

# Research Needs Statement

Edward L. Thomas  
Urban Mass Transportation Administration  
Washington, D.C.

## ONGOING RESEARCH IN TRANSIT FINANCE

Rather than discuss future research needs, I thought I would take this opportunity to discuss research and technical assistance activities being offered, developed, or planned by UMTA. Future research needs will undoubtedly be brought out in the conference proceedings and summarized by Arturo Politano.

This conference is among numerous efforts UMTA is using to provide technical assistance in the area of transit finance. Other activities include (a) case studies of successfully implemented local transit financial plans, (b) a guide for forecasting nonfare revenue, (c) major investment project planning guidance, (d) a handbook on financial management for transit, (e) a guide for forecasting cost and fare revenue, and (f) various courses. We believe the other activities being pursued are complementary with this conference, since they touch on the themes of the four conference workshops. The following is a brief description of each activity, and are the primary activities being pursued by the UMTA Office of Technical Assistance.

### Case Studies in Nonfederal Funding for Transit

In this project, UMTA commissioned an analysis of six cases where primarily nonfederal funding was used for capital projects and operating programs. The cases considered are Houston park-and-ride lots; Montgomery County, Maryland, Ride on System; San Francisco BART Embarcadero Station; Los Angeles County Long Beach LRT, Washington, D.C., Metrorail Joint Development; and Denver Mall.

The case studies document the content of the financial packages put together; the rationale for deciding on the content; and the various technical, political, and institutional issues encountered during the implementation process. A draft report has been prepared and the final report is expected soon.

### Forecasting Nonuser Charge Revenue

The primary aim of this research is development of a technical assistance guide on financial forecasting. It will present an improved methodology for forecasting revenues and describe how to integrate this methodology into established analytic techniques for urban transportation planning. This forecasting guide will cover the full range of revenue sources including broad-base taxes (sales, income, and property taxes), user charges (tolls, gas, and parking taxes), benefit and cost sharing strategies (special assessment districts, connector fees, and joint development projects), and borrowing strategies (conventional bonds, equipment trust certificates, industrial bonds, and revenue anticipation notes). Other products of this research are materials to support ongoing courses being offered by UMTA and the Federal Highway Administration (FHWA), and recommendations on enhancements to existing microcomputer software

for financial forecasting and also on new software that might be needed. This guide is scheduled for completion in September 1985.

### Project Planning Guidance

UMTA is sponsoring the development of a series of guides to assist agencies undertaking project development activities in accordance with UMTA's major capital investment policy. The finance-related guides include ones on estimating capital and operating and maintenance (O&M) costs and financial planning for major capital investments. The cost estimation guides will explore the various techniques of cost estimation, recommend best professional practice, and provide data on recent experiences. The financial planning guide will provide a systematic methodology for developing the financial information necessary during systems planning, alternatives analysis, preliminary engineering, and final design. Emphasis will be placed on the analysis of alternative sources of financing, the development of annual cash flow statements, reasonability checks on service plans, construction schedules, cost estimates, patronage forecasts and revenue projections, and also on guidelines for implementing financial programs. A survey of transit bond financing experiences will be a key effort in developing the financial planning manual. The development of the financial planning manual is just getting under way and a final report is not expected before May 1986.

### Financial Management Handbook for Transit Operators

The UMTA University Research Program is sponsoring the development of a financial management handbook for transit operators. This handbook is being prepared by the Indiana University Institute for Urban Transportation. The handbook is an outcome of the Institute's course on financial management for transit. It will cover the fundamentals of financial management including accounting principles, data requirements, budget development, cash management, risk management, pension management, and inventory and cash control. For further information on this manual or the course, contact George Smerk at Indiana University (telephone: 812-335-8143).

### Forecasting Transit System Operating Costs and Revenues

UMTA is offering a course on forecasting costs and revenues for transit operators. The course is organized around five methods of estimating driver costs, maintenance costs, general and administration costs, fare revenue, and nonfare revenue. The course critiques the forecasting procedures for each method, discusses problems in data manipulation, and identifies the influence of policy initiatives like alternative fares, changes in work rules, and the amount of service provided. The course also contains application problems for the participants and a demonstration of one of

the methods using a desk top microcomputer. Each method will be documented in a technical report. The report on driver cost estimation is the nearest to completion. Further information on the course can be obtained from the UMTA Office of Methods and Support (telephone: 202-426-9271). Because of the technical orientation of this course, it is recommended for technical staff and program managers.

#### Seminar on the Role of Mayors in Transit Finance

These seminars, to be developed by the U.S. Conference of Mayors, will inform mayors and their staffs of the causes behind the financial problems facing transit systems, the various solutions to these problems, and the contributions they can make in evaluating and implementing transit financial programs. The seminars will be offered through the Conference of Mayors' Research and Education Foundation. Plans are to offer the seminars at the Conference of Mayors' Annual Meeting, Regional Meetings, and Mayors' Leadership Institute Training Sessions.

#### UMTA OFFICE OF GRANTS MANAGEMENT

The UMTA Office of Grants Management is also supporting research in areas related to transit finance. Examples of the projects include:

- Market, feasibility, and pro forma study for development at Elizabeth, New Jersey, commuter rail station
- Planning for innovative financing through the use of MPOs and workshops
- State options for transit financing
- Options for financing the east urban line trolley (San Diego, California)
- Statewide program for maximizing income from transit land assets through joint development (Connecticut)
- Interactive graphics computer system for land management
- Case study of air rights development integrated with an intermodal terminal
- Case study of Turnkey Park-and-Ride lots (Houston, Texas)
- Financing transit infrastructure in a time of fiscal constraints
- Complementary private transit services through transportation management associations
- National Cooperative Transit Research Program—Benefit-Cost Sharing Project
- University Research Program