

will be more and more important, especially if transportation services by agencies being funded by state and local sources are to be effectively used to serve the elderly. Integration of these transportation services needs to be coupled with a multifaceted approach that includes a variety of transportation services, such as dial-a-ride, cooperative ownership and vehicle use, and pooling, that are tailored to the specific needs of clients and are reasonably cost-effective.

Studies of transportation services for the elderly, especially specialized services, indicate a considerable use of volunteers and contracting with the private sector (4). Interest in these two areas has intensified during the last several years; neither is without problems and difficulties. They are not a panacea for providing transportation to the elderly or for solving all the related problems. However, they do represent a potential that needs to be tapped more intensively than in the past, and the stimulus of constrained budgets at the state and local levels should encourage greater exploration of efforts in these directions.

#### REFERENCES

1. W.G. Bell and J. Revis. Transportation for Older Americans: Issues and Options for the Decade of the 1980s. U.S. Department of Transportation, 1984. Forthcoming.
2. Population Profile of the United States: 1980. Series P-20, No. 363. U.S. Bureau of the Census, 1980.
3. W.G. Bell and J.S. Revis. Report of the Mini-Conference on Transportation for the Aging, October 1980. White House Conference on Aging, Washington, D.C., 1981.
4. Institute for Public Administration and Ecosometrics, Inc. Improving Transportation for Older Americans, Vol. 1: General Report. U.S. Administration on Aging, Sept. 1980.
5. Federal Register, Vol. 48, No. 175, Sept. 8, 1983.
6. B.L. Neugarten. Policy for the 1980s: Age or Need Entitlement. *In Age or Need? Public Policies for Older People*, B.L. Neugarten, ed., Sage Publications, Beverly Hills, Calif., 1982.
7. J. Revis. Transportation and Employment for Older Americans. National Committee on Careers for Older Americans, Academy for Educational Development, Washington, D.C., Nov. 1978.
8. Institute of Public Administration. Transportation for Older Americans: A State of the Art Report. U.S. Administration on Aging, April 1975.
9. Population 1970. Final Report PC-91-B1. U.S. Bureau of the Census, 1970.
10. M. Wachs. Transportation for the Elderly: Changing Lifestyles Changing Needs. University of California Press, Berkeley, 1979.
11. Public Works Infrastructures: Policy Considerations for the 1980s, Chapter III: Public Transit. Congressional Budget Office, Congress of the United States, April 1983.

## Marketing Functions in Human Service Agency Transportation

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#### ABSTRACT

Human service agency transportation (HSAT) is the title given to a family of specialized transportation services that have been developed to provide better mobility for clients of human service agencies. Historically, marketing for nonprofit organizations such as HSAT has either been ignored or reduced to a minor function. More recently it has been recognized that even organizations that are not in the private sector need to have a consumer orientation. They should identify their potential customers, analyze the needs of their clients, design an attractive product, and then promote this product. In short, the nonprofit sector needs a marketing program. The first objective is to describe the origin, development,

and current status of HSAT and how these factors affect the marketing environment. The other major objective is to describe how marketing functions are conducted by these transportation systems.

A wide range of nonprofit agencies is responsible for the delivery of social, health, and welfare services to special groups such as the elderly, the handicapped, the developmentally disabled, and the poor. Many of these human service agencies have determined that transportation for their clients is a

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serious problem. Often an agency has opened its doors for business and rapidly found that it was able to serve only a fraction of its potential client group because of access problems. This usually stems from the client's lack of an automobile and from a lack of adequate public transportation (1).

Many solutions to agency client transportation problems have been attempted, resulting in a plethora of local special transportation services. These services constitute a relatively young but significant sector called human service agency transportation (HSAT). HSAT may be defined as client transportation systems of human service agencies that are provided or financed primarily for the purpose of improving the mobility of the agency's clientele. This sector is also referred to by other names such as client transportation systems or social service transportation.

These transportation systems take several organizational forms. First, and most commonly, transportation is simply integrated into the existing human service agency structure. Because local agencies are usually small, these single-agency transportation systems rarely operate more than 10 vans, and two to four vans are usual. A small transportation unit within the agency provides service to agency clients for the purpose of facilitating access to agency programs. In these situations the person in charge of transportation usually has several other program responsibilities, although when a system grows to more than five vehicles, a full-time transportation manager is often put in charge of the system.

