to show how critical the focus of activities around the transit system will be. Current development (paid for by both private and public sectors) are then analyzed to demonstrate how development policies can reinforce or conflict with transit. It has become evident that a strong, well-coordinated regional development policy is necessary if the Buffalo LRRT is to be effective.

This paper appeared in Transportation Research Board Special Report No. 195, Light Rail Transit: Planning, Design, and Implementation. Papers presented at the Conference on Light Rail Transit, March 28-30, 1982, San Diego, California, sponsored by Urban Mass Transportation Administration.

Paaswell, RE (State University of New York, Buffalo) Berechman, J (California University, Irvine) **Transportation Research Board Special Report No. 195, 1982, pp 67-72, 1 Fig., 1 Ref.**

ORDER FROM: TRB Publications Off

371931

THE CONNECTICUT VANPOOL PROGRAM

This article focuses on the vanpooling experiences in Connecticut, where the State's Department of Transportation has been establishing a good example for the private sector by doing everything feasible to promote state employee ridesharing. The DOT's overall aim is to promote a balanced transportation program and to assist employers and individuals in ridesharing through the formation of non-profit ridesharing brokers serving all portions of the State. Connecticut currently has the highest number of registered vanpools in the nation, based on the number of vans per unit of population and number of employers participating. At the beginning of 1982 there were 837 registered vanpools in operation as compared to 588 at the beginning of 1981. A principle reason for the rapid growth in vanpools is the excellent effort being made to promote vanpool use by businesses through the brokerage concept. Vanpooling is one of the most energy efficient, cost-effective modes of transportation available for the trip to work. Vanpools are expected to play a substantial role in meeting federal ambient air quality standards for Connecticut.

Jain, R Gudaitis, C **Transportation Quarterly** Vol. 36 No. 3, July 1982, pp 365-375, 2 Fig., 1 Tab.

ORDER FROM: Eno Foundation for Transportation, Incorporated, P.O. Box 55, Saugatuck Station, Westport, Connecticut, 06880

371936

THE COST AND QUALITY OF PARATRANSIT SERVICE FOR THE ELDERLY AND HANDICAPPED

This article compares the real cost of service provided by two major subsidized paratransit operations in the New England region with rates currently applicable in the costs for both non-profit organizations and publicly-owned costs for both non-profit organizations and publicly-owned paratransit fail to include the real cost of vehicles and equipment. Non-profits can secure funds to defray the cost of capital equipment from Section 16(b) (2) of the Urban Mass Transportation Act, and public transit systems are eligible for similar subsidies under Section 3 and 5. The real cost of labor was also often understated due to government programs such as the Comprehensive Employment and Training Act (CETA). As a result, figures relating cost per passenger trip by non-profit organizations and public transit are seriously underestimated and do not truly reflect the economic cost or the efficiency of services provided. Most importantly, these cost figures are clearly misleading when used to demonstrate that transportation service for the elderly and handicapped provided by the for-profit sector is more "expensive". The second issue, relating to adequacy of service, is complicated by a number of factors that contribute to determining the quality of transportation services. The two major subsidized paratransit operations considered in the cost section are also evaluated for quality of service relative to services provided by the private for-profit sector.

Jackson, R (Southeastern Massachusetts University) **Transportation Quarterly** Vol. 36 No. 4, Oct. 1982, pp 527-540, 2 Tab.

ORDER FROM: Eno Foundation for Transportation, Incorporated, P.O. Box 55, Saugatuck Station, Westport, Connecticut, 06880

371941

KINGSTON CONNECTIONS: TRANSPORTATION OPPORTUNITIES FOR UNIVERSITY OF RHODE ISLAND COMMUTERS

The purpose of this study is to identify alternatives to single-occupant automobile travel for University of Rhode Island commuters. A series of three survey questionnaires was sent to University employees and students to assist in analyzing bus service and parking alternatives. In addition, on-board bus ridership surveys were conducted; pilot carpool matching programs were undertaken; and interviews were held with University and transportation officials. As a result, recommendations were developed for improving alternative commuting modes: public transit bus, local paratransit (van and minibus), privately operated bus, rail, carpool, bicycle, and walking. The recommendations, with background analysis, are presented for each agency or entity that would be responsible for carrying them out. Among the major recommendations are restructuring of several bus routes in southern Rhode Island and development of comprehensive new carpool, bicycle, and parking programs at the University's main campus in Kingston.

Project FRC-JF-01-17 and 19.

Rhode Island Statewide Planning Program Tech Paper No. 99, Mar. 1982, 138p, 19 Fig., 21 Tab., 21 App. Contract 81-1

ORDER FROM: Rhode Island Statewide Planning Program, 265 Melrose Street, Providence, Rhode Island, 02907

371946

INVOLVING PRIVATE PROVIDERS IN PUBLIC TRANSPORTATION PROGRAMS: ADMINISTRATIVE OPTIONS. WORKING PAPER

Administrators of public transportation programs are becoming increasingly interested in the options available for involving private taxicab, van and bus operators as service providers in their programs. Two general administrative approaches have been employed: provider-side subsidies, in which subsidy funds are paid directly to a service provider for offering certain specified services and fare levels; and user-side subsidies, in which selected users may obtain transportation vouchers at discounted prices and then purchase services from the providers of their choice. Until relatively recently, provider-side subsidies have been the almost exclusive choice of administrators dealing with private providers. However, experiments and case studies employing user-side subsidies have shown this approach to be a viable option for many types of programs. This paper presents some general criteria for comparing the two approaches, and discusses the guidance available from readily available data. Additional data collection from a selection of existing programs is recommended to shed light on some important unanswered questions.

Kirby, RF Ernst, UFW

Urban Institute, Urban Mass Transportation Administration, Office of the Secretary of Transportation DOT-I-82-44, Apr. 1981, 36p, 1 Tab., 12 Ref.

ORDER FROM: OST

371957

UMTA MOVES TO PROTECT PRIVATE BUS OPERATORS

Federal regulations which prohibit public agencies from undue competition with private charter operators have been invoked for the first time as UMTA cited the Greater Cleveland Regional Transit Authority for violating guidelines. GCRTA was charged with operating charters at prohibited times outside its urban area and at rates far below those charged by charter operators. GCRTA claimed that the Ohio constitution and a state supreme court decision authorized it to market charter business throughout the state. UMTA issued an Advance Notice of Proposed Rulemaking to revise its charter bus regulations; deregulation is seen as producing new suburban operators competing with public transit authorities operating suburban fixed-route services.

Metro Vol. 78 No. 6, Nov. 1982, 2p

ORDER FROM: American Public Transit Association, 1225 Connecticut Avenue, NW, Washington, D.C., 20036

372039

PROCEEDINGS: CONFERENCE ON INTERCITY BUS TRANSPORTATION

This report contains a summary and the proceedings of a conference convened by the Transportation Research Board on September 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 related to entry, exit, rates, federal preemption, and federal-state coordination. Subsidy issues included direct and user-side subsidies, cross subsidy, purchase-of-service contracts, transitional programs, and ground transportation terminals. (Author)

Transportation Research Board Unpublished Report Final Rpt. No. 20, Dec. 1980, 44p Contract ICC-80-C-0017

ORDER FROM: TRB Publications Off

372188

EXPANDING YOUR TAXICAB OPERATIONS: A MANUAL ON CONTRACTING FOR TRANSIT SERVICE

In addition to being instructive, the manual was designed as a tool that can help in efforts to determine the types of contract services feasible for a community and in efforts at going out and getting those contracts. This manual should prove particularly useful to operators who are not currently involved in contracting—it follows a progression starting with the reasons why taxicab companies and communities enter contracts, and ends with sample contract language. Also included is a descriptive catalogue of fifty successful taxicab contract projects with candid comments from both contracting parties. Plus, a hard-to-get list of fifty public contacts is included so that one may easily contact knowledgeable persons directly involved in contracting and discuss your ideas and questions.

International Taxicab Assoc Publications Program No Date, 107p

ORDER FROM: International Taxicab Assoc Publications Program, P.O. Box 2329, Asheville, North Carolina, 28802

372189

WHEN TRANSIT SUSPENDS SERVICE: A STUDY OF PUBLIC PASSENGER TRANSPORTATION, METROPOLITAN BIRMINGHAM, ALABAMA

This 22 page study, reviews what happened when the transit authority in Birmingham decided that it did not have sufficient operating funds to continue service. What followed was very interesting for operators in the taxicab industry. The Birmingham experience highlights the need for new and innovative approaches including integrating the use of taxis into mass transit systems. The report demonstrates the capability and resourcefulness of the private sector in meeting public passenger service needs.

International Taxicab Assoc Publications Program No Date, 22p

ORDER FROM: International Taxicab Assoc Publications Program, P.O. Box 2329, Asheville, North Carolina, 28802

372195

AIRPORT GROUND TRANSPORTATION: PROBLEMS AND SOLUTIONS

Airport ground transportation has continued to be heavily regulated despite the move to deregulation of other areas of transport. Passenger trips over 25 miles and across state lines are ICC regulated. Within a state buses and vans are subjected to state regulation and airport taxis usually come under local regulation. Airport authorities also exert some regulation over private ground transport providers. Such regulation is intended to insure that a high level of customer service is provided; much of the negative image of airport ground transport is generated by unauthorized or loosely regulated carriers. Sections include: Regulation; Insurance; Automated Information Display Systems; Airport Planning; and Satellite Airport Terminals. In the Regulation chapter are three presentations which clarify the three levels of regulation. There is a description of how California perceives its role in airport ground transportation regulation and seeks to improve such service. Finally there is discussion of the pros and cons of exclusive airport ground transportation agreements.

AGTA/Caltrans Conference Proceedings, February 23-25, 1981.

Mundy, RA, Editor (Tennessee University, Knoxville)

Airport Ground Transportation Association, California Department of Transportation DOT-I-82-48, Feb. 1981, 156p, 33 Fig., 15 Tab., 7 Ref.

ORDER FROM: OST

372430

EMERGING PUBLIC-PRIVATE PARTNERSHIP IN URBAN TRANSPORTATION

The private sector has been an important actor in local transportation decision-making for many years. However, in recent years, the business community and large employers have begun to take a more aggressive role in identifying transportation problems and implementing programs to solve them. Joint efforts of the public and private sectors in several urban areas are examined. These cases show that successful public-private action can be directly related to the ability of a small group of people, in both public agencies and private firms, to work together; an understanding of the motivation of private firms; the commitment of top management in both public and private agencies; and careful identification of the expectations of program operation. It is concluded that increased private-sector involvement in urban transportation will significantly influence the politics of transportation decisionmaking, the program implementation process, the focus of transportation planning, and skills required for transportation professionals. In addition, a number of questions are raised regarding equity.

This paper appeared in Transportation Research Record No. 877; Urban Public Transportation Planning Issues.

Gordon, S (New Jersey Transit) Meyer, MD (Massachusetts Institute of Technology) Transportation Research Record No. 877, 1982, pp 132-139, 14 Ref.

ORDER FROM: TRB Publications Off

372431

TRANSIT OWNERSHIP/OPERATION OPTIONS FOR SMALL URBAN AND RURAL AREAS

An important choice facing transit decision makers in small urban and rural areas is the type of arrangement to be used for ownership and operation of the system. This report of the Transportation Research Board reviews the choices generally available and evaluates the advantages and disadvantages of each. A framework for the selection of the options is also presented, and the need for more information on the effectiveness of various ownership/operation options is identified. (Author)

Collura, J (Massachusetts University, Amherst) NCHRP Synthesis of Highway Practice No. 97, Dec. 1982, 28p, 14 Fig., 5 Tab., 35 Ref., 2 App.

ORDER FROM: TRB Publications Off

373695

PRIVATE-SECTOR ROLE IN PUBLIC TRANSPORTATION: AN OVERVIEW

This conference explored how to generate private-sector financing; how to involve interested parties early in the planning process to assure that all participants are treated equitably; and how to handle administrative requirements that may be well-meaning but that impose undue hardships, especially on small firms. Other topics include management and operating roles, the use of paratransit in improving public transit productivity, and the role of the private bus industry. There were five sessions during the conference. Summaries of these sessions are included, along with closing comments.

Transportation Research Circular No. 255, Mar. 1983, 7p, 1 Tab.

ORDER FROM: TRB Publications Off

373696

ROCKLAND COUNTY ELDERLY AND HANDICAPPED TRANSPORTATION STUDY. FINAL REPORT

Rockland County, New York, has operated a demand-responsive minibus service for elderly and handicapped known as TRIP; if these users can be carried on regular buses, a half-fare program is in effect for them. The 6 vehicles used have proved generally unreliable and do not provide attractive services; costs of the TRIP operation doubled between 1978 and 1981. Federal subsidy accounted for 91% of the TRIP budget in 1981; as

this declines Rockland County will be faced with most of the financial burden. It is recommended that the minibus fleet be replaced with better vehicles and that the operation be contracted to private operators on the basis of competitive bidding.

Seelye Stevenson Value and Knecht TS E-732, Mar. 1983, 20p, 5 Tab. Grant NY-09-0075

ORDER FROM: Seelye Stevenson Value and Knecht, 99 Park Avenue, New York, New York, 10016

373706

COMMUTER AND EXPRESS BUS SERVICE IN THE SCAS REGION: A POLICY ANALYSIS OF PUBLIC AND PRIVATE OPERATIONS

This report describes the extent of commuter and express bus services and ridership in the Southern California region, comparing the economics of public and private operations from the cost and revenue standpoints. The institutional and regulatory issues affecting public and private provision of commuter bus transportation are examined; alternative public and private operating scenarios are evaluated. It is concluded that all transit districts and municipal operators in the region should determine the potential cost savings to be achieved by converting commuter/express bus operations to private agencies. Immediate steps should be taken to remove any institutional barriers to conversion to private service, including pressing for any necessary changes in state or federal legislation. Steps should be taken to integrate private bus services into the regional service, including dissemination of schedules and offering of transfer discounts. All public operators should promote expansion of private commuter/express services in all ways possible.

Southern California Association of Governments Feb. 1982, 74p, 3 App.

ORDER FROM: Southern California Association of Governments, 600 South Commonwealth Avenue, Suite 1000, Los Angeles, California, 90005

373726

USING TAXICABS AND MINIBUSES ON FIXED ROUTE SCHEDULES: A RURAL TRANSPORT EXPERIMENT IN INDRE OESTFOLD, SOUTHERN NORWAY [DROSJE OG SMABUSS I RUTEKJOERING; ERFARINGER FRA INDRE OESTFOLD]

The report describes an experiment in which taxis were applied on ordinary bus routes with very low demand. The attempt was carried out in a low density rural district in the County of Ostfold, in southern Norway, and consisted of both dial-a-ride and timetabled routes. The possibilities for more use of minibuses were also considered. The work was the Norwegian contribution to a Nordic project related to use of paratransit in scarcely populated rural areas. [Norwegian]

Froeyssadal, E
Norwegian Institute of Transport Economics ISBN-82-7133-393-3,
Dec. 1981, 84p

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB82-205055

373776

A GUIDE TO INNOVATIVE FINANCING MECHANISMS FOR MASS TRANSPORTATION

The recent shift in emphasis from Federal financial support of public transit to greater local self sufficiency cannot be met solely with increased local taxation. Generation of new sources of funds and enhancement of existing revenue sources must be encouraged. The private sector is becoming increasingly aware of the importance of mobility to the future of its economic base and is showing willingness to participate financially and otherwise to support public transportation. The report presents 23 financial mechanisms which have been used to finance transit needs. The guide is divided into two sections with the first summarizing each mechanism by defining it, giving its financial impact to the major issues affecting its applicability. The second section, the Appendix, documents examples of local application of these mechanisms. The mechanisms have been grouped by types: Assessments; Taxes and User Charges; Use of Property and Property Rights; Issuance of Debt; Contracted Services; Voluntary Participation Programs; Recent Initiatives and New Ideas.

Rice Center Final Rpt. DOT-I-82-53, Dec. 1982, 130p, 22 App.

ORDER FROM: OST UMTA-TX-06-0039-82

373779

PARATRANSIT IN RURAL AREAS

Until the late 1970s only 1% of federal funds spent on public transportation was allocated to meet rural needs although over 25% of the U.S. population resides in rural areas. Federal and state programs then began to give more attention to non-urban travel needs. Since there is no single dominant transportation provider in such areas, services are initiated and operated through a wide range of institutional and operational structures. The majority of rural services—other than taxis—are initiated by social service agencies, although many "public" systems are funded largely by state and federal programs (predominantly through Section 18). Service is operated directly by a social service agency, by a private (non-profit or for-profit) provider, by a public transit operator, by volunteers, or through a cooperative arrangement. Commuter ridesharing is also promoted by employers in some locations. Major rural-service funding sources are U.S. Department of Health and Human Services and Department of Transportation (Section 18). Section 18 funding is channeled through the states which promotes coordination. With less federal funding, the state burden for rural transportation will grow.

