

Dissemination of Information

In general, a need exists to improve the dissemination of the results of research and planning studies and to present this information in a form that is easily accessible and understandable by professionals on a broad level.

RESEARCH SEMINAR

Lester A. Hoel
Carnegie-Mellon University, Pittsburgh

John B. Schnell
American Transit Association, Washington,
D.C.

Although there exists today an overriding concern with current financial problems within the transit industry, the need for research is clearly evident. For example, a major deficiency of the railroad industry was a failure to engage in basic research. Instead, there was a heavy emphasis on immediate problems, and as a result fundamental technological studies such as wheel-rail interface analysis and tunnel ventilation are just beginning to be completed in this country. Accordingly, the viewpoint of the group was that, in addition to the crisis atmosphere surrounding public transit today with its attendant fiscal problems, a concerted research effort to determine the role and capabilities of various urban transportation alternatives within the next decades should be undertaken.

A balance between technological research and institutional factors should be considered. Although technological research into new systems of transportation is an important part of the continued activities in the urban transit area, the institutional, political, social, and economic factors have the largest impact on the ability to solve present and future transportation problems. The issues can be exemplified by determining, for example, what the effect will be of the elimination of a particular type of service such as the effect that would occur when there is a strike. The focus on the consumer—his needs, demands, and preferences—and the potential problems that the consumer has in improving his mobility are aspects of transit research.

The dissemination of the results of research that already exists, together with a better interchange of information, is an important part of research activity. Current results, if known and used, could result in the better application of present technologies and systems and an earlier solution to transit problems. The gap between practice and research must be bridged so that the researcher understands the needs of the practitioner and the practitioner understands the techniques, approaches, methodologies, and results that can be expected from research. There is a great deal more that can be done with what we now know and what we already have if this information can be better harnessed.

The potential of the taxi industry should not be overlooked. The taxi should be viewed as a transit mode. Better integration with other transit facilities as well as innovations in security and surveillance should be considered as research areas.

Many strategies must be defined with respect to the application of different transit technologies. For example, the solutions that are appropriate in small cities are different from those in medium cities, and order of magnitude results should be known that can be implemented easily and at low cost. How do the various subsystems fit together? In what way can systems design be better utilized to improve performance? What are the relative roles of various technologies, and where are they best applicable?

Additional research needs concern the impact of labor in urban transportation and its effect on new systems development, for example, demand-responsive systems. Motivation and behavior, together with means of improving productivity and the participation

of the labor force in services that the transit industry performs, are areas for study. Manpower needs, training requirements, and the employment of minorities should be determined. Estimates are required to determine the present and projected manpower needs of the transit industry for managers, professionals, clerks, supervisors, and operators.

The effectiveness of nontransportation alternatives in achieving stated objectives should be better understood. A definition of the alternatives and their effects and implications should be sufficiently explored so that the entire range of transit alternatives is considered as part of a systems analysis process. For example, the effect on modal split of increasing tolls or eliminating parking in the downtown business district is an area of needed research.

Subsidies for urban transit should be fully studied. How are they justified, and for whom? What will they be used for? What level of participation is appropriate from local, state, and federal governments? The mechanism for determining priorities within an urban area and for developing citizen participation in the planning process must be more carefully understood. The role of the planner and the engineer in the process of determining transportation alternatives is a subject of continual change and one that should be better understood.

A strong consensus was that we should be doing more research in urban transit. There should be a better understanding of what we mean by research and an improved dialogue among the researcher, the transit manager, and the user. There should be improved mechanisms for dissemination of results of work already completed, and these should be incorporated into all aspects of transit operations.

The following is a list of suggestions for research propounded by participants in the seminar. This list of subjects does not imply a relative degree of importance or the seminar participants' knowledge of the extent of research in the subject area.

1. Vehicle locator systems and how these systems can be made sufficiently accurate and economical for both demand-responsive bus systems and taxis;
2. How the transit industry and the taxi industry can complement each other for the most efficient supply of transportation to serve the public;
3. How the transit system officials, planners, consultants, and others can educate elected municipal officials of communities in which small bus systems may go out of business to prevent the last-minute rescue operations or, worse, the discontinuance of all service;
4. Taxing aspects of transportation elements, including rail, bus, and taxi;
5. In UMTA service development projects, standards to be used in agreements with municipal officials concerning the levels of ridership and costs of service in which the municipality will agree to continue the service after the demonstration period is concluded;
6. Fare counting, passenger registration, and measurement of passenger miles;
7. Standard or comparable transit industry accounting systems;
8. Standards of service versus time of day, types of service, region, or type of city;
9. Methods for measuring improved "service-to-society" aspects of labor-management negotiations and fairness and equity of collective bargaining arrangements with regard to area labor rates and benefits;
10. Means of providing new types of service such as demand responsive without labor standards that augur against such innovative service, for example, the practice of rebidding jobs every 90 to 180 days;
11. Means of establishing pride in work, respect in community, and longevity in employment;
12. Means of establishing social, recreational, welfare, and employment values of a transit system to the community;
13. Means of measuring alternative transport such as using taxis or buying everyone a car;
14. Noncapital means of promoting transit, such as increasing tolls and parking fees or spreading the peak hour;

15. Maximum level of ridership that can be developed if a very high level of transit service is provided;

16. Appropriate ranges of marketing expenditures as a percentage of operating expenses for various population groups and types of service;

17. How best to conduct a "transportation academy" or a series of regional universities that will include the many varied functions of a transportation academy;

18. Means for evaluating a city's transportation and transit network, including walking distance to transit service, waiting time, travel time, waiting time for a transfer vehicle (if applicable), riding time, walking time to destination, quality and comfort level of the transit trip, safety and passenger security of the trip, cost of the trip (whether the cost is only the fare or whether it involves all of the operating costs as included in any subsidized or "absorbed" costs), and social benefit with regard to the use of the system by the transit deprived;

19. Means of interfacing existing transport systems with future personal rapid transport systems;

20. Means of encouraging an intensive PRT system to be constructed in Europe, Asia, or South America so that the effect of the human values, transfer questions, and construction costs can be analyzed somewhere other than in the United States; and

21. Means of testing a transit system (as described in areas 15 and 20) by the intensive use of buses on extremely short headways in a medium-sized community (one of the advantages of such a study might be the consideration of how best to accomplish the cross-jurisdictional decision-making necessary for such an intensive and comprehensive project).

EDUCATION AND TRAINING SEMINAR

William L. Grecco
University of Tennessee, Knoxville

Gilbert T. Satterly, Jr.
Purdue University, Lafayette, Indiana

In the dictionary, one can find the word "training" in the definition of education, and some believe the terms to be synonymous. The difference used for this report is that education is oriented to mind development while training indicates exercise or practice in order to develop skills. The objective of this seminar was to determine the educational and training needs of the public transportation industry. One way to determine the needs of an industry is to identify all the components of that industry and then to examine in detail the specific needs of each component.

TRANSIT OPERATING AND MANAGEMENT FIRMS

The types of skills required to operate a public transportation firm can be classified as either management or operating. Most positions, from the vehicle operator to the top manager, can be plotted along this continuum. Each job will, to varying degrees, require some of both management and operating skills.

The specific needs of the transit operating firm vary depending on whether it is bus transit or rail rapid transit. Because of the large number of them in this country, bus transit systems will be used as an example. Positions required to operate a bus system that are somewhat unique to that industry were discussed; common positions such as bookkeepers and stenographers were not included. The greatest need of the bus transit industry is for bus drivers. The problems are typically ones of recruitment, training, and retention.