A second organizational form occurs when several agencies consolidate their systems to achieve economies of scale as well as other expected benefits of consolidation (2). The consolidated transportation agency can be an independent entity or a component of an existing human service agency. Consolidated agencies may operate several hundred vehicles and have budgets of more than \$10 million or they can be much smaller.

In recent years many of these agency-run systems have been supplemented or superseded by city- or county-operated systems. These municipally owned systems often combine a transportation service that is oriented toward agency clients with one that serves members of the general public who are not associated with any human service agency, such as the elderly and the handicapped.

These variations in organizational form mean that the appropriate marketing strategy is somewhat different for each type of system. Other aspects of social service transportation also have an impact on how marketing functions are done, who should do them, and the importance of each function to the organization.

#### MODERN MARKETING CONCEPTS

The reviewing of how HSAT does marketing goes beyond the narrow concept that marketing is synonymous with selling and promotion. As Kotler puts it "selling is just the tip of the marketing 'iceberg'" (3, p. 6).

The modern private-sector organization recognizes that selling is only one function of marketers. Rather than focusing on selling and promotion, the orientation is toward serving consumer needs (4). A first step in this process is understanding the markets. Next, the organization must attract resources and convert them into products, services, and ideas that are responsive to the demands of the markets. The final step is the effective distribution of the organization's output to the consumers.

A central theme of this approach is the mechanism of exchange (5), which allows the producer and the consumer to transfer something of value to acquire what they need. This leads to the following definition of marketing:

Marketing is the analysis, planning, implementation, and control of carefully formulated programs designed to bring about voluntary exchanges of value with target markets for the purpose of achieving organizational objectives. It relies heavily on designing the organization's offering in terms of the target markets' needs and desires, and on using effective pricing, communication, and distribution to inform, motivate, and service the markets (3, p. 6).

This consumer orientation and exchange perspective can be applied to human service agency transportation. However, because this is a nonprofit sector, there are several aspects that call for special attention.

#### INFLUENTIAL CHARACTERISTICS

There are four influential characteristics of nonprofit agencies reviewed by Kotler (3, p. 9).

##### Multiple Publics

There are three primary publics to which HSAT must be responsive: agencies whose clients are users of the system, the clients themselves, and government and private entities that provide funds for their operation. From a marketing perspective, each of these publics has a different set of needs that must be considered. This is different from a private organization whose primary public is its customers.

##### Multiple Objective

Having multiple publics results in multiple organizational objectives for HSAT. The clients' major objective for the service is improved mobility. However, they have a qualitatively different orientation toward the service than most users of public transportation because (a) they may be going to receive life-sustaining assistance, (b) the service is personalized, and (c) the trip itself may have a social value that is independent of its linking function. These factors tend to intensify client attachment to the system.

Human service agencies should have their own sets of objectives for their client transportation systems. For a marketing program to be responsive to these organizational objectives, they must be clear and unambiguous as well as attainable by the organization. Mainly because of their multiple constituencies, human service agencies seem to have difficulty developing an implementable set of objectives.

Funding agencies have their own agenda that, invariably, is related to their sources of funding. For government agencies, which are disbursing public monies, the major stated concerns are the proper use and control of funds. Political considerations are also prevalent although these are not often explicitly stated.

Private funding sources are also concerned with how their grants are being used; however, these grants usually contain far fewer stipulations and requirements than do government contributions to human service agencies.

### Services Rather than Physical Goods

The product of HSAT is a service rather than a good. The evaluation of these services by the multiple publics is much more subjective than it is with goods because many attributes of the service are intangible.

Another characteristic that impinges on the marketing of the product is that it is perishable. Empty seats on a vehicle result in an underused resource because this service cannot be stored.

### Public Scrutiny

Public-sector organizations are constantly exposed to public scrutiny. This is especially true for HSAT because of the high visibility of the vehicles in the community. It is this visibility that has led directly to the current trend toward coordination and consolidation of services. Underused vehicles advertising their agency names in bold lettering have attracted the attention of many public officials who believe that coordination or consolidation of services will be more efficient and effective than single-agency operation (2).

### MARKETING TASKS

All agencies involved in transporting their clients perform some marketing tasks. However, agencies typically do not perform each task uniformly well, nor are marketing functions well integrated into the other management activities of the organizations.

