Role of Paratransit in Serving the Needs of Special Groups

Paratransit is described in a report of a comprehensive study by the Urban Institute (1) as those forms of transportation that use the streets and highways and that fall between the most personalized mode, the private automobile, and the least-personalized mode, conventional transit. These in-between paratransit modes can be grouped in categories:

1. Hire and drive services (daily and short-term automobile rentals),
2. Hail or phone services (taxi, dial-a-ride, jitney), and
3. Prearranged ride-sharing services (car pool, subscription bus).

The paratransit report (1) gives a more general definition, as follows: "Paratransit services are those forms of intra-urban passenger transportation which are available to the public, are distinct from conventional transit (scheduled bus and rail), and can operate over the highway and street system."

SPECIAL GROUPS

Certain groups are often singled out by transportation planners because they lack opportunity for travel. Most often cited are the elderly, the handicapped, the youth, and the poor. These groups are specifically cited in UMTA plans and programs; particular emphasis is placed on the elderly and handicapped by the Urban Mass Transportation Act of 1964, as amended. (Section 16B of the act states that the intent of Congress is to ensure equal access to transportation services for the handicapped and elderly and to authorize funding for special services for these groups. UMTA guidelines concerning section 16, issued February 26, 1975, in the Federal Register, require regions to have plans for compliance with section 16 by October 1, 1976, as a prerequisite for certain federal transportation funds. Further guidelines for the operating assistance, section 5 funds require half-fare privileges for the handicapped and elderly.) The following is a discussion of each of the four transit-dependent groups in terms of definitions and subgroups. Table 1 (6, p.5) and Table 2 (8, Figure 4.1) give the number of people in these 4 groups and indicate the considerable overlap between them. The overlaps tell a great deal about the probabilities of each group being poor or handicapped.
Table 1. Economic status of 1970 resident population.

<table>
<thead>
<tr>
<th>Area</th>
<th>Economic Status</th>
<th>Young</th>
<th>Middle</th>
<th>Old</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central cities</td>
<td>Poor</td>
<td>3.75</td>
<td>2.70</td>
<td>1.40</td>
<td>7.85</td>
</tr>
<tr>
<td></td>
<td>Near poor</td>
<td>2.50</td>
<td>1.00</td>
<td>0.95</td>
<td>4.45</td>
</tr>
<tr>
<td></td>
<td>Not poor</td>
<td>19.10</td>
<td>27.85</td>
<td>3.75</td>
<td>50.70</td>
</tr>
<tr>
<td>Suburbs</td>
<td>Poor</td>
<td>2.15</td>
<td>1.55</td>
<td>0.90</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td>Near poor</td>
<td>1.45</td>
<td>1.05</td>
<td>0.60</td>
<td>3.10</td>
</tr>
<tr>
<td></td>
<td>Not poor</td>
<td>25.55</td>
<td>37.30</td>
<td>5.00</td>
<td>67.85</td>
</tr>
<tr>
<td>Rural</td>
<td>Poor</td>
<td>5.50</td>
<td>4.15</td>
<td>2.50</td>
<td>12.15</td>
</tr>
<tr>
<td></td>
<td>Near poor</td>
<td>3.10</td>
<td>2.80</td>
<td>1.75</td>
<td>7.65</td>
</tr>
<tr>
<td></td>
<td>Not poor</td>
<td>18.35</td>
<td>23.85</td>
<td>3.00</td>
<td>43.20</td>
</tr>
<tr>
<td>Total</td>
<td>Poor</td>
<td>11.40</td>
<td>8.40</td>
<td>4.80</td>
<td>24.60</td>
</tr>
<tr>
<td></td>
<td>Near poor</td>
<td>7.05</td>
<td>5.65</td>
<td>3.30</td>
<td>16.00</td>
</tr>
<tr>
<td></td>
<td>Not poor</td>
<td>61.00</td>
<td>89.00</td>
<td>11.75</td>
<td>161.75</td>
</tr>
</tbody>
</table>

Note: Amounts are in millions.

Table 2. 1970 estimates of handicapped persons who cannot use transit or can with difficulty.

<table>
<thead>
<tr>
<th>Handicap Class</th>
<th>Elderly Handicapped</th>
<th>Nonelderly Handicapped</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noninstitutionalized, but</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>chronic conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually impaired</td>
<td>1,460,000</td>
<td>510,000</td>
<td>1,970,000</td>
</tr>
<tr>
<td>Deaf</td>
<td>140,000</td>
<td>190,000</td>
<td>330,000</td>
</tr>
<tr>
<td>Uses wheelchair</td>
<td>230,000</td>
<td>200,000</td>
<td>430,000</td>
</tr>
<tr>
<td>Uses walker</td>
<td>350,000</td>
<td>60,000</td>
<td>410,000</td>
</tr>
<tr>
<td>Uses other special aids</td>
<td>2,290,000</td>
<td>3,180,000</td>
<td>5,470,000</td>
</tr>
<tr>
<td>Other mobility limitations</td>
<td>1,540,000</td>
<td>1,770,000</td>
<td>3,310,000</td>
</tr>
<tr>
<td>Acute conditions</td>
<td>90,000</td>
<td>400,000</td>
<td>490,000</td>
</tr>
<tr>
<td>Institutionalized</td>
<td>930,000</td>
<td>30,000</td>
<td>960,000</td>
</tr>
<tr>
<td>Total</td>
<td>7,030,000</td>
<td>6,340,000</td>
<td>13,370,000</td>
</tr>
</tbody>
</table>

Elderly

The elderly are those aged 65 and older, a definition consistent with that given in the Urban Mass Transportation Act. Many programs, however, deal with ages down to 60 and sometimes 55. A most frequent and accepted term for the elderly is "seniors."