A Report in the Series Paratransit: Options for the Future.

Multisystems, Incorporated, Urban Mass Transportation Administration, Office of the Secretary of Transportation Final Rpt. DOT-I-82-17, Apr. 1982, 62p, 7 Tab., Refs.

ORDER FROM: OST

373780

TAXI-BASED SPECIAL TRANSIT SERVICES

This report examines the use of taxi companies as providers of special transit services for the elderly and handicapped. Taxi-based special transit service has become the predominant means of restricted ridership demand responsive transit in California, with approximately 50 such systems now in operation. Based on California's experiences with taxi-based special transit, this study presents case reviews of special transit implementation and operation, analyzes the issues associated with the development of such services, and evaluates their performance. The primary issues of interest are the reason for the widespread use of taxi forms, service organization choices, the impacts of special transit provision on taxi forms, and the effects of taxi company internal organization on special transit participation. The performance of different types of special transit services is analyzed, and the key determinants of system performance are identified. In addition, special transit performance is compared to that of general DRT. The performance and cost implications of loosening ridership restrictions are also evaluated.

Teal, RF Rooney, SB Mortazavi, K Goodhue, RE
California University, Irvine, Urban Mass Transportation Administration Final Rpt. CA-06-0153, Mar. 1983, 112p, 3 Fig., Tabs., Refs., 1 App. Contract CA-06-0153

ORDER FROM: NTIS

376969

EQUITY AND EFFICIENCY IN URBAN AND SUBURBAN MOBILITY

This study analyzed data from transit operators in Los Angeles County for 1979 to determine the effectiveness and equity of subsidy distribution and to identify strategies for maximizing transit effectiveness in the region. Analysis was conducted by transit service type and geographic area type. Considerable inequities and inefficiencies were revealed in both service availability and per passenger subsidies. The author argues that subsidy allocation should be made with ample consideration for need, rather than solely on geographic or return-to-source considerations. He proposes a restructuring of transit service provision in the region, with increased reliance on private sector providers who require minimal subsidy and can provide service at a lower unit cost. The author identifies a number of market segments for which private sector service provision is particularly cost-effective and presents a matrix of service types and recommended providers to illustrate his approach. A hypothetical example of express service transfer to a private provider is developed to illustrate how the transfer of funds from high-subsidy service can be used to improve mobility

in other market segments, make better use of available public funds, and benefit both the public and private sectors.

Paper prepared for the Annual Conference of the American Public Transit Association, Chicago, October 10, 1981.

Cox, W
Los Angeles County Transportation Commission 1981, n.p.

ORDER FROM: Los Angeles County Transportation Commission, 354 South Spring Street, Los Angeles, California, 90013

377130
IMPROVING PUBLIC TRANSPORTATION IN A CHANGING FINANCIAL ENVIRONMENT

Rapid cost escalation of transit operations, decreasing willingness and ability of state and local governments to meet subsidy demands, and a leveling or decline in ridership have caused transit fare increases and reduced service. Since almost 80% of operating expenses go to wages and fringe benefits, increased productivity offers the only real source of cost control. It is suggested that public transportation, rather than public transit, be considered the problem and more cost effective ways of providing such service in urban areas be sought. Alternatives already being utilized are: (1) Contracting for services by private operators at lower cost; (2) individual political jurisdictions opting out of areawide compacts to provide cheaper services; (3) Amending monopoly operating rights of transit agencies and taxi operators to allow competition; (4) User-side subsidies; (5) Subscription commuter bus services; (6) Promotion of ridesharing; (7) Fostering private sector financing roles. Changes in institutional and political arrangements in many areas are important in achieving results.

Kemp, MA (Urban Institute) **Public Management** July 1982, p 2

ORDER FROM: International City Management Association, 1140 Connecticut Avenue, NW, Washington, D.C., 20036

377781
THE ECONOMIC IMPACT OF SECTION 16 OF THE URBAN MASS TRANSPORTATION ACT ON SMALL BUSINESSES TRANSPORTING THE ELDERLY AND HANDICAPPED IN NEW ENGLAND

Congress declared as national policy in Section 16 of the Urban Mass Transportation Act (49 U.S.C. 1601 et seq.) that elderly and handicapped persons have the same right as other persons to utilize mass transit services. Section 16 (b) (1) authorizes grants and loans to government agencies and Section 16 (b) (2) only to non-profit organizations. For-profit firms are excluded from all funding assistance even though the small business sector is a principal source of transportation for mobility-impaired individuals. This study examines the impact of subsidized competition by non-profit organizations and publicly-owned paratransit systems on small businesses in New England. Massachusetts and Connecticut are investigated in more detail due to their greater relative importance in the region.

Jackson, R
B and M Technological Services, Incorporated, Small Business Administration Final Rpt. May 1981, 175p Grant SB-1A-00020-01-0

ACKNOWLEDGMENT: NTIS
ORDER FROM: NTIS PB82-248774

377790
TAXI REGULATORY REVISION IN PORTLAND, OREGON: A CASE STUDY

Interest in taxi regulatory revision stems from the taxicab's potential to complement or to be an alternative to conventional fixed-route transit. Taxi regulatory revision in Portland, Oregon, and other cities reflects the current awareness to reduce non-essential government involvement in private enterprise, to remove regulatory barriers, and to increase competition through open entry. This report is organized into 4 sections. Section 2 presents a brief overview of the taxicab legislative and administrative revisions adopted in Portland; Section 3 describes observed changes in local taxicab industry structural and service characteristics and rates; Section 4 discusses attitudes toward the new regulations and the local taxi industry as expressed by regulators and service providers; and Section 5 presents the case study conclusions and transferrable implications.

Gelb, P

De Leuw, Cather and Company, Urban Mass Transportation Administration, Transportation Systems Center Final Rpt. UMTA-MA-06-0049-82-7, DOT-TSC-UMTA-82-83, Sept. 1982, 70p Contract DOT-TSC-1409

ORDER FROM: NTIS PB83-140491

377843
EVALUATING RESOURCE ALLOCATION TO PERSONAL TRANSPORTATION IN RURAL AREAS: AN OVERVIEW FOR TRANSPORTATION PLANNERS

Rural residents must travel farther to access the same range of economic activities than individuals in urban areas. Hence they face higher personal transportation costs. As long as automobile operating costs were falling, the lack of auto alternatives and longer trips were not considered as severe problems. From 1967 to 1981 auto costs rose faster than other consumer prices. It is necessary to understand how individuals make personal transportation decisions. The public sector can be involved in personal transportation at many levels—from providing information for potential carpoolers to owning and operating transportation systems. At one extreme is limited involvement in assisting private markets and providers to operate more efficiently. At the other extreme is direct public sector provision of transportation such as operation of vehicles for work commuting, transportation to health and social care facilities, and for provision of meals. Whatever the level and extent of public sector involvement, it is important that transportation planners be able to evaluate the benefits and costs of associated public sector expenditures.

A Demonstration Project of the United States Department of Agriculture, North Carolina State University and North Carolina Agricultural Extension Service.

Walden, ML
North Carolina State University, Raleigh Sept. 1982, 18p, 2 Fig., 1 Tab., 12 Ref.

ORDER FROM: North Carolina State University, Raleigh, Department of Economics and Business, Raleigh, North Carolina, 27607

377846
SHORT-RANGE UNIVERSITY TRANSPORTATION STUDY

This study was undertaken to determine the transportation needs of the students, faculty and staff of the major universities and colleges in the Metropolitan Washington Area. The purpose is to develop a program to maximize transportation alternatives available at each institution, reducing the number of single-occupant autos coming to the campuses. Eighteen universities and colleges, composed of 24 campuses, participated. An implementable short-term transportation plan can be coordinated with the college communities. It concentrates on use of the region's public transit systems but includes expansion or addition of paratransit, increased ridesharing, and introduction of new policy programs. The number of transport modes was reduced to four for any one school. Improvements to or implementation of a university owned/leased bus system was analyzed at 9 schools. Metrobus service and local community buses are discussed for 9 campuses. Carpooling programs are recommended for all institutions; vanpooling for 7. Bikeways and bicycle storage are not included in this analysis but are considered an integral part of a total program. Possible federal, state and local funding for proposed systems is discussed.

Johnson (Bernard) Incorporated, ATE Management and Service Company, Incorporated, Urbitran Associates, Incorporated, Metropolitan Washington Council of Governments Final Rpt. Dec. 1982, v.p., Tabs., 1 App.

ORDER FROM: Metropolitan Washington Council of Governments, 1875 Eye Street, NW, Suite 200, Washington, D.C., 20006

378348
USER-SIDE SUBSIDIES FOR TAXIS AND BUSES IN MONTGOMERY, ALABAMA

The Montgomery User-Side Subsidy Demonstration began operation in August 1977. This was one of four demonstrations of the user-side subsidy concept conducted under the UMTA Service and Management Demonstration Program, and involved the provision of reduced fare shared-ride taxi and fixed-route bus service to the elderly and handicapped with the primary objective of increasing their mobility. Eligible individuals who registered with the subsidy program were able to obtain a 50 percent discount on taxi

rides through the use of vouchers, and could use tickets to ride buses for free during off-peak hours and for half fare during the peak hours. After vouchers and tickets were used by registrants to pay for rides, service providers redeemed them with the city for full value. This report summarizes the findings of an independent evaluation of the Montgomery project that was sponsored by the U.S. Department of Transportation. User-side subsidies were found to be generally feasible, although a number of specific design and implementation problems were identified, and are described in this report. Project subsidies were utilized principally by the most mobility-disadvantaged segments of the eligible population. These individuals, who typically had low incomes and/or few travel alternatives, used the project to increase slightly their frequency of total tripmaking, and to make some trips that otherwise would have been made by less preferred means. Overall, the Montgomery project provides evidence that user-side subsidies can be a viable and practical technique for facilitating the mobility of the elderly and handicapped.

Charles River Associates, Incorporated, Urban Mass Transportation Administration, (DTS-64) Final Rpt. UMTA-AL-06-0003-83-1, HS-034 765, Feb. 1983, 234p, Figs., Tabs., 6 App. Contract DOT-TSC-1757

ACKNOWLEDGMENT: National Highway Traffic Safety Administration
ORDER FROM: NTIS PB83-191270

378715

TOWARDS BETTER BUS SERVICES IN WESTERN SYDNEY

This paper makes a number of recommendations which, if implemented, would result in better bus services in Western Sydney. All bus services in Western Sydney are operated by private companies and the paper argues that Western Sydney is currently directly subsidising government buses to the amount of \$20 million per year. If government bus subsidies are not available for Western Sydney from general revenue sources, there is an excellent argument for the reallocation of existing subsidies in favour of Western Sydney. Recommendations are also made which would result in improvements to Western Sydney's bus services, road network and train services.

Perigut, D
Western Sydney Regional Organisation of Councils Oct. 1982, 48p

ACKNOWLEDGMENT: ATLAS Bulletin
ORDER FROM: Western Sydney Regional Organisation of Councils, Melbourne, Victoria, Australia

378878

INCREASING THE ROLE OF THE PRIVATE SECTOR IN COMMUTER BUS SERVICE PROVISION

With increasing fiscal problems facing us, public transport attention has turned to the possibility of developing privately provided bus services in the urban commuter transportation market. Compared with public transit agencies, research has shown that such private companies have relatively lower labour costs and more scheduling flexibility. As labour costs account for the largest proportion of service operating costs so private companies are at an advantage. The critical issue discussed is not whether private operators can provide services at a lower cost, but rather whether such services are economically viable without subsidies and also, if subsidies are necessary, are transit agencies and private companies willing to provide joint services. The article concludes with an assessment of the problems and the potential of privately operated bus services.

Teal, RF Giuliano, G *Built Environment* Vol. 8 No. 3, 1982, pp 172-183, 3 Tab., 7 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 270349)
ORDER FROM: ESL

378913

IMPACTS AND EFFECTIVENESS OF THIRD-PARTY VANPOOLING: A SYNTHESIS AND COMPARISON OF FINDINGS FROM FOUR DEMONSTRATION PROJECTS

This report presents findings from four Federally-sponsored experiments designed to test the concept of third-party vanpooling. Under this vanpool provider mechanism, some entity other than the employer or individual is responsible for promoting and organizing vanpools. The four projects, implemented in Knoxville, Tennessee; Norfolk, Virginia; San Francisco, California; and Minneapolis, Minnesota, experimented with a variety of organizational, operational, and financial approaches. Accordingly, the

comparative findings regarding implementation issues, vanpool level of service characteristics, traveler response and vanpool economics, are widely applicable to other locales. Third-party vanpooling appears both workable and effective in a range of settings and markets. There appears to be a sizable market of commuters for whom vanpooling is a viable and attractive mode.

Transportation Systems Center, Urban Mass Transportation Administration Final Rpt. DOT-TSC-UMTA-83-8, HS-035 186, Mar. 1983, 41p Contract DOT-MA-06-0049

ORDER FROM: NTIS PB83-207936

378956

THE CHANGING WORLD OF URBAN TRANSPORTATION

The continuing changes in city structure, the strengths and weaknesses of public transportation, and cost benefits available through contracting transit services to private transportation operators are discussed. The residential density of American cities is declining and employment locations are dispersing. As a result, the use of public transportation is decreasing and there must be greater reliance on the automobile. In high density residential and employment areas, capital-intensive and high-density transportation is effective and will continue to be. In many low density and small city areas, however, high-capacity, fixed-route transit service is capable of producing only marginal revenues and inadequate service levels. Already a number of transit agencies have implemented innovative services for such areas. Taxi and paratransit operators are providing demand-responsive services under the auspices of public authorities with substantial savings. Examples are given of various levels of private sector participation. It is expected that there will be more demand-responsive services, replacement of fixed-route services, replacement of fixed-route service with demand-responsive service, and fixed-route service operated with paratransit vehicles and taxis.

Cox, W *Taxicab Management* Vol. 31 No. 8, Aug. 1983, 3p

ORDER FROM: Achill River Corporation, 23 Sunset Terrace, Asheville, North Carolina, 28801

378963

THE EFFECT OF GOVERNMENT OWNERSHIP AND SUBSIDY ON PERFORMANCE : EVIDENCE FROM THE BUS TRANSIT INDUSTRY

Several theories have been advanced to predict difference in behaviour of government-owned vs private firms, such as theories of bureaucratic growth, inefficiency, and concentration on vote-maximizing service with neglect of other important characteristics of service. This study tests the above theories in a declining industry, the US urban bus transit industry of 1960-75. The analysis bridges the period before and during the major federal capital grant program which was initiated under the Urban Mass Transportation Act of 1964. The empirical results indicate that subsidy at the federal level is associated with higher costs and lower real price and a redistribution of service toward an expanded area, served less frequently. Local and state subsidy is associated with smaller increases in costs and smaller decreases in frequency of service and ridership. The form of public ownership does affect performance, but the unknown size of inter-agency cross-subsidization and tax benefits makes comparison tenuous without case-level investigation. The conclusion is reached that although the bureaucratic growth, inefficiency and vote-maximization theories are supported, inefficiency and bureaucratic growth are associated with passive sponsorship and large size of firm, rather than with public ownership, per se. (A)

Anderson, SC (California State University, Northridge) *Transportation Research. Part A: General* Vol. 17A No. 3, May 1983, pp 191-200, 4 Tab., 31 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 270496)
ORDER FROM: ESL

378981

PRIVATE BUS ROUTE SERVICES-PROBLEMS AND PROSPECTS

Research work relating to the privately owned bus industry in Australia, and in particular its urban route services, is outlined. Although the private bus industry plays a major role in the nation's total public transport task, knowledge of the industry is fragmented and very limited. The present

scope and role of the industry is summarised. The industry's cost levels and structures are outlined and compared with government owned services. How the viability of private bus operators is best assessed is examined and evidence on the present viability of route operations provided. The prospects for the industry are reviewed in the light of government attitudes and policies and of trends in cost levels, subsidies and viability. (Author/TRRL)

8th Australian Transport Research Forum, Canberra 18-20 May, 1983. Forum Papers. Volume 1. This paper was presented at Session 4: Public and private transport in urban areas.