In this section each of the essential marketing functions for HSAT is described. The review of each function is not meant to serve as a how-to manual but rather to identify specific activities that are (or should be) conducted under each function. In cases where organizational form or size influences the particular function being discussed, how the different types of organization would need to modify their approach will be indicated.

### DEVELOPING A MARKETING PLAN

For the marketing function to be effective, management must develop a marketing plan that indicates each of the marketing activities, what each activity will cost, when it will be conducted, and who in the organization is responsible for each component. The formulation of a comprehensive marketing plan is a difficult process for HSAT, as it is for most non-profit organizations. The plan may be in the head of the system's general manager, but usually it is not formalized and scrutinized by others in the organization. The agency may know that a survey will be conducted and that some promotional efforts are needed, but there is no comprehensive plan for all these activities.

It is unrealistic to expect that such a plan will be in place when an HSAT organization commences operation. Nonprofit organizations tend to develop a more sophisticated planning process as the need for an annual plan is recognized (3, p. 174). In the early stages the budgeting process represents the organizational plans. Each department's budget must be based on some notion of the activities it will conduct. A budget is prepared that reflects those activities and the funds that are expected to be available.

The larger HSAT organizations will soon progress to a project-planning phase, where plans are developed for individual projects such as a client pro-

file or a review of the pricing system. What is needed is for HSAT to progress to an annual marketing plan and, ultimately, to a point where the annual plan is a reflection of a long-range strategic plan that takes the broadest possible view of the opportunities for the organization to meet its objectives (3, p. 175).

### CONDUCTING RESEARCH

Marketing research is performed to get important information on current and potential riders. Management wants to know who their clients are and what travel needs they have (6). This information will be used in the design of the service and as input to other marketing functions.

Maintaining an accurate inventory of the type of passengers the system is serving ensures that the provision of service is tailored to their needs and that the planning of service to meet those needs is based on actual data. An annual on-board survey of system users should be made to assess the quality of the service and to be certain that the agency is enhancing its clients' mobility. This can be done by including in the survey questions that ask the clients for their perceptions about the transportation service. Characteristics to be inventoried include

1. Age,
2. Sex,
3. Handicap,
4. Automobile availability,
5. Household characteristics (e.g., living alone or with family),
6. Availability of alternative travel modes,
7. Frequency of use,
8. Trip destinations,
9. Percentage of trips to major activity centers, and
10. Service quality measures.

Another type of research must also be conducted: Operational information on the service must be collected on a regular basis. Data on ridership by type of service and route are needed to enable management to evaluate the system. This research effort should be closely coordinated with the client research effort.

Data from these two research efforts must be used to evaluate and improve the service. The evaluation process will be discussed in another section of this paper.

### DESIGNING THE SERVICE

Human service agency transportation systems have correctly rejected the line-haul orientation of conventional transit in designing their services. This is appropriate. Although human service transportation agencies and conventional transit organizations are both nonprofit agencies, they have very different service objectives. For transit, the primary focus is moving masses of people at a reasonable cost. Social service agencies concentrate on the delivery of services to individuals. They also serve different target groups. Clients of HSAT are mostly the elderly, the handicapped, the developmentally disabled, the poor, and other disadvantaged persons. Conventional transit serves the general public but tends to focus on meeting the travel needs of commuters. Trip purposes are related to target groups. Transit concentrates on the work trip, HSAT on passenger access to medical services, counseling,

meals, and other life-sustaining activities.

These differences are manifested in service design. Services of HSAT are designed to be more demand responsive than those of conventional transit. The aspect of HSAT most essential in reflecting its consumer orientation is that it provides door-to-door service. Some HSAT services have been described as door-through-door to indicate that the drivers often accompany frail or disabled passengers from their homes to the vehicle and then into their destinations. Conventional transit achieves high efficiency because it attempts to serve heavily traveled corridors with line-haul service, which requires the travelers to congregate at designated stops. There are exceptions to this. Many conventional operators have attempted to take the "mass" out of mass transit by instituting demand-responsive dial-a-ride services. These more personalized services are very expensive on a per trip basis and, therefore, are not prevalent.

Human service agency transportation is more demand responsive in other ways as well. Transit routes and schedules are only infrequently changed, but HSAT vans are constantly being redirected. Although most HSAT vans are not controlled on a minute-to-minute basis by a dispatcher, a new customer request can usually be added to the service within 24 hr. Of course, the level of responsiveness of the service has a large impact on efficiency (7). In general, the more responsive a system is the higher its cost will be per passenger served.

