

# TCRP

## REPORT 91

TRANSIT  
COOPERATIVE  
RESEARCH  
PROGRAM

### **Economic Benefits of Coordinating Human Service Transportation and Transit Services**

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**TCRP REPORT 91**

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**Economic Benefits of Coordinating  
Human Service Transportation and  
Transit Services**

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## TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA; the National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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### NOTICE

The project that is the subject of this report was a part of the Transit Cooperative Research Program conducted by the Transportation Research Board with the approval of the Governing Board of the National Research Council. Such approval reflects the Governing Board's judgment that the project concerned is appropriate with respect to both the purposes and resources of the National Research Council.

The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the National Research Council, the Transit Development Corporation, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

To save time and money in disseminating the research findings, the report is essentially the original text as submitted by the research agency. This report has not been edited by TRB.

### Special Notice

The Transportation Research Board, the National Research Council, the Transit Development Corporation, and the Federal Transit Administration (sponsor of the Transit Cooperative Research Program) do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the clarity and completeness of the project reporting.

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## **AUTHOR ACKNOWLEDGMENTS**

The research that produced this report was performed under TCRP Project H-26 by Westat, with the assistance of Nelson/Nygaard Consulting Associates, Inc., and Mobilitat, Inc. Jon E. Burkhardt, Senior Study Director at Westat, was this project's Principal Investigator. Jon E. Burkhardt of Westat and David Koffman and Gail Murray of Nelson/Nygaard were the key authors of this report. They were assisted in this project by Cindy Johnson of Mobilitat; Adam T. McGavock of Westat; and Thomas Brennan, Paul Lutey, and Joey Goldman of Nelson/Nygaard.

We would like to thank many people for substantial contributions to this project. Our TCRP Project Officer, Gwen Chisholm, directed the Project Panel's efforts on the project. We are grateful for the assistance provided to us by the members of our Project Panel. We appreciate the time and insights given to us by the many human service and public transportation operators who worked with us in our interviews.

## FOREWORD

By *Gwen Chisholm*  
*Staff Officer*  
*Transportation Research*  
*Board*

*TCRP Report 91: Economic Benefits of Coordinating Human Service Transportation and Transit Services* examines the net economic benefits associated with various strategies and practices for coordinating human service transportation and general public transit, provides quantitative estimates of these strategies and practices, and identifies innovative and promising coordination strategies and practices. This report includes an executive summary that provides a brief overview of basic coordination concepts and strategies that may enable transportation operators to achieve significant economic benefits from coordinating their operations. This information may be used by federal, state, and local officials in developing strategies and policies for coordinating transportation resources.

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The United States Department of Transportation (U.S.DOT) and the Department of Health and Human Services (DHHS) have been working together for more than 10 years to foster increased coordination among the transportation services sponsored by each agency. Coordination experiences encompass a vast array of strategies, including complementary service planning, joint equipment and vehicle procurements, maintenance and facilities sharing arrangements, coordinated service delivery, and consolidated services operation.

The potential benefits of such arrangements have been long acknowledged and extolled. While many studies have been undertaken to chronicle and analyze successful methods for implementing coordinated transportation services, little has been done to quantify the benefits associated with different coordination strategies. Economic analysis of the coordinated arrangements has not been undertaken, and no quantification of the overall costs and benefits of coordination strategies exists.

As Congress increasingly demonstrates its interest in achieving the goals of coordination and the General Accounting Office undertakes an analysis of U.S.DOT/DHHS coordination efforts, more formal analysis of the coordination outcomes will assist both Congress as it crafts national transportation coordination policies and strategies and local transit/human services agencies as they seek to consider future implementation of coordination activities in their own communities.

Westat, in association with Nelson/Nygaard Consulting Associates, Inc., and Mobilitat, Inc., prepared this report for TCRP Project H-26. The project's primary objective was developing a document that would inform federal, state, and local officials and transit providers about the net economic benefits associated with various strategies and practices for coordinating health and human services.

The first task undertaken in achieving this objective was a focused review of literature on the costs and benefits of coordinating human transportation and transit services. The literature revealed (1) coordination practices that have measurable economic benefits and (2) federal, state, and local strategies including mandates, rules, and reg-

ulations that have an economic impact on coordination. A survey was conducted to identify agencies using innovative and successful coordination strategies and practices in rural, suburban, and urban regions. Based on the data collected, innovative and successful coordination strategies and practices that have wide applicability were identified. The report includes these strategies and practices, estimates of the national economic benefits of coordination, governmental actions that affect coordination, and ways to maximize the probability of successful coordination efforts.



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Abbreviations used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
NCTRP	National Cooperative Transit Research and Development Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
TCRP	Transit Cooperative Research Program
TRB	Transportation Research Board
U.S.DOT	United States Department of Transportation