Wallis, IP (Morgan (R Travers) Proprietary Limited)
Australian Government Publishing Service 1983, pp 190-208, 3 Fig., 2 Tab., 6 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 266372), Australian Road Research Board
ORDER FROM: Australian Government Publishing Service, P.O. Box 84, Canberra, A.C.T. 2600, Australia

378996
THE INVOLVEMENT OF PRIVATE BUS SERVICES IN MELBOURNE'S ZONE FARE SYSTEM

In October 1981 a significant change to the structure of Melbourne's public transport fare system was implemented when multi modal zone based tickets were introduced. The involvement of the private bus network in the fare scheme was a most important and interesting aspect of the change. The background to the inclusion of private bus services and the arrangements made to facilitate their inclusion are examined. The financial implications for the industry are discussed and the measures taken in this regard are described. An analysis of some of the results and effects of the new fare system on private bus services is presented. (TRRL)

8th Australian Transport Research Forum, Canberra, 18-20 May, 1983. Forum Paper. Volume 2. This paper was presented in Session 6b: Bus operations.

Carolan, BA (Ove Arup Transportation Planning)
Australian Government Publishing Service 1983, pp 83-99, 3 Fig., 3 Tab., 3 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 266387), Australian Road Research Board
ORDER FROM: Australian Government Publishing Service, P.O. Box 84, Canberra, A.C.T. 2600, Australia

380169
PARATRANSIT: OPTIONS FOR THE FUTURE. AN OVERVIEW
Over the past decade paratransit has evolved but is seen as not yet at its full maturity. Paratransit services have been shown to be capable of meeting various transportation needs well-served neither by mass transit or the private auto. Typically small in scale and flexible in structure, paratransit options can be targeted to particular market segments or they can be designed to provide community-wide service. Paratransit options can provide cost-effective service in areas lacking the densities necessary to support mass transit, and can be operated in the private sector, thus needing no extensive public financial support. Given the appropriate regulatory environment, these characteristics combined with the economic and demographic factors and trends described earlier, should result in an increased role for paratransit over the coming decade. It is concluded that the private sector should be involved to a greater extent; that the role of the activity center (employers, shopping centers, etc.) should be encouraged; service initiation should be at the community level; transit authorities should be more open to paratransit; coordination of all providers of public transportation should be achieved; states should promote paratransit; demonstrations of service and institutional concepts should continue; and the Federal government should create an environment conducive to utilization of paratransit.

Multisystems, Incorporated, Urban Mass Transportation Administration, Office of the Secretary of Transportation Final Rpt. DOT-I-83-8, Dec. 1982, 78p, Tabs., Phots., 13 Ref.

ORDER FROM: OST

380196
VANPOOLING FOR PROFIT: A BUSINESS OPPORTUNITY
Questions to ask and calculations to make to judge whether a vanpool is a practical business are detailed. The need for the service and the regulatory barriers are discussed. Financial calculations involving business and tax planning include calculating the cash flow for each year of the operation.

Schuck, L Welch, B
Alliance to Save Energy, Department of Energy DOE/CS/24448-T2, Aug. 1982, 55p Contract F G01-80CS24448

ORDER FROM: NTIS

380782
PHOENIX TRANSIT SUNDAY DIAL-A-RIDE
A local taxi operator began subsidized dial-a-ride service in Phoenix, AR, when the city found that Sunday fixed-route transit service would be more costly. Regular cabs and wheelchair vans are billed at a fixed hourly rate less fares collected. Over 26 months 233 riders used the service on each Sunday. Almost all riders indicated the importance of the service to their transportation needs—church attendance, shopping and visiting—and indicated they do not own an automobile or drive. Total cost per passenger trip (2.1 trips per hour per vehicle) was \$7.67 with a farebox recovery rate of 13.4%. Productivity is closely monitored. Annual subsidy cost at current demand is considerably less expensive than fixed route buses, but does attract lower ridership. Sunday public transportation using taxis in Phoenix may be somewhat unique because the taxi operator already had dial-a-ride services in adjacent areas, had a trusting relationship with the City of Phoenix and there was no 13(c) labor provisions involved because there was no prior Sunday bus service.

Flynn, S Crain, J
Crain and Associates, Incorporated, Urban Mass Transportation Administration, (DTS-64) Final Rpt. UMTA-MA-06-0049-83-7, HS-036 363, Aug. 1983, 76p, 3 Fig., 10 Tab., 4 App. Contract DOT-TSC-1408

ORDER FROM: NTIS PB84-123090

380798
THE DOWNTOWN HARTFORD TRANSPORTATION PROJECT: PUBLIC/PRIVATE COLLABORATION ON TRANSPORTATION IMPROVEMENTS

This report illustrates how a major transportation project undertaken to accommodate/unprecedented levels of building and employment growth can simultaneously contribute to objectives of the Clean Air Act. The goal was triggering implementation of a comprehensive program of actions to address Hartford's anticipated downtown transportation problems, looking at all components as an interactive system—traffic, parking, transit, pedestrian flow and goods delivery. Involved were physical projects such as traffic signal synchronization, management actions such as peak-hour parking restrictions, and policy tools such as requiring transportation access plans for new development. Both public and private sectors became involved in this transportation planning process, each providing half of the \$300,000 required. While it was anticipated that work trips would increase by 23% over 3 years, the steps suggested were to increase the share by transit and ridesharing from 52% to 61%, produce an increase in short-term parking spaces and improve air quality. No major infrastructure expansion was required and greater public/private/cooperation was fostered.

Cambridge Systematics, Incorporated, Connecticut Department of Transportation UMTA-CT-09-0004, July 1983, 39p, 11 Ref. Contract CT-19-0004

ORDER FROM: Cambridge Systematics, Incorporated, 238 Main Street, Cambridge, Massachusetts, 02142

380866
THE PUBLIC TRANSPORT FIRM AS CONTRACTOR [HET OPENBAAR VERVOERBEDRIJF ALS AANNEMER VAN WERK]

The growing subsidizing of public transport has led to the situation where there is no clear division between the responsibilities towards society and to efficiency within the public transport firm. It is suggested that the growing emphasis on the social function of public transport might have led to a loss in efficiency. In order to maximise efficiency within the constraints of the

social function, in this paper the suggestion is made to let the public transport firm act as a contractor of works, while the contract contains the public transport service within an area. In doing so the government is obliged to make perfectly clear what kind of service it is willing to provide and the price. Within the public transport firm the urge towards efficiency is strengthened because the situation where the losses were subsidised has changed into a situation where the costs have to meet a contracted income. (Author/TRRL) [Dutch]

Degelaar (Studiecentrum Verkeerstechiek)
Colloquium Vervoersplanologisch Spuurwerk Colloquium 1982, 1983,
pp 825-834

ACKNOWLEDGMENT: TRRL (IRRD 270700), Institute for Road
Safety Research SWOV
ORDER FROM: Colloquium Vervoersplanologisch Spuurwerk, P.O. Box
45, Delft, Netherlands

380868

LONDON'S MINIBUS POSER

Following the introduction of the 1980 Transport Act, two companies—Associated Minibus Operators Ltd (AMOS) and Vulcancrown Ltd—are hoping to operate minibus services within the London area pending the outcome of London Transport enquiries into the applications. The AMOS proposal is planned to operate on four routes across London using 16-seat minibuses running through the city centre with a headway of 2 min at peak time and 4 min outside peak times. The Vulcancrown plan is to operate virtually a taxi service between Gatwick, Heathrow and Luton airports using minibuses on routes which cannot be fixed due to the nature of the service. Because labour costs are such a high proportion of public transport costs, such minibus services must be more labour-intensive compared with conventional bus services. If minibus services of this type are to compete with subsidised transport services then the risk of low wages or sub-standard servicing must be guarded against in uncertain market conditions. The article considers the case for the introduction of minibus services and implications for other areas. (TRRL)

Hamer, M *Transport (London)* Vol. 4 No. 3, May 1983, pp 9-10, 1 Fig.

ACKNOWLEDGMENT: TRRL (IRRD 270525)
ORDER FROM: City Press Limited, Fairfax House, Colchester, Essex
CO1 1RJ, England

380869

MINI COMPETITION CUTS BUS INCOME

The article examines the current organisation of bus public transport services in South Africa. Of the 20000 buses in the country, the largest operator, PUTCO Ltd, operates 3500 single-deck buses on 665 routes providing commuter services for Durban, Pretoria and Johannesburg; a city which also operates its own municipal service. Other municipalities are served by subsidiaries of the privately-owned United Transport Group operating 1400 single deck buses. Another large operator is the government-owned South African Transport Services (SATS) involving passenger and freight transport services. In rural areas where branch railway lines are now covered by SATS operations, tractor-trailer combinations are employed hauling freight during the week with a passenger trailer attached for peak weekend traffic. Against this background the author discusses the effects of growing privately-owned minibus operations. It is considered possible that the development of such privately-owned transport operations is likely to put passenger safety at risk, as a result of cost-saving reduced maintenance, to gain passenger income at the expense of municipally subsidised users. (TRRL)

Dickson, LR *Transport (London)* Vol. 4 No. 3, May 1983, pp 33-36,
3 Phot.

ACKNOWLEDGMENT: TRRL (IRRD 270526)
ORDER FROM: City Press Limited, Fairfax House, Colchester, Essex
CO1 1RJ, England

381026

THE FEASIBILITY AND DESIRABILITY OF PRIVATELY-PROVIDED TRANSIT SERVICES. EXECUTIVE SUMMARY

This research investigates the possibility of the provision of urban bus transit service in selected markets by a private for-profit carrier. The heart of the research is a private market model which models the way in which a

for-profit carrier selects service quality and price. The purpose of the private market model is to facilitate analysis of situations in which a private transit provider would, or could be induced to, provide service. The results indicate that profitable service is feasible in a wide variety of market situations when the only alternative is the private car. Moreover, there is considerable flexibility available to the private carrier. If, however, the private carrier must compete with a subsidized or public carrier, private-carrier entry is deterred in all but the largest markets. When competition is only with the private car, profits can be sufficient to cover the non-Federal costs of providing an exclusive roadway. Volume 2 of this research analyses the labor costs of transit provision, with particular reference to the size of the firm. It concludes that transit provision by small firms would reduce labor costs substantially, enable the economic use of minibuses, and aid in the attainment of the goal of profitable service.

Viton, PA Morlok, EK Sudalaimuthu, P Krouk, SE Yaksick,
RC
Pennsylvania University, Philadelphia, Pennsylvania University,
Philadelphia, Urban Mass Transportation Administration, (231352685)
Final Rpt. UMTA-PA-11-0027-83-1, Nov. 1983, 14p Contract PA-
11-0027

ORDER FROM: NTIS PB83-252288

381027

THE FEASIBILITY AND DESIRABILITY OF PRIVATELY-PROVIDED TRANSIT SERVICES. VOLUME ONE

This research investigates the possibility of the provision of urban bus transit services in selected markets by a private for-profit carrier. The heart of the research is a private market model which models the way in which a for-profit carrier selects service quality and price. The purpose of the private market model is to facilitate analysis of situations in which a private transit provider would, or could be induced to, provide service. The results indicate that profitable service is feasible in a wide variety of market situations when the only alternative is the private car. Moreover, there is considerable flexibility available to the private carrier. If, however, the private carrier must compete with a subsidized or public carrier, private-carrier entry is deterred in all but the largest markets. When competition is only with the private car, profits can be sufficient to cover the non-Federal costs of providing an exclusive roadway.

Viton, PA Morlok, EK Sudalaimuthu, P Krouk, SE Yaksick,
RC
Pennsylvania University, Philadelphia, Pennsylvania University,
Philadelphia, Urban Mass Transportation Administration, (231352685)
Final Rpt. UMTA-PA-11-0027-83-2, Nov. 1983, 145p Contract PA-
11-0027

ORDER FROM: NTIS PB83-252296

381028

THE EFFECT OF ORGANIZATIONAL AND TECHNOLOGICAL CHARACTERISTICS ON DRIVER WAGE RATES IN URBAN PASSENGER TRANSPORT. VOLUME TWO

As part of a study of the feasibility of providing transit service by private firms, driver wage patterns in the urban transit industry and other urban public passenger carrier industries were examined. The motivation of this study was the wage pattern observed in some other industries: that the wage rate for the same job often varied considerably with characteristics of the firm and its market. This research examined the impact of organizational and technological characteristics of urban passenger transportation firms on driver wage patterns. It was expected that wage rates would be greater in firms with organizational factors such as large size, monopoly position, subsidization, and unionization. Wage rates were also expected to increase with the size of and therefore, the skill required to operate vehicles. Linear models were developed to investigate the impact of these two types of factors on driver wage rates using data collected from different passenger carriers in the Philadelphia area. Regression results confirmed that the average driver wage rate in a firm did indeed increase with increasing vehicle size and also with firm size, which is used to measure the organizational factor. The results have significant implications for the cost and the feasibility of using minibuses and other small vehicles in the provision of urban transportation. It suggests that efficient use of any given transport technology requires matching with appropriate organizational features.

Krouk, SE Morlok, EK
Pennsylvania University, Philadelphia, Urban Mass Transportation
Administration Final Rpt. UMTA-PA-11-0027-833, Apr. 1983, 72p

ORDER FROM: NTIS PB83-252304

381488

DEFICIT CONTROL THROUGH SERVICE CONTRACTING

The continuing increase in public transit costs must be checked in order for transit to control deficits and thereby maintain affordable fares, usable service levels and ridership. There is no surplus of public funding for transit; urban areas are, on the contrary, characterized by great mobility needs. Deficit control is the most critical issue facing public transportation today. Gaining control of deficits requires substantial changes. Public transit must become more open to innovative and cost effective service alternatives, and less committed to the product forms and delivery mechanisms of the present, or its decline will continue. Private transportation operators are characterized by low costs, and are being effectively used in public transportation service in many localities. The savings achieved through contracting are substantial. Through contracting, public transit agencies can reduce deficits, while continuing to provide service to the community. The public, which pays the cost in fares, taxes and service reductions, is entitled to obtain full value for that cost. It is entitled to an unencumbered consideration of cost effective transit alternatives, including service contracting.

Cox, W (Los Angeles County Transportation Commission) **Transitions** 1983, pp 21-30

ORDER FROM: ATE Management and Service Company,
Incorporated, Editor, 617 Vine Street, Suite 800, Cincinnati, Ohio,
55202

381502

TRANSIT AGENCY USE OF PRIVATE-SECTOR STRATEGIES FOR COMMUTER TRANSPORTATION

Demand for public transit services in most urban areas is concentrated in the peak period. However, peak-period service is significantly more expensive to the transit agency than its other services and usually produces larger deficits. Faced with pressures to maintain or increase commuter services, yet also control rapidly escalating deficits, transit agencies are in need of strategies that improve the cost-effectiveness of commuter transportation. Several innovative service strategies, which make use of the private sector (service contracting, service turnovers, vanpooling), have considerable potential to achieve this objective and are alternatives to traditional transit agency approaches to problem solving. Transit agency use of innovative private-sector strategies is examined based on a study of eight transit agencies in eight diverse metropolitan areas, all with some significant private-sector activity in commuter transportation. The reasons these agencies have or have not adopted these strategies are identified, and the major barriers to their more widespread use are specified. The initial incentive to consider nontraditional approaches comes from fiscal and service pressures that require some change in the status quo, but whether private-sector strategies are actually used depend largely on four factors: (a) management interest in nontraditional approaches, (b) analyses that demonstrate the utility of innovative approaches, (c) discretionary rather than dedicated local subsidies, and (d) the ability of local government officials to influence the transit agency's service and budget decisions. The main barriers to innovation are traditional management orientation, labor constraints posed by federal legislation or local union contracts, and subsidy and decision-making arrangements that give the agency no strong incentive to improve the cost-effectiveness of its different types of services.

This paper appeared in Transportation Research Record No. 914, Transportation Innovations: Ridesharing Techniques and Public-Private Cooperation.

Teal, RF Giuliano, G Brenner, ME (California University, Irvine)
Transportation Research Record No. 914, 1983, pp 34-41, 2 Tab., 5 Ref.