There are numerous other design parameters. Some of these are beyond the control of the agency. For example, the geographic area to be served will usually be dictated by the location of the agency and the location of client residences. Similarly, operating hours are dependent on the hours of the agency, except for trips that are not agency related. Eligibility criteria are also dictated by the agency. Choices about vehicle use, wages to pay drivers, and limitations on trip purposes are those over which the agency has more control. An exhaustive discussion of the system design parameters is given by Einstein (8). His analysis also includes a review of how each of the design choices will affect the performance of the system.

#### EVALUATING AND IMPROVING SERVICES

Input to the evaluation process consists of data from the research efforts, previously discussed, as well as financial and operational information. Using this information, management can calculate performance measures for the entire service or for any component of it (9). The performance measures or indicators must meet two basic criteria: They must be derived from the goals and objectives of the system, and they must be based on reliable data that are readily available at a reasonable cost. Unfortunately, for human services in general and HSAT in particular, these criteria are difficult to meet. The problem of having multiple objectives has already been discussed. The other problem, lack of reliable data, is endemic to human services. Cooper and McIlvain (10, p. 14) report that human service organizations have the lowest level of data sophistication and availability of eight classes of nonprofit organizations. However, recent efforts at developing microcomputer-based management information systems for HSAT should provide better evaluation data in the future (11).

When HSAT agencies have developed a set of objectives, often in the form of a mission statement, they usually mention the concepts of efficiency and effectiveness. Using transit industry definitions,

the term efficiency relates to how well the available resources, in terms of labor and capital equipment, are being used. Thus, the cost per service hour would be a measure of how cost efficient the agency is in operating its fleet of vehicles. The effectiveness concept includes concern about how well the system is used by passengers. Thus, a primary measure of effectiveness is cost per passenger trip (12). Both efficiency and effectiveness indicators should be used in the evaluation process.

The basis for the evaluation process is shown in Figure 1. This diagram illustrates the key role of the evaluation mechanism in the operation of HSAT. Management should use the evaluation process to determine how well the system is meeting its multiple goals and objectives. The key to the entire process is the feedback from the evaluation process to system operation. Modifications to the system should be based on evaluations, or the evaluation process has little value. Evaluations serve to focus attention on problem areas and to guide management in making improvements to the service. Changes to the service could include revisions in the way dispatching is done, modifications to schedules and routes, and adjustment of service hours.

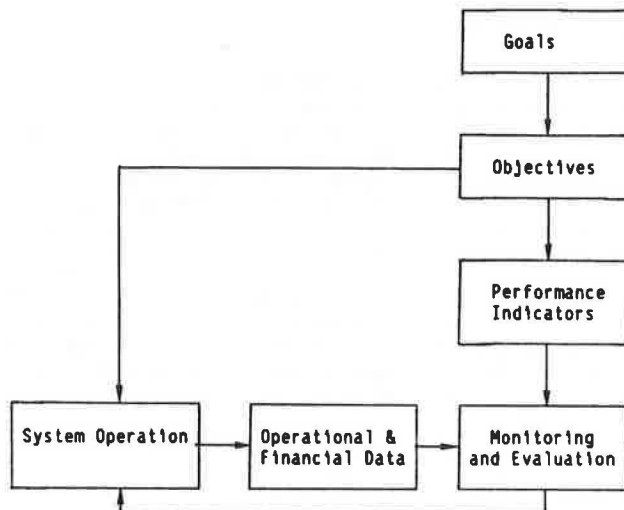


FIGURE 1 Basis for evaluation process.

#### PRICING SERVICES

For most nonprofit agencies the question of how much to charge for their product has been particularly difficult to answer in recent years. The financial difficulties faced by all levels of government are forcing agencies to reevaluate the extent to which users should pay for tax-supported services (13, p. 190). User charges have been of great concern to public transportation agencies because of increasing costs and large government subsidies.

However, for the single-agency situation, pricing the HSAT service is subject to a set of conditions different than those for public transportation. Riders sponsored by social service agencies do not pay any fare out-of-pocket because the participating agencies pay for the full cost of operating the system.

