

Transit Cooperative Research Program
Sponsored by the Federal Transit Administration
RESEARCH RESULTS DIGEST

April 2000—Number 37

Subject Area: VI Public Transit

Responsible Senior Program Officer: Gwen Chisholm Smith

Synthesis of Information Related to Transit Problems

This is a staff digest of the progress and status of TCRP Project J-7, "Synthesis of Information Related to Transit Problems," for which the Transportation Research Board is the agency conducting the research. Individual studies for the project are managed by Donna L. Vlasak, Senior Program Officer, with assistance from Stephen F. Maher, P.E., Manager, Synthesis Studies, serving under the Studies and Information Services Division of the Transportation Research Board, Stephen R. Godwin, Director.

BACKGROUND

The Transit Cooperative Research Program (TCRP) was established in 1992. The U.S. Department of Transportation proposed the TCRP, and it was authorized in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. On May 13, 1992, a memorandum agreement outlining operating procedures for the TCRP was executed by three cooperating organizations: the Federal Transit Agency (FTA); the National Academy of Sciences, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a non-profit educational and research organization established by the American Public Transit Association (APTA).

INTRODUCTION

Administrators, transit general managers and their staff, and researchers continually face problems on which much information already exists, either in documented form or in terms of undocumented experience and practice. Unfortunately, this information is often fragmented, scattered, and undervalued. Often it is unknown to the person normally responsible for making decisions related to the topic. As a consequence, full knowledge of what has been learned about a problem is frequently not brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

A storehouse of information exists on nearly every subject of concern to the transit industry. Much of this

information has resulted from both research and the successful application of solutions to the challenging issues faced by practitioners in their daily work. Because there has been no systematic means for compiling such useful information and making it available to the entire transit community, the TOPS Committee—an independent governing board organized by the TDC and designated the TCRP Oversight and Project Selection Committee—authorized TRB to undertake a series

Suggestions for synthesis topics may be sent to the TCRP Manager or Synthesis Staff at any time (see address on back). You can submit your suggestions at: <http://www4.national-academics.org/trb/synthesis.nsf>, under **SUGGEST a TCRP Synthesis Topic**. Topics suggested must be accompanied by a brief scope statement including a discussion of the problem (a paragraph or two). A title (preferably 10 words or less) and the name and affiliation of the submitter are also necessary. Identification of information sources would also be appreciated. Suggestions for updates of published syntheses would also be appreciated. If a topic is not selected, the problem statement must be resubmitted the following year to be considered.

Interested in writing a synthesis? For details contact Donna L. Vlasak by e-mail at dvlasak@nas.edu or by phone at 202/334-2974 or Stephen F. Maher, P.E., at smaher@nas.edu or by phone at 202/334-3245.

of studies to search out and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in the subject areas of concern. Reports from this endeavor constitute a TCRP report series, Synthesis of Transit Practice, that collects and assembles the various forms of information into single concise documents pertaining to specific transit problems or sets of closely related problems.

THE SYNTHESIS PROGRAM

This synthesis series reports on various practices, making recommendations where appropriate. Each document is a compendium of the best knowledge available on measures found to be successful in resolving specific problems. To develop these syntheses in a comprehensive manner and to ensure inclusion of significant knowledge, TRB analyzes available information assembled from numerous sources including a large number of transit agencies. A panel of experts in the subject area is established to guide the researchers in organizing and evaluating data collected on each topic and to review the synthesis report.

For each topic, the project objectives are (1) to locate and assemble documented information; (2) to learn what practice has been used for solving or alleviating problems; (3) to identify all ongoing research; (4) to learn what problems remain largely unsolved; and (5) to organize, evaluate, and document the useful information that is acquired.

Each synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that which is now on hand; eventually the synthesis may need to be updated or redone. If you believe that a synthesis should be updated, it would be appreciated if you would contact TRB and let us know.

Selection of Topics

TCRP Project Committee J-7 meets each year to select topics for study using funds from the upcoming fiscal year. The membership of this committee is given in Table 1. Current funding allows for initiation of approximately four syntheses per year.