ORDER FROM: TRB Publications Off

381504

PARATRANSIT AT A TRANSIT AGENCY: THE EXPERIENCE IN NORFOLK, VIRGINIA

The objective of this project was to test the feasibility of a transit agency's development and provision of alternative, lower-cost transportation services. Demand-responsive and fixed-route paratransit service were substituted for unsatisfactory bus services in low-to medium-density areas and introduced in unserved suburban and rural areas. Services were extensively monitored, and the results are reported. The new services failed in new service areas due to lack of riders. Where bus service was severely reduced or eliminated, substitute services were largely successful in continuing to attract a substantial ridership at lower cost (deficit) to the transit agency. Major problems, including opposition by the transit union and some private service providers, and also some operational problems are discussed.

This paper appeared in Transportation Research Record No. 914, Transportation Innovations: Ridesharing Techniques and Public-Private Cooperation.

Becker, AJ Echols, JC (Tidewater Regional Transit) **Transportation Research Record** No. 914, 1983, pp 49-57, 2 Fig., 6 Tab.

ORDER FROM: TRB Publications Off

381505

URBAN BUS TRANSPORT IN BUENOS AIRES: THE COLECTIVOS

The urban bus system in Buenos Aires, which carries more than 50 percent of all trips and is provided by profitable medium-sized companies, is discussed. The developments of urban transport in the city, and the nature and organization of the component companies that have evolved there, are reviewed. Particular attention is drawn to the combination of medium-sized buses and high frequencies that is characteristic of Buenos Aires, and information is given about one particular company. It is concluded that the Buenos Aires experience has relevance for urban bus operation in Europe and North America. Conventional wisdom, which assumes that large business units and large vehicles are the optimum solution to the problems of urban transport, is questioned.

This paper appeared in Transportation Research Record No. 914, Transportation Innovations: Ridesharing Techniques and Public-Private Cooperation.

Hibbs, J (City of Birmingham Polytechnic, England) **Transportation Research Record** No. 914, 1983, pp 57-60, 4 Ref.

ORDER FROM: TRB Publications Off

381571

PUBLIC AND PRIVATE INVESTMENT: THE PUBLIC SUBSIDY

Each European country has its own specific historical features, but there are some common trends which apply to most of them. In particular, public investment has fulfilled a different function in relation to road, rail, public and private transport. The report discusses public and private investment in the transportation industries.

Goodwin, PB
Oxford University, England TSU/REF-192/L, Sept. 1982, 23p

ORDER FROM: NTIS PB84-112747

381583

OWNERSHIP AND EFFICIENCY IN URBAN BUSES. WORKING PAPER

Efficiency in urban bus operation depends on, among other things, the institutional form of the bus business. For certain cities in LDCs where there are parallel private and publicly owned operations, it is demonstrated that the costs of private provision are between 50 percent to 60 percent of those of publicly owned concerns. Additional evidence is adduced to show that the quality of private bus services is not markedly inferior and usually superior to the public bus operation.

Microfiche copies only available from NTIS, PB83-264747.

Feibel, C Walters, AA
International Bank for Reconstruction & Development IBRD-WP-371,
1980, 26p

ORDER FROM: International Bank for Reconstruction & Development, 1818 H Street, NW, Washington, D.C., 20433

381680

THE ECONOMIC COLLAPSE OF PRIVATE INTERCITY OPERATORS, AND THE STRATEGY OF LARGER GROUPS

The stage-coach industry, which is essentially composed of private companies, is suffering its deepest slump since war. A close analysis of the causes of the decay shows that the increase in oil prices account only partially for it. The adaptive policies of operators vary according to their scale. Corporate groups benefit by diversified opportunities and make strategic moves to control the whole industry. Public subsidisation is inevitable, but it can take different shapes. The recent political changes in France may accelerate the process. (Author/TRRL)

Public Transport. Proceedings of Seminar M held at the PTRC 10th Summer Annual Meeting, University of Warwick, England.

Roulet, J *Planning & Transport Res & Comp, Sum Ann Mtg, Proc* 1982, pp 131-139

ACKNOWLEDGMENT: TRRL (IRRD 272844)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

382237

FINANCING PUBLIC TRANSIT: RECENT EFFORTS TO ENACT DEDICATED REVENUE SOURCES AND OTHER PUBLIC AND PRIVATE SECTOR INITIATIVES

This report contains results of a national canvass of actions taken since January 1981 to enact dedicated taxes that enable transit operating agencies and state and local governments to have stable sources of financing for public transportation. It was found that a number of states and localities have also increased their support for transit from general revenue sources. Dedicated tax sources enacted were property-related (15), sales (14), auto-related (2) and other (3). The report cautions on special factors which can affect conclusions to be drawn from reported results. There is a section which summarizes efforts to enact dedicated transit taxes by UMTA regions. Finally, a number of innovative financing approaches involving public/private initiatives are reported. These include sale/leaseback transactions, revenue bonds, joint ventures, revenue anticipation notes, contracted services, competitive services, public/private collaboration in operations and planning, and student fees.

Parker (Jeffrey A) *Final Rpt. UMTA-DC-06-415, Sept. 1982, 35p, 13 Ref.*

ORDER FROM: Parker (Jeffrey A), 5224 42nd Street, NW, Washington, D.C., 20015

382298

MEGATRENDS IN URBAN TRANSPORT

Between the 1960s and 1980s public transit underwent a transition from a private sector business to a public operation. There seems to be no economy of scale in transit; private operators are once again being looked to, to play a role under mounting financial pressures. All mass transit service should be evaluated periodically to determine public interest in continuing subsidy arrangements. Opportunities to develop other arrangements include local take-over of certain regional routes, replacement with ridesharing or other paratransit, or abandonment to possible private sector responses. To foster competition for contracting out certain services and increase the possibility of private sector responses, an extensive review of current regulatory barriers should be made. Ownership and operation of all public transit services should be replaced with concentration on the strengths of public organizations involved. Alternatives should be sought for activities that appear to be less effective and efficient in the public sector. Policies on subsidy should be reviewed for consistency and long-term impact.

Fisher, RJ *Transportation Quarterly* Vol. 38 No. 1, Jan. 1984, pp 87-102

ORDER FROM: Eno Foundation for Transportation, Incorporated, P.O. Box 55, Saugatuck Station, Westport, Connecticut, 06880

382305

ECONOMICS OF COMMUTER EXPRESS BUS OPERATIONS

With the recent cuts in federal subsidies for transit operations, planners are looking for ways to reduce their operating costs. One way of doing this is to

allow the private sector to provide commuter express bus service at little or no subsidy. A study of commuter express bus operations is summarized in which it is concluded that the operating cost for a private carrier is only about half that of the public carriers in Southern California. After 22 public bus lines had been evaluated, the conclusion was that more than \$5 million per year in subsidy could be eliminated if the 22 bus lines were operated by private carriers. The cost savings are attributed to more favorable work rules and the ability to use less costly equipment. One other factor is that private operators will continue operation of a bus only if it is nearly full. The analysis was based on operating budgets for the two transit districts in Los Angeles and Orange Counties and on a survey of private agencies in the region.

This paper appeared in *Transportation Research Record* No. 915, Urban Buses: Planning and Operations.

Williams, B Wells, B (Southern California Association of Governments) *Transportation Research Record* No. 915, 1983, pp 13-18, 1 Fig., 2 Tab.

ORDER FROM: TRB Publications Off

382565

AN INTERIM REVIEW ON NINE UMTA-ASSISTED JOINT DEVELOPMENT PROJECTS

This report deals with joint development, analyzing the relative success of nine such projects begun under the former UMTA Urban Initiatives Program funding assistance. Because none of the projects in Baltimore, Boston, Buffalo, Cambridge, Cedar Rapids, Davenport, Miami, Philadelphia and Santa Ana has yet been completed, the benefits reported are those expected to accrue to the transit operating agencies and thus to the UMTA assistance program. Benefits include induced net additional transit ridership and revenues, and proceeds from the sale or lease of joint development property. Ridership and revenues are expected to be sufficient to repay UMTA's \$49.5 million investment in less than six years. The UMTA cost of \$1,000 to \$2,000 per net daily additional transit trip, one of the cost-effectiveness indicators used in alternatives analysis, is significantly lower than for most other UMTA Section 3 capital assistance investments. The UMTA funding leveraged another \$100 million in public investment and over \$700 million in private investment. The projects will generate over 30,000 new permanent jobs and yield almost \$17 million in property taxes yearly. Large projects seem most successful.

Keefe (Louis E) Associates, Urban Mass Transportation Administration, Office of the Secretary of Transportation DOT-1-83-46, Oct. 1983, 53p, Tabs., 21 Ref., 1 App.

ORDER FROM: OST

382590

CONTRACTING OUT: PUBLIC EMPLOYEES' GROUP CONTENTS THE PRACTICE HAS SERIOUS SHORTCOMINGS

The practice of contracting municipal services is discussed from the public-employee union standpoint. It is noted that early in the century cities and towns turned to private companies to run their streetcars, collect their garbage and perform other basic public services. Gross abuses led to the reform movement of the 1920s when many such services were made part of municipal government. Under state and local financial pressures and with federal government urging, the pendulum is now swinging back to the private sector for provision of service and will until, some warn, "there is another round of abuses and scandals." While state and local government could realize short-term benefits through lowered personnel costs, the quality of services may be diminished and costs may begin to escalate after an initial decrease. It may be difficult to have contracts assure that government gets what it wants at the agreed price. Contractors can also refuse to do anything that is not in the contract. True competition for contracts may be the exception. The union position is that responsible government requires improving the quality of public management and public service, not the selling off of government.

Lampkin, L (American Fed of State, County & Municipal Employee) *American City and County* Vol. 99 No. 2, Feb. 1984, pp 49-50

ORDER FROM: Buttenheim Publishing Corporation, Berkshire Common, Pittsfield, Massachusetts, 01201

382615

TRANSIT MANAGEMENT INCENTIVE CONTRACTS. VOLUME I: INFORMATION FOR LOCAL TRANSIT AGENCIES

This report is the by-product of an exploratory study sponsored by the Urban Mass Transportation Administration regarding the feasibility of expanding the incentive contract concept to the area of public transportation Management. The study researched the theoretical background of incentive contracts as well as their application in transit and non-transit industries. It also defined the components of the incentive contract as it could be used in the transit industry. These components are: objectives; performance; indicators; payment methods; and contract types. During the course of the study, it became apparent that there was growing interest throughout the transit industry toward the use of incentives. As presentations of the concepts were made to professional organizations, a number of individuals requested detailed guidance on incorporating incentive clauses into their existing agreements. Similarly, acceptance of the concept of payment-for-performance is evident in several new labor agreements recently enacted. This report provides step-by-step guidance in developing incentive clauses. It is intended for use by local transit agencies' staff and board members who would consider incorporating incentive clauses in current and future contractual agreements. The report guides the local agency through the assessment of whether or not the concept is feasible for their situation and through the process of resolving the primary considerations. There is no "right" approach given. Examples provided are merely illustrative. The authors note that the approach taken should be a reflection of local objectives and priorities. Volume II: Demonstration Plan, is an Internal Report, and will not be distributed.

Mundle, SR (Kraus, JE)

Booz-Allen and Hamilton, Incorporated, Urban Mass Transportation Administration Final Rpt. UMTA-IT-06-0246-83-1, June 1983, 116p Contract DTUM60-81-C-72091

ORDER FROM: NTIS PB84-125038

382748

TRANSPORT POLICY DEVELOPMENT IN AMMAN, JORDAN AND BAHRAIN

Recently executed transportation studies in Amman, Jordan and Bahrain provide an opportunity to compare and contrast the development of transport policy in two Middle Eastern urban areas. Both have similarly structured transport systems based entirely on roads. In addition to private vehicles, public transport is available in the form of publicly and privately operated scheduled bus services, shared taxi services, call taxis, and works and school bus services. In Amman, 60% of the trip making was by public transport. Car ownership was low and forecast to increase only modestly, while the scope for improvement of the road system was limited both by the topography and the availability of funds. The populace was also used to riding buses and shared (servis) taxis. Some restraint of private vehicle usage was advocated, but the main thrust of the strategy was the development of a greatly enhanced bus system. The services suggested ranged from high capacity double-deckers performing a line-haul function to micro-buses penetrating dense urban areas. A corollary of the bus system development was the restriction of the shared taxi services to narrow, hilly, tortuous routes of low passenger demand not suitable for bus operation. In Bahrain, 75% of the trip making was by private transport. Car ownership is modest but forecast to rise appreciably. The bus system has a low-image being patronised mainly by expatriate labourers. The shared taxi service performs only a very modest role, mainly for poorer Bahrainis. Road building is feasible, both topographically and given the funds likely to be available. The main thrust of the strategy here, therefore, is development of the road system, coupled with some small degree of central area parking restraint, and the development of some special services to cater for the restrained demand. (Author/TRRL)

Developing Countries. Proceedings of Seminar G held at the PTRC Summer Annual Meeting, University of Warwick, England, 4-7 July 1983.

Coombe, RD (Halcrow Fox and Associates) **Planning & Transport Res & Comp, Sum Ann Mtg, Proc Volume P237, 1983, pp 127-138, 3 Tab., 5 Ref.**

ACKNOWLEDGMENT: TRRL (IRRD 273955)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

382763

MANAGING TO PROVIDE PUBLIC TRANSPORT

The last ten years has seen much legislation and debate about the provision of public transport. Legislation has sought to encourage better co-ordination and a more explicit statement of objectives, assessment of needs and justification of subsidy. The emphasis has been on better performance of the local authorities. Little was heard about the managers in the industry-those charged with actually providing public transport. More recent legislation has required them to publish performance indices and has introduced a degree of competition in an effort to encourage them to be more effective. But what about the important relationship between them and the local authorities? During 1982 the author undertook a study with managers of bus undertakings in the nationalised, municipal and private sectors in which he sought to identify their attitudes and practices with particular reference to subsidy. He found for example that many managers consider they are required to run services that are a waste of money. In this paper he summarises his conclusions and illustrates his findings with quotations from the managers themselves. He concludes that it may be pressures from operators faced with cash limits rather than the legal requirements to prepare and publish public transport plans which will force county councils to identify and adopt formal objectives for the provision of cost effective public passenger transport. (Author/TRRL) IRRD 273492.

Public Transport Planning and Operation. Proceedings of Seminar L held at the PTRC 11th Summer Annual Meeting.

Winfield, RC (Transportation Management and Marketing Limited) **Planning & Transport Res & Comp, Sum Ann Mtg, Proc 1983, pp 171-182, 1 Ref.**

ACKNOWLEDGMENT: TRRL (IRRD 273508)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

382786

RATS (ROMSEY AREA TRANSPORT STUDY): AN IN DEPTH STUDY OF PUBLIC TRANSPORT ISSUES IN A MARKET TOWN

During 1983 the National Bus Company and Hampshire County Council undertook a joint exercise in the Romsey area with the following objectives:- (1) to determine the existing and frustrated transport needs by means of both household and on-vehicle passenger surveys; (2) to identify the commercial bus network, if any, which could be sustained on passenger fares alone; and (3) to assess the most efficient and cost-effective means of meeting social needs using both conventional and unconventional transport resources. The study reached the following conclusions:- (1) reducing fares is not a viable proposition. A commercial bus service was identified on the Romsey-Southampton corridor although this would only cater for 36% of existing demand in the study area and result in widespread social hardship; (2) school transport movements were of critical importance. The need to provide conventional buses for school transport enables these resources to be used at marginal cost to meet inter peak social needs. Effective co-ordination of all transport resources can result in substantial financial savings. The cost of the county council's revenue support and school transport commitment in the study area could be reduced by more than 20% with 94% of demand being met by operation of the commercial service and the combination of school contracts and stage carriage bus services. Staggering of school hours could increase the savings to 30%; (3) the remaining unserved demand (6%) would be relatively costly to provide for by conventional means but unconventional solutions could possibly be co-ordinated to provide certain facilities; and (4) there was considerable scope for improving the bus operator's image, particularly in terms of value for money. (Author/TRRL)

Public Transport Planning and Operation. Proceedings of Seminar L held at the PTRC 11th Summer Annual Meeting.