In the situation where fares are to be charged, Einstein (8, p. 54) suggests that the following conditions are significant:

1. Users must be able to afford fares;
2. Funding sources must permit fares;

3. Insurance policies must cover the increased liability associated with fares; and

4. The operating organization must be able to collect, count, and redistribute the revenues.

What must be added to this is the political dimension. Public policy, which reflects community sentiment, is likely to be willing to provide HSAT at low or no cost to the users. This is so even though the services are extremely costly to operate. Passengers of HSAT rarely pay more than 20 percent of the cost of the service.

#### PROMOTING THE SYSTEM

Promotional programs also reflect differences in service orientation between conventional transit and HSAT. Media advertising is justified for conventional transit because the general public is the customer. Customers of HSAT do not usually have to be convinced to ride the vehicles. For single agencies transporting only their own clients, no promotional efforts directed to clients are necessary. Of course, this does not negate the need for good public relations.

The promotional effort of a multiple-agency consolidated system should be concerned with selling additional agencies on using the system. In this situation the agencies, rather than individual clients, are making the choice about which transportation service to use. This is somewhat similar to the industrial marketing situation where organizations, rather than individuals, are making the choices about the products and services they want to purchase from other organizations (14,15).

A promotional effort to attract passengers might be indicated in one situation: when a service is being offered to non-agency-related elderly or handicapped persons. However, what usually occurs in this case is that the transportation system has to restrict, rather than attract, passengers. When such a transportation service is initiated some media promotional efforts may be required to inform eligible passengers of the availability of the service. Inevitably the demand soon overwhelms the supply, and the problem becomes not how to get more passengers but, rather, whether to expand the service to accommodate excess demand or put some restrictions on its use. These restrictions are usually in the form of a limitation on the number of monthly rides an eligible client can request or a limitation on eligible trip purposes. Some systems have restricted access by means of an eligibility list, which is closed when the system is oversubscribed.

The need still remains to conduct promotional activities for community relations and general image building. This is part of the positioning concept recommended by Schauer (16). Typical devices used for this type of marketing include brochures, presentations to user and advocacy groups, press releases, face-to-face discussions with human service agency officials, newsletters, and information and referral services (8, p. 240).

#### CONCLUSION

Human service agency transportation has developed outside the conventional transit industry and exhibits significantly different marketing dimensions. Whereas a good many transit marketing efforts are oriented to capturing additional passengers, HSAT marketing is more concerned with providing a service that is responsive to the needs of agency clients.

Several themes suggested by some pioneers in the

area of nonprofit marketing have been discussed. These pioneers believe that "virtually everything about an organization talks" (17, p. 6). Thus, all HSAT agencies must have a marketing orientation if they are to succeed in meeting their mission of providing better mobility for the elderly, the handicapped, and other disadvantaged persons. The major concern raised in this paper is that of the deficiencies of the marketing function in HSAT.

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#### REFERENCES

1. D. Fleishman and M. Flusberg. Paratransit Services for the Transportation Handicapped. Multisystems, Inc.; UMTA, U.S. Department of Transportation, April 1982.
2. A. Saltzman. Coordination of Transportation by Human Service Agencies: An Interorganizational Perspective. University of California, Irvine, Jan. 1980.
3. P. Kotler. Marketing for Nonprofit Organizations. Prentice-Hall, Englewood Cliffs, N.J., 1982.
4. G. Smerk, S. Dodge, H. Gil, and C. Lee. Handbook for Management Performance Audits, Vol. 1: Theory and Technique. UMTA, U.S. Department of Transportation, Oct. 1979.
5. M.P. Mokwa. Government Marketing: An Inquiry into Theory, Process, and Perspective. In Government Marketing: Theory and Practice, M.P. Mokwa and S.E. Permut, eds., Praeger, N.Y., 1981.
6. G.M. Smerk and R.B. Gerty, eds. Mass Transit Management: A Handbook for Small Cities (revised), Vol. 4: Marketing. UMTA, U.S. Department of Transportation, Sept. 1980.
7. N. Einstein. Analysis of Existing Elderly and Handicapped Transportation Services, Vol. I. UMTA, U.S. Department of Transportation, 1980.
8. N. Einstein. Special Paratransit Service for Elderly and Handicapped Persons: Decision Manual for System Design. Office of Planning Assistance, UMTA, U.S. Department of Transportation, 1981.
9. S. Rosenbloom. Cost Analysis for Social Service Agency Transportation Providers. University Research and Training Program, UMTA, U.S. Department of Transportation, Jan. 1981.
10. P.D. Cooper and G.E. McIlvain. Factors Influencing Marketing's Ability to Assist Non-Profit Organizations. In Cases and Readings for Marketing for Nonprofit Organizations, P. Kotler, O.C. Ferrell, and C. Lamb, eds., Prentice-Hall, Englewood Cliffs, N.J., 1983.
11. J. Collura, D. Ferguson-Cope, and R. Bon-signore. The Use of a Management Information System to Improve Public Transit Efficiency in Rural Areas. Presented at the Ninth Annual Business and Economic Conference, Woburn, Mass., 5-6 Nov. 1981.
12. A. Saltzman. The Use of Performance Indicators by Human Service Agency Transit Operators. (Unpublished manuscript), School of Social Sci-