The following factors are considered in the selection process for synthesis topics:

- The problem should be widespread enough to generate broad interest in the synthesis.
- The problem should be timely and critical with respect to economic impact, safety, or social impact.

- The problem is appropriate if current practice is non-uniform or inconsistent from agency to agency, or if the validity of some practices appears to be questionable.
- The quality and quantity of useful available information should indicate a need to organize and compress that which has already been learned and written on the topic.
- The topic should not be one where ongoing research or other activities in progress might be expected to render the synthesis obsolete shortly after completion.

The continued success of this project depends on a constant supply of worthy synthesis topics. The interest of those who have recommended topics is sincerely appreciated, and they are urged to continue. Candidate topics are suggested by members of the J-7 committee and by a variety of other sources, including transit officials, equipment and service suppliers, research organizations, FTA, APTA, and TRB Committees.

Conduct of the Studies

Throughout the year, following the J-7 project committee's selection of topics, studies are initiated in the order of priority assigned by the committee. A panel consisting of practitioners and researchers is formed for each topic. At its first meeting, this topic panel thoroughly discusses the topic, refines the tentative scope, suggests sources of information, and selects potential topic consultants.

Following this meeting, an agreement is negotiated with a consultant to gather information on the topic, synthesize it, and draft a report. Typically, the agreement covers a period of 15 months. Information gathering and preparation of the first draft of the synthesis report usually takes 8 months. This draft is then reviewed by the topic panel with the consultant, often at a second panel meeting. Subsequent drafts and a meeting are scheduled if needed, although this rarely occurs.

After the staff is substantially satisfied with the report, a final draft is sent to the members of the TCRP Project Committee J-7 for their approval. At the same time, members from the topic panel have their last chance to review the report. Comments from these reviews are incorporated into the final report, which is usually published as a TCRP Synthesis of Transit Practice.

Studies in Progress as of April 2000

Work is currently under way on the topics listed in Table 2. Questions on these topics should be addressed to the Project Study Manager, Donna L. Vlasak (e-mail: dvlasak@nas.edu and 202/334-2974) or the Synthesis

Studies Manager, Stephen F. Maher, P.E. (e-mail: smaher@nas.edu and 202/334-3245).

Available Publications

The Syntheses of Transit Practice that have been completed under this project are listed in Table 3. Copies of these syntheses can be obtained from the Publications Office, Transportation Research Board, 2101 Constitution

Avenue, N.W., Washington, D.C., 20418; by calling 202-334-3213; and through the Internet at: <http://www.nationalacademies.org/trb/bookstore>. Please send check orders to: TRB, Lockbox 289, Washington, D.C., 20055.

Index of Topic Studies

Table 4 is an index of published syntheses.

TABLE 1
TCRP PROJECT COMMITTEE J-7

	Name	Affiliation
Chair	Patricia V. McLaughlin	MIG, Inc., Pasadena, CA
Member	Gerald L. Blair	Indiana County Transit Authority, Indiana, PA
Member	Kenneth J. Dueker	Center for Urban Studies, Portland, OR
Member	L.G. Fuller	Transpo Enterprises, Inc., Dallas, TX
Member	Henry Hide	Brown & Root Rail, Surrey, England
Member	Wade Lawson	South Jersey Transportation Authority, Atlantic City, NJ
Member	Frank T. Martin	Valley Transportation Authority, San Jose, CA
Member	Jack Reilly	Capital District Transportation Authority, Albany, NY
Member	Beverly A. Scott	Rhode Island Public Transit Authority, Providence, RI
Member	Robert E. Spicher (Liaison)	Transportation Research Board, Washington, D.C.
Member	Richard P. Steinmann (Liaison)	Federal Transit Administration, Washington, D.C.