Beaman, D (National Bus Company) Jones, D (Hampshire County Council) **Planning & Transport Res & Comp, Sum Ann Mtg, Proc 1983, pp 31-41, 2 Fig., 5 Tab.**

ACKNOWLEDGMENT: TRRL (IRRD 273497)

ORDER FROM: Planning and Transport Res and Computation Co Ltd, 110 Strand, London WC2, England

382815

THE CITY IN WEST EUROPE

Chapter 5 of this book deals with the demand for transport in cities and describes a range of possible solutions to this demand. When planning for private transport these solutions can be: policies of accommodation (construction of ringways and radial roads), policies of restraint (prohibition of car access to limited areas and dedication of these areas to pedestrian use and restraint on parking), and policies for alternative private transport (pedestrianization, use of bicycles, hired cars and taxis). Solutions are outlined for public transport (railway and bus systems) planning, while the problems and advantages of an integrated transport system are described. (TRRL)

Burtenshaw, D (Portsmouth Polytechnic, England) Bateman, M (Portsmouth Polytechnic, Department Of Geography) Ashworth, GJ (Groningen University, Netherlands) Wiley (John) and Sons, Limited Monograph 1981, 340p, Figs., Tabs., Refs.

ACKNOWLEDGMENT: TRRL (IRRD 273264)
ORDER FROM: Wiley (John) and Sons, Limited, Baffins Lane, Chichester, West Sussex PO19 1UD, England

382837

SHARED TAXI OPERATION: COST CONSIDERATIONS

This report gives the results of work carried out to investigate, in broad terms, when and where the use of shared taxi services might be justified in light of cost considerations. The costs of operating taxis have been estimated and compared with those of operating stage carriage buses. Comparisons have been made in financial, resource and fuel terms. The findings indicate that when public transport demands are low it may be more cost effective to provide a service with up to three shared taxis than with a bus. When demands are higher, and greater substitution ratios would be required to accommodate them, a bus represents the cheaper option. Similar relativities are noted in resource and fuel terms. Due to the nature of existing subsidy arrangements, break-even fares for a shared taxi could be expected to be somewhat higher than those charged on conventional stage carriage buses. Cost considerations applicable to the operation of shared hire car services are likely to be broadly the same. (Resource costs are costs that have had the effects of taxes and duties removed; they are a truer indication of the operating costs to society, as opposed to the financial operating costs to the service supplier.) (Author/TRRL)

Greening, PAK Jackson, RL
Transport and Road Research Laboratory, (0305-1315) SR 793, 1983, 12p, 22 Fig., 5 Tab., 25 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 273247)
ORDER FROM: TRRL

382888

PUBLIC TRANSPORT SYSTEM ANALYSIS. THERE IS NO NEED TO AVOID A CHANGE [SYSTEEMBOUW OPENBAAR VERVOER. VLUCHTEN VOOR DE OVERSTAP HOEFT NIET]

The necessary integration of private and public transport results in a hierarchical set-up of public transport systems. Such a hierarchical set-up of a public transport system leads to many social benefits, not in the least in the area of control of costs. Apparently passengers do not benefit from the hierarchical set-up because they will have to change more times. However,

after a closer look it can be learned that other elements of a trip will be of a better quality in such way that the negative element will disappear and the change can even have a positive influence on the quality of the total trip. (Author/TRRL) [Dutch]

Conference Papers of the Working Days on Traffic Engineering 1983.

Schoemaker, TJH (Delft University of Technology, Netherlands) Dehoemaker, Bijdragen Verkeerskundige Werkdagen 1983 Apr. 1983, pp 267-274, 6 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 272700), Institute for Road Safety Research SWOV
ORDER FROM: Werkdagcommissie, P.O. Box 163, Driebergen-rijnsbur, Netherlands

384613

TAXICAB OPERATING CHARACTERISTICS IN THE UNITED STATES

In 1982, a national survey of US taxicab operators was conducted. This survey sought to assess the economic, operational and organizational status of the industry and to determine how these characteristics have been changing in response to rising costs and an economic recession. Two results of this survey are reported in this paper; the size structure and the organization of the industry. Both of these characteristics show that it has recently been undergoing two fundamental changes. These are the rapid switch away from employees as drivers to independent contractor drivers and decreasing average company size. (Author/TRRL)

Gilbert, G Burby, RJ Feibel, CE (North Carolina University) Transportation (Netherlands) Vol. 12 No. 2, Jan. 1984, pp 173-182, 5 Tab., 1 Ref.

ACKNOWLEDGMENT: TRRL (IRRD 274929)
ORDER FROM: Elsevier Scientific Publishing Company, P.O. Box 211, 1000 AE Amsterdam, Netherlands

384663

PERFORMANCE AND PRODUCTIVITY REPORT ON THE MIDDLETOWN TRANSIT SYSTEM

This is part of an on-going evaluation of the fixed-route transit service provided by Middletown Area Transit (MAT) which owns seven 32-passenger buses that are maintained and operated by a private contractor. The system is a pulsed-loop design with four routes originating at a terminal in the central business district and a fifth which connects with one of the downtown routes at a shopping center. Service was inaugurated in 1981 and this appraisal is made at the end of the second year of service. One route has failed to meet the ridership standards and will be studied carefully. Operating costs went up 26% during the second year due primarily to increased labor rates and bus maintenance problems. Changes in maintenance practices and the possibility of a new maintenance facility are under study. The Middletown transit operation is one of 12 transit districts in Connecticut with expenses under one million dollars annually. A comparison is made with the peer group operators.

Midstate Regional Planning Agency, Urban Mass Transportation Administration, Connecticut Department of Transportation UMTA-CT-09-0044, Oct. 1983, 42p, 10 Fig., 17 Tab., 7 Ref. Grant UMTA-CT-09-0032

ORDER FROM: Midstate Regional Planning Agency, Connecticut



SOURCE INDEX

A

ADMINISTRATION ON AGING Washington, D.C.
092722

AIRPORT GROUND TRANSPORTATION ASSOCIATION
372195

ALLIANCE TO SAVE ENERGY 1925 K Street, NW, No. 507; Washington,
D.C., 20006
380196

AMERICAN CITY AND COUNTY Bottenheim Publishing Corporation;
Berkshire Common; Pittsfield, Massachusetts, 01201
382590

APPLIED RESOURCE INTEGRATION LIMITED 739 Boylston Street;
Boston, Massachusetts, 02116
314651

ASCE JOURNAL OF TRANSPORTATION ENGINEERING American
Society of Civil Engineers; 345 East 47th Street; New York, New York, 10017
260219

ATE MANAGEMENT AND SERVICE COMPANY, INCORPORATED 617
Vine Street, Suite 800; Cincinnati, Ohio, 45202
377846

AUSTRALIAN GOVERNMENT PUBLISHING SERVICE P.O. Box 84;
Canberra, A.C.T. 2600, Australia
378981, 378996

B

B AND M TECHNOLOGICAL SERVICES, INCORPORATED 520
Commonwealth Avenue; Boston, Massachusetts, 02215
377781

BIJDRAGEN VERKEERSKUNDIGE WERKDAGEN 1983 Werkdagcommissie;
P.O. Box 163; Driebergen-rijnsbur, Netherlands
382888

BOOZ-ALLEN AND HAMILTON, INCORPORATED Transportation
Consulting Division, 400 Market Street; Philadelphia, Pennsylvania, 19106
382615

BUILT ENVIRONMENT Alexandrine Press; P.O. Box 15, Cornmarket Street;
Oxford OC1 3EB, England
378878

C

CACI, INCORPORATED 12011 San Vicente Boulevard; Los Angeles,
California, 90049
165773, 167307, 169761

CACI, INCORPORATED 1815 North Fort Myer Drive; Arlington, Virginia,
22209
166459, 305900

CALIFORNIA DEPARTMENT OF TRANSPORTATION P.O. Box 1499;
Sacramento, California, 95807
372195

CALIFORNIA STATE TRANSPORTATION BOARD 1120 N Street, P.O.
Box 1139; Sacramento, California, 95805
163584

CALIFORNIA UNIVERSITY, IRVINE Institute of Transportation Studies;
Irvine, California, 92717
326269, 373780

CAMBRIDGE SYSTEMATICS, INCORPORATED 238 Main Street;
Cambridge, Massachusetts, 02142
308066, 380798

CHALMERS UNIVERSITY OF TECHNOLOGY, SWEDEN Fack; S-402 20
Goeteborg 5, Sweden
163336

CHARLES RIVER ASSOCIATES, INCORPORATED 200 Clarendon Street,
John Hancock Tower; Boston, Massachusetts, 02116
378348

CIVIC PUBLIC WORKS MAGAZINE Maclean-Hunter Limited; 481
University Avenue; Toronto, Ontario M5W 1A7, Canada
335789

COLLOQUIUM VERVOERSPLANOLOGISCH SPEURWERK P.O. Box 45;
Delft, Netherlands
380866

CONNECTICUT DEPARTMENT OF TRANSPORTATION Office of
Environmental Planning; Wethersfield, Connecticut, 06109
380798

CONNECTICUT DEPARTMENT OF TRANSPORTATION Wolcott Hill
Road, P.O. Drawer A; Wethersfield, Connecticut, 06109
384663

CRAIN AND ASSOCIATES 120 Santo Margarita Avenue; Menlo Park,
California, 94025
328963

CRAIN AND ASSOCIATES 873 Santa Cruz Avenue; Menlo Park, California,
94025
163543

CRAIN AND ASSOCIATES, INCORPORATED Second Avenue, Suite A; Los
Altos, California, 94022
380782

CRAIN AND ASSOCIATES, INCORPORATED 120 Santo Margarita Avenue;
Menlo Park, California, 94025
371578

Source Index

D

- DE LEUW, CATHER AND COMPANY** 120 Howard Street; San Francisco, California, 94120
377790
- DENT (JM) AND SONS LIMITED** Aldine House, Albermarle Street; London, England
132341
- DEPARTMENT OF ENERGY** 1000 Independence Avenue, SW; Washington, D.C., 20585
380196
- DEPARTMENT OF TRANSPORT, CANADA** 1000 Sherbrooke Street, West, P.O. Box 549; Montreal, Quebec H3A 2R3, Canada
196819
- DEPARTMENT OF TRANSPORTATION** Office of Intergovernmental Affairs, 400 7th Street, SW; Washington, D.C., 20590
313640
- DEPARTMENT OF TRANSPORTATION** Office of University Research; Washington, D.C., 20590
166436
- DEPARTMENT OF TRANSPORTATION** 400 7th Street, SW; Washington, D.C., 20590
191375, 334029, 361607
- DIRECTOR GENERAL OF TRANSPORT, WESERN AUSTRALIA** 68 St Georges Terrace; Perth, Western Australia, Australia
183502
- DIRECTOR GENERAL OF TRANSPORT, WESTERN AUSTRALIA** 68 St Georges Terrace; Perth, Western Australia, Australia
183474

E

- EL PASO, CITY OF TEXAS** Public Transit Administration; El Paso, Texas
329513
- ENVIRONMENTAL PROTECTION AGENCY** Air Planning & Operations Section, 1860 Lincoln Avenue; Denver, Colorado, 80203
185863

F

- FEDERAL REGISTER** Government Printing Office; Superintendent of Documents; Washington, D.C., 20402
098661

G

- GREATER LONDON COUNCIL** County Hall; London SE1 7PB, England
345748

H

- HIGHWAY RESEARCH RECORD** Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
157787

I

- IEEE TRANSACTIONS ON AEROSPACE & ELECTRONIC SYSTEM**
Institute of Electrical and Electronic Engineers; 345 East 47th Street; New York, New York, 10017
082724
- INSTITUTE OF PUBLIC ADMINISTRATION** 1619 Massachusetts Avenue, NW; Washington, D.C., 20036
092722
- INSTITUTION OF ENGINEERS, AUSTRALIA** 11 National Circuit; Barton, A.C.T. 2600, Australia
309147
- INTERNATIONAL BANK FOR RECONSTRUCTION & DEVELOPMNT**
1818 H Street, NW; Washington, D.C., 20433
381583
- INTERNATIONAL TAXICAB ASSOC PUBLICATIONS PROGRAM** P.O. Box 2329; Asheville, North Carolina, 28802
372188, 372189
- INTERNATIONAL TAXICAB ASSOCIATION** Silver Spring, Maryland
136915
- IOWA DEPARTMENT OF TRANSPORTATION** Planning and Research Division; Des Moines, Iowa, 50319
148238

J

- JOHNSON (BERNARD) INCORPORATED** 5050 Westheimer; Houston, Texas, 77056
377846

- JOURNAL OF POLITICAL ECONOMY** University of Chicago Press; 5801 Ellis Avenue; Chicago, Illinois, 60637
148243
- JOURNAL OF TRANSPORT ECONOMICS AND POLICY** London School of Economics and Political Science; Houghton Street, Aldwych; London WC2A 2AE, England
301866, 361445

K

- KEEFER (LOUIS E) ASSOCIATES** 2200 Columbia Pike; Arlington, Virginia, 22204
382565
- KNOXVILLE COMMUTER POOL** Knoxville, Tennessee
197450

L

- LOS ANGELES COUNTY TRANSPORTATION COMMISSION** 354 South Spring Street; Los Angeles, California, 90013
376969

M

- MARQUETTE UNIVERSITY** 615 North 11th Street; Milwaukee, Wisconsin, 53233
099301
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY** Center for Transportation Studies; Cambridge, Massachusetts, 02139
166436
- METRO** Bobit Publishing Company; 2500 Artesia Boulevard; Redondo Beach, California, 90278
371957
- METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS** 1875 Eye Street, NW, Suite 200; Washington, D.C., 20006
377846
- MIAMI UNIVERSITY, CORAL GABLES** Ryder Program in Transportation; Coral Gables, Florida, 33124
080813
- MIDSTATE REGIONAL PLANNING AGENCY** Connecticut
384663
- MULTISYSTEMS, INCORPORATED** 1050 Massachusetts Avenue; Cambridge, Massachusetts, 02138
195939, 331374, 365270, 373779, 380169

N

- NATIONAL COUNCIL FOR VOLUNTARY ORGANISATIONS** 26 Bedford Square; London, England
371551
- NCHRP SYNTHESIS OF HIGHWAY PRACTICE** Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
372431
- NEW SOUTH WALES MINISTRY OF TRANSPORT, AUSTRALIA** 117 Macquarie Street; Sydney, New South Wales, Australia
300040
- NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE U**
Transportation Institute; Greensboro, North Carolina, 27411
189345
- NORTH CAROLINA STATE UNIVERSITY, RALEIGH** Department of Economics and Business; Raleigh, North Carolina, 27607
377843
- NORWEGIAN INSTITUTE OF TRANSPORT ECONOMICS** P.O. Box 6110 Etterstad; N-Oslo 6, Norway
373726

O

- OFFICE OF THE SECRETARY OF TRANSPORTATION** Technology Sharing Program, 400 7th Street, SW; Washington, D.C., 20590
371946, 373779, 380169, 382565
- OFFICE OF THE SECRETARY OF TRANSPORTATION** 400 7th Street, SW; Washington, D.C., 20590
127467, 365712
- OKLAHOMA UNIVERSITY** Sch of Civ Eng & Envir Sci, 202 West Boyd Street, Room 334; Norman, Oklahoma, 73019
307964
- OXFORD UNIVERSITY, ENGLAND** Transport Studies Unit, 11 Bevington Road; Oxford OX2 6NB, England
381571

Source Index

P

PARKER (JEFFREY A) 5224 42nd Street, NW; Washington, D.C., 20015
382237

PENNSYLVANIA TRANSPORTATION INSTITUTE Pennsylvania State University; University Park, Pennsylvania, 16802
191375

PENNSYLVANIA UNIVERSITY, PHILADELPHIA Department of Civil and Urban Engineering; Philadelphia, Pennsylvania, 19104
381026, 381027, 381028

PENNSYLVANIA UNIVERSITY, PHILADELPHIA Department of Regional Science; Philadelphia, Pennsylvania, 19104
381026, 381027

PLANNING & TRANSPORT RES & COMP, SUM ANN MTG, PROC PTRC Education and Research Services Limited; 110 Strand; London WC2, England
369096, 381680, 382748, 382763, 382786

PLANNING AND TRANSPORT RES AND COMPUTATION CO LTD 110 Strand; London WC2, England
367772, 367774

PORT AUTHORITY OF NEW YORK AND NEW JERSEY One World Trade Center; New York, New York, 10048
366965

PUBLIC MANAGEMENT International City Management Association; 1140 Connecticut Avenue, NW; Washington, D.C., 20036
377130

PUBLIC TECHNOLOGY, INCORPORATED 1140 Connecticut Avenue, NW; Washington, D.C., 20036
315403

PUBLIC TECHNOLOGY, INCORPORATED 1301 Pennsylvania Avenue, NW; Washington, D.C., 20004
361607, 365712

PUGET SOUND COUNCIL OF GOVERNMENTS Grand Central on the Park, 216 First Avenue South; Seattle, Washington, 98104
184577