- ences and Institute of Transportation Studies, University of California, Irvine, Oct. 1977.
13. J.L. Compton. Public Services--to Charge or Not to Charge? *In* Cases and Readings for Marketing for Nonprofit Organizations, P. Kotler, O.C. Ferrell, and C. Lamb, eds., Prentice-Hall, Englewood Cliffs, N.J., 1983.
  14. W.J. Johnston. Industrial Buying Behavior: A State of the Art Review. *Review of Marketing*, Oct. 1981, pp. 75-88.
  15. M.K. Agarwal, P.C. Burger, and A. Venkatesh. Industrial Consumer Behavior: Toward an Improved Model. Presented at the Academy of Marketing Science Annual Conference, Miami, Fla., May 1981.
  16. P.H. Schauer. Marketing for Successful Public Transportation. *In* Sue F. Knapp, Hannah Worthington, and Jon E. Burkhardt, Wisconsin Manual to Coordinate Elderly and Handicapped Transportation Services in Rural and Small Urban Communities, prepared for the Bureau of Transit, Wisconsin Department of Transportation, Dec. 24, 1980.
  17. P. Kotler and S.J. Levy. Broadening the Concept of Marketing. *In* Cases and Readings for Marketing for Nonprofit Organizations, P. Kotler, O.C. Ferrell, and C. Lamb, eds., Prentice-Hall, Englewood Cliffs, N.J., 1983.

## Paratransit and Bus Accidents Involving Elderly and Disabled Passengers: Evacuation and Rescue Problems and Solutions

JOHN N. BALOG and ROBERT J. PAWLAK

### ABSTRACT

The provision of efficient and safe methods for the effective evacuation and rescue of elderly or disabled passengers from standard and modified vans, body-on-chassis small buses, and heavy-duty transit buses is necessary to ensure passenger safety. Standard methods are not always effective for these patrons because of their physical or mental condition or their insufficient ability to manage self-evacuation. Effective methods and equipment are identified and developed as a function of transit use by the elderly or disabled, accident incidence types for the various transit vehicles, a study of actual transit vehicle characteristics and their crashworthiness, and an analysis of emergency preparedness forces. Needed equipment is identified and suggestions are made for familiarity and simulation training, development of standard operating procedures, debriefing after actual accident experiences, and sharing technology. An industry-wide project review committee was established to comment on the development of evacuation and rescue scenarios and alternative methods. Transit operators, state departments of transportation, and transit equipment manufacturers were interviewed as part of this U.S. Department of Transportation-sponsored research.

The provision of efficient and safe methods for the effective evacuation and rescue (E&R) of passengers from public transit vehicles is necessary to ensure passenger safety. Methods applicable to the general public, however, may not always be useful in the E&R of elderly or disabled passengers as a result of their physical condition and often of their insufficient ability to manage self-evacuation. The identification, development, and implementation of effective methods for safely evacuating and rescuing such passengers is absolutely necessary and increases in importance as greater accessibility is provided.

The research reported here was sponsored by the Transportation Systems Center and the Urban Mass Transportation Administration (1). The specific goal was to identify and evaluate alternative methods that can be used to ensure the safe and timely E&R of elderly or disabled passengers from standard and modified paratransit vans, body-on-chassis small buses, heavy-duty urban transit buses, and intercity buses. The term elderly and disabled includes any member of the population who is either elderly or handicapped. One does not have to be both elderly and disabled to be part of the population to which this research is directed. Particular concern is assigned to those who, because of age, disability, or age and disability, would find it difficult to escape unaided from an accident involving a public transit vehicle.

An industry-wide project review committee commented on the development of E&R scenarios and on the evaluation of alternative methods, equipment, procedures, and techniques that were identified or developed by this research program.