TABLE 2
SYNTHESIS STUDIES—In Progress as of April 2000

No.	Title
SA-11	Transportation on College and University Campuses
SA-12	Electronic Surveillance Technology on Transit Vehicles
SB-5	Communicating with Persons with Disabilities in a Multimodal Transit Environment
SB-6	Use of Small Buses in Transit Service
SF-7	Successful Practices for Driver Hiring, Training, Performance Evaluation, and Retention
SG-7	Identifying and Reducing Fraudulent Third Party Tort Claims Against Transit Agencies
SH-2	Use of Flexible Funding Under ISTEA and TEA-21

TABLE 3
PUBLISHED TCRP SYNTHESSES

No.	Title/Pages/Price
1	Safe Operating Procedures for Alternative Fuel Buses (1993) 48 pp., \$16.00
2	Low-Floor Transit Buses (1994) 43 pp., \$12.00
3	Incentive Programs to Improve Transit Employee Performance (1994) 44 pp., \$12.00
4	Integration of Bicycles and Transit (1994) 58 pp., \$12.00
5	Management Information Systems (1994) 77 pp., \$19.00
6	The Role of Performance-Based Measures in Allocating Funding for Transit Operations (1994) 52 pp., \$11.00
7	Regulatory Impacts on Design and Retrofit of Bus Maintenance Facilities (1994) 50 pp., \$12.00
8	Retrofit of Buses to Meet Clean Air Regulations (1994) 48 pp., \$12.00
9	Waste Control Practices at Bus Maintenance Facilities (1995) 26 pp., \$10.00
10	Bus Route Evaluation Standards (1995) 54 pp., \$12.00
11	System-Specific Spare Bus Ratios (1995) 46 pp., \$12.00
12	Transit Bus Service Line and Cleaning Functions (1995) 48 pp., \$14.00
13	Risk Management for Small and Medium Transit Agencies (1995) 31 pp., \$13.00
14	Innovative Suburb-to-Suburb Transit Practices (1995) 50 pp., \$14.00
15	System-Specific Spare Rail Vehicle Ratios (1995) 43 pp., \$13.00
16	Changing Roles and Practices of Bus Field Supervisors (1996) 45 pp., \$13.00
17	Customer Information at Bus Stops (1996) 64 pp., \$18.00
18	Bus Occupant Safety (1996) 55 pp., \$15.00
19	Passenger Transfer System Review (1996) 37 pp., \$14.00
20	Transit-Focused Development (1997) 55 pp., \$16.00
21	Improving Transit Security (1997) 36 pp., \$15.00
22	Monitoring Bus Maintenance Performance (1997) 48 pp., \$16.00
23	Inspection Policy and Procedures for Rail Transit Tunnels and Underground Structures (1997) 95 pp., \$25.00
24	AVL Systems for Bus Transit (1997) 47 pp., \$16.00
25	Light Rail Vehicle Compression Requirements (1997) 34 pp., \$15.00
26	Bus Transit Fare Collection Practices (1997) 29 pp., \$14.00
27	Emergency Preparedness for Transit Terrorism (1997) 73 pp., \$21.00
28	Managing Transit Construction Contract Claims (1998) 50 pp., \$17.00
29	Passenger Counting Technologies and Procedures (1998) 50 pp., \$23.00
30	ADA Paratransit Eligibility Certification Practices (1998) 38 pp., \$16.00
31	Paratransit Contracting and Service Delivery Methods (1998) 35 pp., \$16.00
32	Transit Advertising Revenue: Traditional and New Sources and Structures (1998) 58 pp., \$20.00
33	Practices in Assuring Employee Availability (1999) 69 pp., \$27.00
34	Data Analysis for Bus Planning and Monitoring (2000) 62 pp., \$27.00
35	Information Technology Update for Transit (2000) 98 pp., \$31.00

TABLE 4
INDEX TO SYNTHESIS AND STUDIES*

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*Simple numbers represent published syntheses; alphanumeric designations represent studies in progress.

These **Digests** are issued in order to increase awareness of research results emanating from projects in the CRP. Persons wanting to pursue the project subject matter in greater depth should contact the Cooperative Research Programs Staff, Transportation Research Board, 2101 Constitution Ave., NW, Washington, DC 20418.

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