Q

QUEENSLAND METROPOLITAN TRANSIT AUTHORITY 230 Brunswick Street; Fortitude Valley, Queensland, Australia
345223, 345239

R

RAILWAY AGE Simmons-Boardman Publishing Corporation; 508 Birch Street; Bristol, Connecticut, 06010
345421

RATP--BULLETIN DE DOCUMENTATION ET D'INFORMATION Regie Autonome des Transports Parisiens; 53 ter Quai des Grands Augustins; 75271 Paris Cedex 6, France
361859

RHODE ISLAND STATEWIDE PLANNING PROGRAM 265 Melrose Street; Providence, Rhode Island, 02907
371941

RICE CENTER 9 Greenway Plaza, Suite 1900; Houston, Texas, 77046
373776

RICE CENTER FOR COMMUNITY DESIGN AND RESEARCH 400 Parkway Tower, 1929 Allen Parkway; Houston, Texas, 77019
313230

S

SAMFERDSEL Institute of Transport Economics; Roaa, P.O. Box 24; Oslo 7, Norway
370870

SEELYE STEVENSON VALUE AND KNECHT 99 Park Avenue; New York, New York, 10016
373696

SMALL BUSINESS ADMINISTRATION Office of Economic Research; Washington, D.C., 20590
377781

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS 600 South Commonwealth Avenue, Suite 1000; Los Angeles, California, 90005
373706

STARTING UP COMMUNITY TRANSPORT 31 Poland Street, Ancoats; Manchester, England
342930

SYSTAN, INCORPORATED 343 Second Street, P.O. Box U; Los Altos, California, 94022
343583

SYSTAN, INCORPORATED 343 2nd Street; Los Altos, California, 94022
343553

SYSTAN, INCORPORATED 343 2nd Street; Los Altos, California, 94022
343582

T

TAXICAB MANAGEMENT Achill River Corporation; 23 Sunset Terrace; Asheville, North Carolina, 28801
378956

TENNESSEE UNIVERSITY, KNOXVILLE Transportation Center; Knoxville, Tennessee, 37916
093019

TENNESSEE UNIVERSITY, KNOXVILLE West Cumberland Avenue, SW; Knoxville, Tennessee, 37916
093020

TEXAS STATE DEPARTMENT OF HIGHWAYS & PUBLIC TRANSP P.O. Box 5051; Austin, Texas, 78763
331090

TEXAS UNIVERSITY, AUSTIN Center for Transportation Research; Austin, Texas, 78712
331090

TRAFFIC ENGINEERING AND CONTROL Printerhall Limited; 29 Newman Street; London, United Kingdom
311713

TRAFFIC QUARTERLY Eno Foundation for Transportation, Incorporated; P.O. Box 55, Saugatuck Station; Westport, Connecticut, 06880
084379, 196047

TRANSIT JOURNAL American Public Transit Association; 1100 17th Street, NW; Washington, D.C., 20036
131318

TRANSITIONS ATE Management and Service Company, Incorporated; 617 Vine Street, Suite 800; Cincinnati, Ohio, 45202
369161, 381488

TRANSPORT (LONDON) City Press Limited; Fairfax House; Colchester, Essex CO1 1RJ, England
380868, 380869

TRANSPORT AND ROAD RESEARCH LABORATORY Old Wokingham Road; Crowthorne RG11 6AU, Berkshire, England
309859, 310025, 349007, 382837

TRANSPORT POLICY AND DECISION MAKING Martinus Nijhoff Publishers; P.O. Box 22; Dordrecht, Netherlands
335629, 335630

TRANSPORTATION (NETHERLANDS) Elsevier Scientific Publishing Company; P.O. Box 211, Journal Division; 1000 AE Amsterdam, Netherlands
129946, 145337, 330832, 371553, 384613

TRANSPORTATION DEVELOPMENT AGENCY Ministry of Transport, Canada, 1000 Sherbrooke Street, West; Montreal, Quebec H3A 2R3, Canada
135034

TRANSPORTATION PLANNING AND TECHNOLOGY Gordon and Breach Science Publishers, Incorporated; One Park Avenue; New York, New York, 10016
174177

TRANSPORTATION QUARTERLY Eno Foundation for Transportation, Incorporated; P.O. Box 55, Saugatuck Station; Westport, Connecticut, 06880
370055, 371931, 371936, 382298

TRANSPORTATION RESEARCH BOARD SPECIAL REPORT Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
126154, 126174, 126175, 126176, 126177, 126178, 126179, 126189, 126191, 126192, 127495, 138440, 138445, 138447, 138450, 138461, 138462, 138466, 176494, 176495, 176497, 176504, 176512, 176514, 176517, 179077, 193699, 193701, 193709, 262445, 301313, 303917, 361076, 371615

TRANSPORTATION RESEARCH BOARD UNPUBLISHED REPORT Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
372039

TRANSPORTATION RESEARCH CIRCULAR Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
373695

TRANSPORTATION RESEARCH RECORD Transportation Research Board; 2101 Constitution Avenue, NW; Washington, D.C., 20418
095822, 134677, 134678, 134684, 141404, 156099, 156101, 156107, 156122, 156125, 178749, 184192, 300697, 300701, 334539, 335196, 335197, 345961, 349103, 349742, 349746, 368196, 372430, 381502, 381504, 381505, 382305

TRANSPORTATION RESEARCH. PART A: GENERAL Pergamon Press Limited; Headington Hill Hall; Oxford OX3 0BW, England
378963

TRANSPORTATION SYSTEMS CENTER 55 Broadway; Cambridge, Massachusetts, 02142
133209, 167307, 169761, 328963, 343553, 343582, 343583, 377790, 378913

TRI-STATE REGIONAL PLANNING COMMISSION 100 Church Street; New York, New York, 10077
098516

Source Index

U

- URBAN INSTITUTE** 2100 M Street, NW; Washington, D.C., 20037
136802, 371946
- URBAN LAND INSTITUTE** 1200 18th Street, NW; Washington, D.C., 20036
313640
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of Budget
and Policy, 400 7th Street, SW; Washington, D.C., 20590
380169
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of Planning
Assistance, 400 7th Street, SW; Washington, D.C., 20590
382565
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of Policy
Development, 400 7th Street, SW; Washington, D.C., 20590
373780
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of Policy
Research, 400 7th Street, SW; Washington, D.C., 20590
373779
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of Service
and Methods Demonstration; Washington, D.C., 20590
133209
- URBAN MASS TRANSPORTATION ADMINISTRATION** Office of
Technical Assistance, 400 7th Street, SW; Washington, D.C., 20590
378348, 380782
- URBAN MASS TRANSPORTATION ADMINISTRATION** University
Research & Training Division, 400 7th Street, SW; Washington, D.C., 20590
326269

URBAN MASS TRANSPORTATION ADMINISTRATION 400 7th Street,
SW; Washington, D.C., 20590
093019, 093020, 136802, 136915, 166459, 167307, 197450, 305900, 307964,
313230, 328963, 343553, 343582, 343583, 365270, 366965, 371578, 371946,
377790, 378913, 381026, 381027, 381028, 382615, 384663

URBITRAN ASSOCIATES, INCORPORATED 15 Park Row; New York,
New York, 10038
377846

V

VIE E TRASPORTI Casa Editrice la Fiaccola; Via Ravizza 62; Milan, Italy
369009

W

WESTERN SYDNEY REGIONAL ORGANISATION OF COUNCILS
Melbourne, Victoria, Australia
378715

WILEY (JOHN) AND SONS, LIMITED Baffins Lane; Chichester, West
Sussex PO19 1UD, England
382815

WISCONSIN DEPARTMENT OF TRANSPORTATION 4802 Sheboygan
Avenue; Madison, Wisconsin, 53702
331374

AUTHOR INDEX

A

ABKOWITZ, M
345961
ALFORD, R
134677, 134678
ALSCHULER, DM
156122
ALTSHULER, A
138447
ANDERSON, SC
378963
ARMITAGE, R
342930
ASHWORTH, GJ
382815

B

BAKR, MM
099301, 178749
BATEMAN, M
382815
BEAMAN, D
382786
BECKER, AJ
381504
BEESLEY, ME
301866
BEESON, JD
197450
BELLHEIMER, JW
343582
BERECHMAN, J
371615
BERECHMANS, J
330832
BERGAN, JP
370055
BHATT, K
193701
BILLHEIMER, JW
343583
BLACK, A
331090
BLACK, WR
084379

BLAIR, R
193699
BLOOMFIELD, P
328963
BOYNTON, C
126154, 126175
BRENNER, ME
381502
BREUER, R
262445
BROGAN, JD
095822
BUCHANAN, RC
176495
BURBY, RJ
384613
BURCO, RA
138461
BURTENSCHAW, D
382815

C

CAROLAN, BA
378996
CASE, B
313230
COE, GA
349007, 367774
COLLINS, G
345239
COLLURA, J
372431
COOMBE, RD
382748
CORRIERE, F
369009
COX, W
376969, 378956, 381488
CRAIN, J
380782
CURRY, DA
371578
CUTLER, M
349746

D

DAVIS, FW
134677, 134678
DAVIS, FW, JR
095822
DAVIS, FWJ
093019, 093020
DEGELAAR
380866
DEHOEMAKER,
382888
DERR, G
331090
DICK, HW
183502
DICKSON, LR
380869
DIXON, S
313230

E

ECHOLS, JC
381504
ELLISON, R
331090
ERNST, UFW
371946

F

FEIBEL, C
381583
FEIBEL, CE
384613
FERRERI, MG
260219
FICHTER, D
134684
FIELDING, GJ
326269
FISHER, RJ
382298
FITZGERALD, PG
163543
FLAGG, LW, III
369161

FLUSBERG, M
156122
FLYNN, S
380782
FRATESSA, C
343582, 343583
FRITZ, TL
300697
FROEYSADAL, E
370870, 373726
FURNISS, RE
165773, 169761, 305900

G

GALLAGHER, RV
138440
GELB, P
377790
GELLMAN, AJ
176517
GILBERT, G
384613
GIULIANO, G
326269, 378878, 381502
GLASBEEK, S
135034
GOODHUE, RE
326269, 334539, 373780
GOODWIN, PB
381571
GORDON, S
371553, 372430
GREEN, MA
136802
GREENING, PAK
382837
GREYSHOCK, DG
126177
GRIESE, SC
093020
GUDAITS, C
371931
GURIN, DB
141404, 157787

Author Index

H

HAMER, M
380868
HEATHINGTON, KW
093019, 093020, 095822, 126174,
134677, 134678, 156099
HERK, LF, JR
349103
HIBBS, J
132341, 381505
HIGGINS, T
145337
HIRSCH, S
126179
HOEL, LA
174177
HOLLINDEN, A
193699
HOLOSZYC, M
343553
HUZAYYIN, A
311713

I

INGALLS, WM
126191

J

JACKSON, AF
189345
JACKSON, R
371936, 377781
JACKSON, RL
309859, 310025, 349007, 367774,
382837
JAIN, R
371931
JONES, D
382786
JONES, P
343582, 343583

K

KADESH, E
156107
KEARNEY, EF
334029
KEMP, MA
377130
KENDALL, D
133209, 335197
KENWORTHY, J
335629, 335630
KETOLA, HN
314651
KHEEL, T
176514
KING, L
184577
KIRBY, RF
126178, 371946
KOCUR, G
308066
KOFFMAN, D
328963
KOLTASZ, E
309147

KOSTYNIUK, LP
369096
KRAMBLES, C
131318
KROUK, SE
381026, 381027, 381028
KURTZMAN, J
313230

L

LAMM, LP
127495
LAMPKIN, L
382590
LAVE, RE
343582, 343583
LEAKE, GR
311713
LEHUEN, A
196819
LEYVAL, ER
193709
LUTIN, JM
370055

M

MACLEAN, S
335789
MARKS, JV
326269, 334539
MARTIN, PH
309859, 310025
MCCALL, CHJ
167307
MCKELVEY, DJ
189345, 193699
MEYER, MD
371553, 372430
MIDDENDORF, D
134677, 134678
MIDDENDORF, DP
093019, 093020, 095822, 156099
MILLER, GK
136802, 184192
MILLER, JH
191375
MILLER, TS
099301, 178749
MISNER, J
133209
MODISETTE, L
313230
MORLOK, EK
381026, 381027, 381028
MORTAZAVI, K
373780
MULLEN, SS
191375
MUNDLE, SR
382615
MUNDY, RA
138445, 372195

N

NEWMAN, D
343582, 343583
NEWMAN, DA
343553, 345961

NEWMAN, P
335629, 335630

O

ORSKI, CK
127495, 129946
ORSKI, K
126192

P

PAASWELL, RE
371615
PASHIGIAN, BP
148243
PATRICELLI, RE
179077
PERIGUT, D
378715
PROTOPAPA, S
082724

R

RECHEL, RE
303917
REVELL, WL
127495
REVIS, JS
092722, 300701
ROBEY, D
099301, 178749
ROBLIN, RA
349742
ROCHFORD, P
183474
ROESELER, WG
367772
ROONEY, SB
373780
ROOS, D
138466, 156101
ROSENBLUM, S
335196
ROTH, G
365270
ROULET, J
381680

S

SAMUELS, R
126176
SAMUELS, RE
136915, 138450
SCHAD, FD
262445
SCHNEIDER, DN, JR
176504
SCHOEMAKER, TJH
382888
SCHRADER, MC
345223
SCHUCK, L
380196
SCOTT, PD
301313
SHARFARZ, D
345961
SHARPE, CP
313230

SHIATTE, KW
138462
SKORNECK, AJ
166459
SMITH, JA, JR
176512
SPEAR, BD
368196
SUDALAIMUTHU, P
381026, 381027
SUEN, L
196819
SYMONS, R
134677, 134678
SYMONS, RT
093020

T

TAYLOR, J
342930
TEAL, RF
326269, 334539, 373780, 378878,
381502
TUCKER, JWJ
185863
TYE, WB
176494

V

VESTERLUND, Y
163336
VITON, PA
361445, 381026, 381027
VUCHIC, VR
176497

W

WALDEN, ML
377843
WALLIS, IP
300040, 378981
WALTERS, AA
381583
WALTON, CM
331090
WARD, JD
126189
WELCH, B
380196
WELLS, B
382305
WILLIAMS, B
382305
WINFIELD, RC
382763
WOMACK, JP
166436
WOOLLETT, S
371551
WYNNE, GG
365270

Y

YAKSICK, RC
381026, 381027
YUKUBOUSKY, R
134684

RETRIEVAL TERM INDEX

A

ACCESS
127467

ACCESSIBILITY
157787, 311713

ACQUISITION
334029

ADMINISTRATIVE ORGANIZATION
134678, 134684

ADVERTISING
335789

ADVISORY GROUPS
372430

AGENCIES
156122

AIR POLLUTION
080813, 126191

AIR POLLUTION CONTROL
371931

AIR RIGHTS
313640

AIRPORT ACCESS
372195

ALLOCATIONS
378715

AMENDMENTS
136915

ANALYSIS
163336, 262445

ARGENTINA
381505

ATTITUDES /MENTAL/
093020

AUSTRALIA
335629, 335630, 345223, 345239, 378715, 378981, 378996

AUTOMATION
126154

AUTOMOBILE OWNERSHIP
141404, 148243, 377843, 382748

AUTOMOBILES
082724, 127495, 156101, 156125, 157787, 174177

AVAILABILITY
349007, 373696

B

BENEFIT COST ANALYSIS
166436, 367772, 382786

BENEFITS
303917, 313640

BICYCLES
331090, 377846, 382815

BIDS
343553

BIRMINGHAM, ALABAMA
372189

BONDS
373776

BOSTON
313640

BRITISH RAILWAYS
345748

BROKERAGE
349103, 371946, 373695

BUFFALO, NEW YORK
371615

BUS DRIVERS
378878, 381028

BUS LINES
169761

BUS OPERATORS
310025

BUS ROUTES
371941, 373726

BUS SERVICES
370870, 371578, 372189, 372195, 373695, 377846, 378715, 378878, 378963,
378981, 380782, 380869, 381026, 381027, 381504, 381505, 381583, 381680,
382305, 382748, 382837, 384663

BUS STOP SHELTERS
335789

BUS TERMINALS
382565

BUS TRANSPORTATION
084379, 098516, 126154, 127467, 129946, 131318, 132341, 136802, 156099,
156101, 165773, 176494, 176504, 184577, 309147, 309859, 330832, 335197,
361607

BUS TRANSPORTATION /INTERCITY/
189345, 191375, 372039

Retrieval Term Index

BUS TRANSPORTATION /INTRACITY/
 092722, 093019, 093020, 184192, 189345, 193699, 197450, 300040, 301866,
 305900, 329513, 331090, 331374, 345223, 345748, 349007, 361859, 366965,
 378348
BUSES /VEHICLES/
 136915, 156125, 157787, 334029, 335629, 345421
BUSPOOLS
 135034

C

CALIFORNIA
 334539, 373780
CAPACITY
 176517
CAPITAL
 138461, 138462
CAPITAL REQUIREMENTS
 371936, 381571, 382565
CAPTIVE RIDERS
 134684
CAR HIRE
 349007
CAR POOLS
 134684, 135034, 156101, 157787, 163336, 166436, 176494, 185863, 196819,
 197450, 307964, 329513, 331090, 334029, 369096, 371553, 371941, 377846
CARRIERS
 176494
CASE STUDIES
 176504, 313230, 377790
CASH FLOW
 349103, 380196
CENTRAL BUSINESS DISTRICT
 129946, 197450, 301313
CENTRALIZATION
 335630
CERTIFICATION
 098661
CHANGES
 138462, 301313, 335630
CHARTER BUSES
 098661, 167307, 176504, 371957
CIRCUITS
 126174
CITIES
 136915, 335196
CITIZEN PARTICIPATION
 080813
CODIFICATION
 098661
COLLECTIVE BARGAINING
 176512, 176514
COMFORT
 131318
COMMERCIAL VEHICLES
 334029
COMMON CARRIERS
 334029
COMMUNITIES
 133209, 136802, 169761
COMMUNITY SUPPORT
 314651, 343553, 361607
COMMUTER BUSES
 373695
COMMUTER SERVICES
 131318, 366965, 373706, 378878
COMMUTER TRANSPORTATION
 126192, 136802, 169761, 309859
COMMUTERS
 163336, 197450, 307964, 382305
COMMUTING
 378913, 381502
COMPACT CAR
 082724
COMPARISONS
 193699, 335629, 345961
COMPETITION
 132341, 138447, 176494, 301866, 303917, 345239, 371946, 371957, 377781,
 380868, 380869, 381026, 381027, 381583
COMPETITIVE MODES
 148238, 335629, 367774, 377130

COMPUTER AIDED DESIGN
 195939
COMPUTER APPLICATIONS
 349103
CONFERENCES
 183474, 191375, 196047, 315403, 361076, 372039, 373695
CONNECTICUT
 371931, 377781, 380798, 384663
CONSERVATION
 129946
CONSTRAINTS
 156122, 176494, 176497, 371615
CONSUMERS
 176517
CONTINGENCY
 329513
CONTRACT ADMINISTRATION
 099301, 349742
CONTRACTING
 300701, 334539, 372188, 377130, 378956, 380866, 381488, 381502, 382237,
 382590
CONTRACTORS
 169761, 334029, 335196, 345223, 373776, 384613, 384663
CONTRACTORS BIDS
 303917, 349746
CONTRACTS
 098661, 156122, 178749, 303917, 308066, 309859, 310025, 345223, 372039,
 382615
CONTROL
 335196
COOPERATIVES
 176517
COORDINATION
 138462, 300701, 314651, 331374, 372431, 378913, 382786
COST ACCOUNTING
 300701
COST ANALYSIS
 195939, 371936, 372431, 378981
COST COMPARISONS
 300040
COST CONTROL
 382298
COST EFFECTIVENESS
 163543, 193701, 326269, 334539, 343553, 345961, 380169, 382565, 382837
COST SHARING
 300701
COSTS
 093020, 126177, 126191, 138440, 138450, 169761, 185863, 300701, 308066,
 335196, 345223
CRITERIA
 126189, 196819

D

DANVILLE, ILLINOIS
 328963
DATA ACQUISITION
 093019, 300701
DATA ANALYSIS
 331374, 349007
DECISION MAKING
 080813, 099301, 138445, 145337, 148238, 163584, 176494, 176514, 176517,
 178749, 262445
DEFICITS
 369161, 372189, 381488, 381502, 381504
DELIVERY SERVICE
 126175, 126176
DEMAND
 191375
DEMAND RESPONSIVE SYSTEMS
 134677, 134678
DEMAND-RESPONSIVE TRANSPORTATION
 093019, 093020, 095822, 126154, 126174, 126175, 126176, 126177, 126178,
 126179, 126189, 126191, 126192, 138450, 145337, 156099, 156107, 156122,
 165773, 174177, 184577, 189345, 193699, 308066, 326269, 334539, 343553,
 345961, 368196, 373696, 373780, 378956, 381504
DEMONSTRATION PROJECT
 126178, 138440, 163336, 163543, 165773, 308066, 314651, 328963, 335197,
 343553, 345961, 378348
DENSITY
 335630

Retrieval Term Index

DEPRECIATION
345421
DEREGULATION
345239, 365712, 377790, 380868, 382298
DESIGN CRITERIA
343583
DEVELOPING COUNTRIES
365270, 381583, 382748
DIAL-A-BUS
157787, 174177, 193699, 196819, 343582, 343583, 345961
DIAL-A-RIDE
126178, 156101, 193699, 193701, 331090, 343553, 370870, 373726, 380782
DISPATCHING
126154, 126175
DOOR-TO-DOOR SERVICE
308066
DRIVER LICENSE
136915
DRIVER LICENSING
135034
DRIVERS /VEHICLE/
126176, 126177, 135034
DUAL MODES
126174

E

ECONOMIC ANALYSIS
095822, 378913, 380196, 382837, 384613
ECONOMIC CONSIDERATIONS
167307
ECONOMIC DEVELOPMENT
315403
ECONOMIC EVALUATIONS
093020
ECONOMIC IMPACT
141404, 371615
ECONOMICS
184192, 196819
EDUCATION
176517
EFFECTIVENESS
376969
EFFICIENCY
196819, 329513, 376969, 378963, 380866, 384663
EL PASO, TEXAS
329513
ELDERLY
092722, 126177, 126191, 163543, 195939, 308066, 345961, 361607, 371578,
371936, 373696, 373780, 377781, 378348
ELDERLY DRIVERS
092722
ELECTRIC RAILROADS
335629
ELECTRIC TRAINS
335629
ELECTRIFICATION
335629
ELECTROMAGNETIC ATTRACTION
381028
EMERGENCY VEHICLES
136915
EMPLOYERS
367772, 371553, 372430, 373776
EMPLOYMENT
157787, 382565
ENERGY
127467, 127495, 129946, 163584, 262445
ENERGY CONSERVATION
329513, 335629, 335630
ENERGY COSTS
349103
ENERGY CRISIS
329513, 361607
ENERGY INTENSIVENESS
335629, 335630
ENFORCEMENT
176504
ENVIRONMENT
179077
ENVIRONMENTAL EFFECTS
127467, 262445

ENVIRONMENTAL IMPACT
127495, 148238, 163584, 196819
ENVIRONMENTAL PROTECTION
380798
EQUIPMENT
138461, 176517
EQUIPMENT REPLACEMENT
126154
EQUITY
376969, 378963
EUROPE
381571
EVACUATION
176504
EVALUATION
126178, 126189, 127495, 262445, 326269, 331090, 345239
EXPENDITURES
098661, 138461
EXPERIENCE
156122
EXPRESS BUSES
197450, 329513, 373706, 382305

F

FACILITIES
262445
FARES
095822, 126176, 126177, 126178, 126179, 131318, 134677, 138462, 176495,
176514, 301866, 308066, 309859, 330832, 349007, 369161, 378996
FEASIBILITY
331374
FEASIBILITY STUDIES
095822
FEDERAL AID
084379, 098661, 138461
FEDERAL GOVERNMENT
369161, 373779, 380169
FEDERAL HIGHWAY ADMINISTRATOR
127495
FEDERAL PROGRAMS
349746
FEEDER TRANSPORTATION
126192, 184192, 331374
FEES
136915
FINANCIAL ANALYSIS
378996, 380196
FINANCING
345421, 365270, 373695, 373776, 380866, 382237
FIXED-ROUTE
156099, 184577, 193699, 305900, 308066, 328963, 331090, 331374, 335197,
378348, 378956
FIXED-ROUTE TRANSIT
380782
FORECASTING
369096, 380169
FOREIGN COUNTRIES
131318
FORT WORTH
301313
FRANCE
381680
FRANCHISES
372195
FREE TRANSPORTATION
301313
FREIGHT TRANSPORTATION
093020, 126175
FUEL CONSERVATION
382837
FUEL CONSUMPTION
179077, 329513, 335629, 345239
FUEL COSTS
381680
FUND ALLOCATIONS
092722, 126174, 138462, 176517, 179077, 193709, 361076, 376969
FUNDING
343553, 371946, 372431, 373779, 377843, 378878
FUTURE CONCEPTS
126192

Retrieval Term Index

FUTURE POLICIES
138466, 163584

G

GOALS
156122, 303917
GOVERNMENT EMPLOYEES
185863
GOVERNMENT FUNDING
381571
GOVERNMENT INTERVENTION
183474
GOVERNMENT POLICIES
148238, 370055, 382590, 382748
GOVERNMENT REGULATIONS
365712, 371957, 372195, 373706
GOVERNMENTAL PROCESSES
127495
GREAT BRITAIN
342930, 349007, 367774, 380868, 382763, 382786
GUIDELINES
138462, 331090

H

HANDBOOKS
343582, 343583
HANDICAPPED INDIVIDUALS
126175, 126177, 157787, 163543, 184577, 195939, 196819, 307964, 308066,
335196, 342930, 343553, 345961, 361607, 371578, 371936, 373696, 373780,
377781, 378348
HIGH SPEED TRAINS
131318
HISTORY
132341, 381571
HITCHHIKING
334029

I

IMPACT
361076
IMPLEMENTATION
135034, 138462, 138466, 156125, 165773, 331374
IMPROVEMENT
138440
INCENTIVES
176494, 185863, 382615
INCOME
156099
INDUSTRIAL AREAS
133209
INDUSTRY
384613
INFORMATION DISSEMINATION
126178, 138466, 305900, 366965
INNOVATION
126178, 131318, 138447
INSPECTION
334029
INSTALLATIONS
126174
INSTITUTIONAL FACTORS
372431, 373706, 378963, 380169, 381028, 381505, 381583, 384613
INSTITUTIONS
135034, 138462, 176494
INSURANCE
126175, 135034, 138440, 138462, 138466, 166436, 174177, 334029
INTEGRATED FARES
373706
INTEGRATED TRANSIT SYSTEMS
305900, 361859, 378878, 378996, 380169, 382815, 382888
INTEGRATION
138440, 138445, 156101, 165773, 195939
INTERACTION
371553
INTERCITY TRANSPORTATION
098516
INTERCITY TRAVEL
131318, 381680
INTERGOVERNMENTAL RELATIONS /U.S./
179077

INTERMODAL TRANSFER
366965
INVENTORIES
163336, 189345
INVESTMENTS
127467, 148238, 313640, 371615
IOWA
148238
ITALY
369009

J

JAPAN
345239
JAPANESE NATIONAL RAILWAYS
131318
JITNEY
126175, 126178, 126191, 136915, 145337, 174177, 176494, 380868, 380869,
381505
JOINT DEVELOPMENT
313230, 313640, 335789, 370055, 373776, 382237, 382565
JOINT FACILITIES
313640

L

LABOR AGREEMENTS
382615
LABOR COSTS
378878
LABOR INTENSIVE
380868
LABOR LAW
334029
LABOR UNIONS
382590
LAND DEVELOPMENT
313640, 315403
LAND USE
262445, 313640, 335630, 370055, 372430
LAWS
084379, 136915, 138445, 138450, 138462, 156122, 156125, 176504, 176512,
305900, 334029
LEASING
126175, 349746, 361859, 373776, 382237
LEGAL ASPECT
126154, 135034, 138447, 185863, 313230, 331090, 334029, 334539, 342930
LEGISLATION
373706, 377790, 380868
LEVEL OF SERVICE
093020, 095822, 126174, 126189, 126192, 136802, 184192, 300040, 335196,
343553, 345961, 365712, 367774, 372195, 378913, 378963, 381505, 382888
LEVERAGE LEASING
345421
LIABILITIES
135034
LIABILITY INSURANCE
136802, 138440
LICENSES
126176, 136915, 371551
LIFE CYCLE COSTING
349746
LIGHT RAIL TRANSIT
301313, 371615
LIGHT RAIL TRANSIT SYSTEMS
131318, 301313
LITIGATION
262445
LOCAL GOVERNMENT
126191, 156107, 156125, 307964, 314651, 343553, 369161, 380169, 380798,
382237, 382590
LOCAL TRAFFIC
098516
LONDON TRANSPORT
345748, 380868
LOS ANGELES, CALIFORNIA
373706
LOW COST
343553
LOW INCOME
157787, 308066

Retrieval Term Index

M

MAINTENANCE
131318, 165773

MAINTENANCE PRACTICES
384663

MANAGEMENT
099301, 127467, 127495, 178749, 342930

MANAGEMENT PRACTICES
372430, 372431, 376969, 382615, 382763

MANUALS
314651

MANUFACTURING
335789

MARKETING
093019, 093020, 095822, 127467, 166459, 305900, 315403, 361076, 371957, 380196

MASS TRANSIT
084379, 141404, 165773, 167307, 185863, 328963

MASS TRANSIT VEHICLES
126176, 126177

MASS TRANSPORTATION
335630

MASSACHUSETTS
349742

MATHEMATICAL MODELS
311713, 369009, 369096

MEDICAL ASPECTS
156099

MEDIUM SIZE CITIES
095822

METROPOLITAN PLANNING ORGANIZATIONS
382763

MIDDLE EAST
382748

MINIBUS TRANSPORTATION
342930

MINIBUSES
167307, 183502, 310025, 349746, 365270, 370870, 373696, 380868, 380869, 381028, 382748

MOBILITY
134684, 184577, 308066, 378348

MOD
082724

MODAL CHOICE
369009, 377843, 381505

MODAL SELECTION
093019, 093020, 166436, 345239

MODAL SPLIT
382748

MODE
330832

MODELS
349103

MODERNIZATION
345239

MODULAR CONSTRUCTION
082724

MONOPOLY
132341

MULTIMODAL TRANSPORTATION
126174, 138440, 148238, 184577, 262445, 311713

MULTIMODAL TRANSPORTATION SYSTEMS
148238

N

NETHERLANDS
380866, 382888

NEW SYSTEMS
082724

NEW YORK CITY
366965

NEW YORK CITY TRANSIT AUTHORITY
345421

NEW YORK STATE
343553, 373696

NO FAULT INSURANCE
126176, 334029

NORWAY
373726

O

OBJECTIVES
303917

OFF-PEAK
361607

OPERATING COSTS
126174, 132341, 134677, 300040, 301866, 342930, 345223, 367772, 373706, 373780, 378956, 380782, 380868, 381026, 381027, 381028, 381488, 381502, 382305, 382837, 384613, 384663

OPERATING STRATEGIES
373696, 381504

OPERATIONS
098661, 131318, 138440, 138462, 361076, 372431

OPERATOR
138461, 138466

OPTIMIZATION
313640

ORGANIZATIONS
178749

ORGANIZING
342930

OWNERSHIP
372431

P

PARATRANSIT
126192, 129946, 136915, 138440, 138445, 138447, 138450, 138461, 138462, 138466, 156101, 156125, 165773, 166436, 174177, 176497, 189345, 193701, 193709, 196819, 303917, 305900, 307964, 329513, 335196, 335197, 342930, 343553, 343582, 345239, 345961
369096, 371551, 371578, 371936, 371941, 371946, 372188, 372189, 372195, 373695, 373726, 373779, 377130, 377781, 377846, 380169, 380782, 381504, 382786

PARATRANSIT VEHICLES
349746

PARCELS
126175, 126176

PARIS
345748

PARK AND RIDE
301313

PARKING
082724, 371941

PARKING RESTRAINTS
382815

PASSENGER INFORMATION
372195

PASSENGER STATIONS
313640

PASSENGER TRANSPORTATION
131318

PASSENGER TRAVEL DEMAND
131318, 301313

PASSENGER VOLUME
345748

PASSENGERS
135034, 138450, 331374, 334029

PASSES
378996

PATRONAGE
131318, 381680

PEAK HOUR
169761, 310025, 381502

PEAK HOUR TRAFFIC
307964

PEDESTRIANISATION
382815

PEDESTRIANS
092722, 141404

PEER GROUPS
384663

PENALTIES
136915

PERFORMANCE
131318, 156107, 196819, 326269

PERFORMANCE EVALUATION
371936, 376969, 382615
349742

Retrieval Term Index

PERFORMANCE INDICATORS

373780, 378963, 382763, 384663

PERSONALIZED RAPID TRANSIT

126192

PERSONNEL

126191, 138447, 138461, 138462, 138466, 174177, 176514, 176517

PERSONNEL MANAGEMENT

176512

PHILADELPHIA

313640

PHOENIX, ARIZONA

380782

POLICE

262445

POLICE POWERS

136915

POLICY

098661, 176512, 179077, 335197, 371615

POLICY MAKING

148238, 371553, 382590

POLITICS

126191, 126192, 176514, 377130

POOR PEOPLE

126191

PORTLAND, OREGON

377790

PRICES

134678, 262445

PRICING

349103, 368196, 381026, 381027

PRIVATE ENTERPRISE

080813, 082724, 095822, 126174, 126176, 126178, 126179, 126189, 126191, 126192, 127495, 133209, 134677, 134678, 138440, 138461, 138466, 148238, 148243, 156122, 163543, 163584, 166459, 167307, 176495, 176504, 176512, 176514, 176517, 178749, 179077, 183474, 185863, 196047, 300040, 300697, 303917, 307964, 310025, 313230, 313640, 314651, 315403, 335789, 343553, 345223, 345239, 345421, 345748, 345961, 349103, 349742, 361076, 361445, 361607, 361859

PRIVATE ROAD

193701, 193709

PRIVATE SECTOR

365712, 367772, 368196, 369161, 370055, 371553, 371615, 371931, 371936, 371946, 371957, 372188, 372189, 372195, 372430, 372431, 373695, 373696, 373706, 373776, 373779, 373780, 376969, 377130, 377781, 377790, 377843, 378715, 378878, 378913, 378956, 378963, 378981, 378996, 380169, 380196, 380798, 380868, 380869, 381026, 381027, 381028, 381488, 381502, 381505, 381571, 381583, 381680, 382237, 382298, 382305, 382565, 382590, 382763, 382888

PRIVATE TRANSPORTATION

082724, 099301, 126174, 126175, 126176, 126177, 126178, 126179, 127467, 131318, 134684, 135034, 138445, 138447, 138450, 138461, 138462, 141404, 156107, 156125, 176497, 184577, 195939, 260219, 262445, 301313, 307964, 311173, 328963, 330832, 335629, 365270

PROCUREMENT

349746

PRODUCTIVITY

138440, 169761, 300697, 381505, 381583

PROFESSIONAL PERSONNEL

262445

PROFITABILITY

365712, 378981, 380196, 381026, 381027, 381505

PROFITS

148243, 365270

PROGRAMMING

127495

PROPERTY TAXES

382237, 382565

PROPERTY VALUES

313640

PSYCHOLOGICAL EFFECTS

141404

PUBLIC ADMINISTRATION

315403

PUBLIC AUTHORITIES

343582, 345223

PUBLIC HOUSING

141404

PUBLIC OPINION

093019

PUBLIC OWNERSHIP

099301, 126174, 134677, 135034, 148238, 148243, 176495, 176512, 176514, 260219, 303917, 313230, 343553, 345223, 361076, 361445, 371936, 371957, 373706, 378963, 382298

PUBLIC POLICY

126191, 126192, 138462

PUBLIC SECTOR

371553, 377781, 377843

PUBLIC SERVICE VEHICLES

138450

PUBLIC SUPPORT

326269

PUBLIC TRANSIT

080813, 099301, 126174, 126176, 126189, 127467, 129946, 131318, 133209, 134677, 134678, 136915, 138445, 138447, 138462, 141404, 145337, 148243, 156107, 174177, 176494, 176495, 176497, 176504, 176512, 183502, 184577, 189345, 191375, 195939, 260219, 300040, 300697, 300701, 307964, 308066, 309147, 311713, 313640, 314651, 329513, 330832, 331090, 331374, 335629, 345748, 345961, 365270, 369009, 369161, 370870, 372188, 372431, 373695, 373706, 373779, 376969, 377130, 378981, 378996, 380798, 380866, 380868, 380869, 381026, 381027, 381028, 381502, 381504, 381571, 381583, 382237, 382298, 382786, 382815, 382888

PUBLIC TRANSIT ECONOMICS

381488

PUBLIC UTILITIES

082724

Q

QUALITY CONTROL

382590

QUALITY OF SERVICE

371936, 372431, 378715, 381026, 381027, 381583

QUESTIONNAIRES

371941

R

RAIL TRANSPORTATION

345239, 345748

RAILROAD STATIONS

370055

RAPID TRANSIT

361859, 366965

RAPID TRANSIT CARS

345421

RAPID TRANSIT STATIONS

313640, 370055, 382565

RAPID TRANSIT SYSTEMS

131318

RATES /COSTS/

126154, 126176

REAL ESTATE

370055

RECOMMENDATIONS

138461, 262445, 361076

RECREATION

156099, 310025

RECREATIONAL FACILITIES

127467

RECREATIONAL ROADS

127467

REGIONAL DEVELOPMENT

371615

REGIONAL PLANNING /TRANSPORTATION/

126189, 126191, 163584

REGIONAL TRANSPORTATION

138445

REGRESSION ANALYSIS

309859, 331090, 381028

REGULATIONS

098661, 126176, 126178, 134678, 135034, 136915, 138445, 138450, 138462, 138466, 148243, 166436, 166459, 174177, 193709, 303917, 314651, 334029, 372039, 377130, 377790, 380196, 382298

REHABILITATION

372430

REJUVENATION

156099

REPLACING

309147

REPORTING

098661, 300701

Retrieval Term Index

RESEARCH
092722, 138440, 138450, 138461, 361076

RESIDENTIAL AREAS
378956

RESOURCE ALLOCATION
127495, 138466

RESOURCES
156122

RESPONSIBILITIES
262445

RESTRUCTURING
376969

RETAIL SALES
371615

RETURN ON INVESTMENT
382565

REVENUE
093020, 098661, 126175, 308066, 335789, 382565

REVENUE SHARING
126177

REVIEWS
196819

REVITALIZATION
371615

RHODE ISLAND
371941

RIDERSHIP
093020, 095822, 126174, 126175, 126178, 126189, 126191, 126192, 134678, 138440, 138445, 138447, 167307, 169761, 197450, 305900, 309859, 345961, 371551, 371553, 373780, 377846, 380782, 380798, 381504, 381505, 382565, 384663

RIDESHARING
174177, 176494, 185863, 307964, 329513, 331090, 334029, 334539, 343582, 343583, 361076, 366965, 369096, 371931, 371941, 372430, 326269, 378348, 381502, 382298, 382837

ROCHESTER-GENESEE REGIONAL TRANSP AUTHORITY
345961

ROCHESTER, NEW YORK
343553
345961

ROUTING
157787, 378981

RURAL AREAS
134684, 189345, 191375, 300697, 314651, 349742, 361607, 370870, 371551, 371578, 372431, 373726, 373779, 377843, 382786

S

SAFE HARBOR LEASING
373776

SAFETY
131318, 163584, 166436, 361607, 380869

SALES TAXES
382237

SCHEDULING
157787, 195939, 370870

SCHOOL BUSES
098661, 309859, 310025, 329513, 361607, 371551, 382786

SCHOOLS
126175

SEATING CAPACITY
134677

SELECTING
342930

SENIOR CITIZENS
184577

SERVICE
126154, 126176, 126178, 127495, 131318

SERVICE DISCONTINUANCE
372189, 381504

SERVICE LEVEL
176495, 176504

SERVICES
095822

SHADE TEMPERATURE
156125

SHARING
126174, 126175, 126178, 138447, 156099, 163543, 165773

SIGNAL HEADS
378956

SIMULATION MODELS
361445

SIZE
095822

SMALL CITIES
133209, 176497, 189345, 331090, 372431, 384663

SMALL TOWNS
095822, 134684

SOCIAL BENEFITS
382888

SOCIAL COSTS
377843

SOCIAL NEEDS
371578, 377843, 380866

SOCIAL SERVICE AGENCIES
373779

SOCIAL SERVICES
300701, 310025, 314651, 371946

SOCIOECONOMIC ASPECTS
080813, 148238, 163584, 305900, 313230, 315403, 331090

SOCIOECONOMIC FACTORS
148238

SOUTH AFRICA
380869

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
376969

SPECIAL PURPOSE
138447

SPECIAL SERVICE
184577, 196819, 308066

STAGGERED WORK HOURS
329513

STANDARD ERROR
126191

STATE GOVERNMENT
126191, 148238, 156125, 262445, 371931, 373779, 380169, 382237, 382590

STATE OF THE ART STUDIES
092722, 126154, 191375

STATE PLANNING
262445

STATES
136915

STATIONS
313640

STATISTICAL ANALYSIS
331090

STATISTICS
260219

STRATEGY
329513

STREETCARS
335629

SUBSCRIPTION BUS SERVICE
126178, 133209, 156101, 166436, 167307, 174177, 308066, 371551, 377130, 381502

SUBSIDIES
084379, 126154, 126178, 126179, 126189, 138440, 138447, 138450, 138461, 163543, 300040, 303917, 308066, 328963, 330832, 334539, 335197, 368196, 369161, 371553, 371936, 371946, 372039, 372430, 372431, 373779, 373780, 376969, 377781, 377843, 378715, 378878, 378963, 378981, 380169, 380782, 380866, 381026, 381027, 381571, 381680, 382237, 382298, 382305, 382763, 382837

SUBSTITUTES
098516, 163584

SUBSTITUTION
380782

SUBSYSTEMS
098516

SUBURBS
126192, 129946, 343553, 345748, 345961

SUBWAYS
301313, 301866

SUPPLY AND DEMAND
166459, 301866

SURVEYS
166436, 371941, 382786

SURVEYS /DATA COLLECTION/
093019

SYSTEMS
196819

Retrieval Term Index

T

TAX RATES
260219

TAXATION
126174, 135034, 334029, 345421, 369161, 373776, 382237

TAXI INDUSTRY
345239, 349007

TAXI SERVICE
378348

TAXI SERVICES
343582, 343583, 366965

TAXICAB DRIVERS
384613

TAXICABS
084379, 092722, 093019, 093020, 098516, 126154, 126175, 126176, 126177, 126178, 126179, 126189, 129946, 134678, 135034, 136915, 138440, 138447, 145337, 156099, 156101, 156125, 157787, 163543, 165773, 174177, 176494, 176504, 183474, 183502, 184192, 184577, 189345, 191375, 193699, 193701, 193709, 197450, 301866, 305900, 307964, 309147, 326269, 329513, 331090, 331374, 334539, 335197, 365270, 365712, 367774, 368196, 370870, 371551, 371578, 371946, 372188, 372189, 372195, 373726, 373780, 377790, 378956, 380782, 382748, 382815, 382837, 384613

TECHNOLOGY
084379, 131318

TERMINALS /TRANSPORTATION/
366965, 372039

TEXAS
335196, 367772

TICKET
131318

TORONTO
313640, 335789

TOURISTS
301866

TRADE OFFS
335196

TRAFFIC CONGESTION
080813, 126189, 126191, 127467, 131318, 307964

TRAFFIC CORRIDORS
178749

TRAFFIC DELAY COSTS
163336

TRAFFIC GENERATION
098516

TRAFFIC RESTRAINT
082724, 335630, 382815

TRANSFERS
373706, 382888

TRANSIT OPERATING AGENCIES
381026, 381027, 381502, 381504, 382763, 384663
343582, 345223

TRANSIT SERVICES
349742

TRANSIT STATIONS
372430

TRANSPORTATION
092722

TRANSPORTATION ADMINISTRATION
099301, 126192, 127495, 195939, 345748, 349103, 349742, 361607, 373695

TRANSPORTATION CORRIDORS
371615

TRANSPORTATION ECONOMICS
132341, 148238, 156107, 176494, 300701, 309859, 310025, 330832

TRANSPORTATION FINANCE
163584, 195939, 196047, 330832, 349746, 361607

TRANSPORTATION LAWS & REGULATIONS
343583, 345223, 345239, 349007, 361607

TRANSPORTATION NEEDS STUDY
092722, 127495, 148238, 184577, 195939

TRANSPORTATION PLANNING
098516, 127495, 138447, 138462, 138466, 148238, 157787, 166459, 176494, 176497, 191375, 262445, 307964, 309147, 314651, 343582, 343583, 345239, 345748, 349742, 377843, 377846

TRANSPORTATION POLICY
126154, 132341, 138445, 138447, 141404, 148238, 163584, 191375, 193709, 262445, 330832, 335630

TRANSPORTATION REGULATION
136802, 163584, 176494, 176495, 176497, 176504

TRANSPORTATION SYSTEM ANALYSIS
166459, 343582, 343583

TRANSPORTATION SYSTEM MANAGEMENT
138466, 141404, 165773, 179077, 380798

TRANSPORTATION SYSTEMS
133209

TRAVEL BEHAVIOR
361076, 369009

TRAVEL DEMAND
093019, 132341, 136802, 176517, 184192, 369096, 371578, 377846, 382748, 382815, 382888

TRAVEL PATTERNS
093019, 157787, 335629, 335630

TRENDS
349007

TRIP GENERATION
311713

TRIP PURPOSE
134684

TROLLEY CARS
301313, 335629

U

UMTA SECTION 11
381026, 381027, 381028

UMTA SECTION 16
377781

UMTA SECTION 18
373779

UMTA SECTION 3
382565

UMTA SECTION 6
380782, 382237, 382615

UMTA SECTION 8
384663

UNITED STATES
384613

UNITED STATES GOVERNMENT
126191, 127495, 138445, 138447, 138450, 138466, 156125, 179077

UNIVERSITIES
371941, 377846

URBAN AREAS
093019, 093020, 156099, 156125, 157787, 195939, 335789, 377790

URBAN DEVELOPMENT
313230, 313640, 315403, 335630, 370055, 371615

URBAN GROWTH
380798

URBAN LAND USE
335630

URBAN MASS TRANSPORTATION ADMINISTRATION
371957

URBAN RENEWAL
141404, 382565

URBAN TRANSPORTATION
080813, 084379, 126176, 126178, 126179, 126191, 126192, 138445, 138450, 148243, 163336, 165773, 166459, 174177, 176494, 176497, 176512, 176514, 183474, 183502, 184192, 260219, 300040, 309147, 335629, 345748

URBAN TRANSPORTATION ADMINISTRATION
127495, 136915, 176517

URBAN TRANSPORTATION PLANNING
080813, 163584, 179077, 184577, 185863, 193709, 197450, 301866, 305900, 313230, 313640, 315403, 326269, 329513, 331090, 331374, 335630, 365270, 369009, 371553, 373695, 377130, 380798, 382815

URBAN TRANSPORTATION SYSTEMS
145337, 193701, 361445

URBAN TRANSPORTATIONS SYSTEMS
082724, 126154, 134677, 134678, 156101

USER BENEFITS
136802, 361445

USER CHARGES
373776

USER NEEDS
138461, 195939, 328963, 335197

USER-SIDE SUBSIDIES
368196, 371578, 371946, 372039, 377130, 378348

UTILIZATION
301313, 361607

Retrieval Term Index

V

VANPOOLS

135034, 136802, 138447, 166436, 174177, 197450, 331090, 334029, 349103,
367772, 369096, 371931, 377846, 378913, 380196

VANS

195939, 371946

VEHICLE CAPACITY

138450

VEHICLE CONTROL

195939

VEHICLE DESIGN

126154, 126176

VEHICLE INSPECTION

136915

VEHICLE MAINTENANCE

126177, 305900

VEHICLE OCCUPANCY

138450

VEHICLE OWNERSHIP

156107, 157787

VEHICLES

138462

VOLUNTEERS

373779

W

WAGE RATE

381028

WARRANTS

382763

WASHINGTON, D.C.

377846

WEEKEND

380782

WELFARE

126175

WHEEL CHAIRS

126175, 126177, 307964

WORK RULES

381502, 382305, 382615

WORK TRIPS

156099, 157787, 163336, 378913, 378956

WORKABILITY

163543

WORKMANS COMPENSATION

334029

WORKSHOPS /MEETINGS/

138461, 138462, 315403, 361076

Z

ZONE FARES

378996