Handicapped

The handicapped group is being increasingly defined in operational terms in local programming because of the half-fare mandate in the UMTA regulations concerning federal operating assistance for mass transit. The 1964 act defines a handicapped person as an "individual who, by reason of illness, injury, age, congenital malfunction or other permanent or temporary incapacity or disability, is unable without special facilities or special planning or design to utilize mass transportation facilities and services as effectively as persons who are not so affected."

More detailed definitions are being developed at local levels, and the work on this by the San Francisco Bay Area Task Force is being increasingly copied throughout the country. The eligibility criteria (definition of handicap) developed there (2) were based on a "person's ability or inability to use mass transportation services and presumes a level of personal mobility and independence to a degree that use of public transportation systems would be a reasonable expectation." The functional definition of a mass transportation handicap developed by the Bay Area group was then given as follows.

Any incapacity or disability which results in the inability of a person to perform one or more of the following functions necessary for the effective use of mass transportation facilities without significant difficulty:
1. Negotiating a flight of stairs, escalator, or ramp
2. Boarding or alighting from a public transit vehicle
3. Standing in a moving public transit vehicle
4. Reading informational signs
5. Hearing announcements by train conductors, bus drivers, or station agents
6. Walking more than 200 feet

Persons are excluded whose sole incapacity is

1. Any physical, mental, or psychological disability or incapacity of less than 6 months' duration
2. Pregnancy
3. Obesity
4. Acute or chronic alcoholism or drug addiction
5. Contagious diseases

The functional definition that is used for eligibility for half fares also could be used for eligibility for special service, e.g., demand-actuated service. The short-term disability provision may be included or excluded in various programs. People with a disorder based on physical, emotional, or mental incapacities are included.

Relative to transportation planning (as opposed to certification), the UMTA Services and Methods Demonstration Program uses a 4-tiered classification in its evaluations, attempting to subdivide the handicapped group into subgroups that have different transportation needs.

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonambulatory Wheelchair</td>
<td>Ambulance, not considered the responsibility of transit</td>
</tr>
<tr>
<td>Nonwheelchaired and semiambulatory Ambulatory, with special needs</td>
<td>Level-entry vehicles as in rapid transit facility with elevator or demand-actuated bus with lift</td>
</tr>
<tr>
<td></td>
<td>Demand-actuated services, without entry-level bus</td>
</tr>
<tr>
<td></td>
<td>Conventional transit with special features</td>
</tr>
</tbody>
</table>

Youth

A youth is a person under 18. Half fares are often given in the age ranges of 6 through 11 or 6 through 13. Programs concerned with increasing mobility for youth usually focus on ages above 9 (when independent mobility becomes increasingly important) and under age 16 (the legal age to obtain a driver's license).

Poor

The poverty line specified by the U.S. Department of Labor for a nonfarm family is $2590 annual income for a family unit of 1 and increases by $820 for each additional family member.

Transportation planning should distinguish between members and nonmembers of the labor force because of their different needs. Members of the labor force are those who are employed or who are registered as seeking employment. The unemployed are usually subdivided into 3 categories: (a) demand unemployed who are trained workers out of a job because of an overall lack of jobs; (b) frictional unemployed who are trained workers changing from one job to another; and (c) chronic or hard-core unemployed who have long-term unemployment because of attributes (e.g., obsolete skills, language difficulties) that render them unemployable. The latter seeking entry-
level jobs have traditionally been the focus of transportation services for the unemployed. Many poor persons hold jobs and are often referred to as the working poor. Their transportation needs are job oriented, and they often require access from the inner city to the suburban industrial-commercial job market (3).

The nonworking poor (housewives with children, seniors) have totally different travel needs, usually intracity and intracommunity. The rural poor include isolated people who live on farms and in rural towns and are unable to reach medical treatment and other critical services. Federal attention is just beginning to be directed at this problem.

ISSUES

The complex tangle of issues will become increasingly critical as each region attempts to find its own practical way of complying with the UMTA requirements discussed above. The following is a discussion of one approach to isolating the issues.

Definitions

First there is the problem of developing definitions that can be used in operations without producing inordinate disservices or absurdities. For example, should wealthy handicapped persons be extended special transportation services? What about temporarily handicapped wealthy persons? Should a 62-year-old, poor, widowed woman on Social Security be denied the benefits since she is not 65? Should blind persons be certified to use a special door-to-door service while all other programs try to assist the blind in moving out into the community? There are considerable problems in rationale now that little attention is being given to the poor while maximum efforts are being focused on seniors and the handicapped, regardless of their income status.

One-, Two-, and Three-Tiered Systems

There has been continuing confusion as to whether we are trying to develop a single regional mass transit system that would handle all urban travelers including the handicapped. UMTA has sometimes implied (e.g., the wheelchair provisions of Transbus) that a single system can accommodate all. At the same time, experiments financed by all levels of government are under way through the country to test door-to-door paratransit operations. This implies a 2-tiered system: a basic system for the masses supported by a specialized paratransit operation for the handicapped, and maybe the elderly. To compound the matter further, some systems have a third tier: a special vehicle for the wheelchaired handicapped, thus separating these people from the others who only need door-to-door service and not special-handling facilities. No definition studies have been done to describe what the sizes, costs, and functions of these 3 tiers are and whether combining them would be cost effective.

Organization

The UMTA legislation and the court actions relating thereto are pressuring local governments to develop new auxiliary services, i.e., the 2- and 3-tiered systems described above. At the same time social agencies, supported by funding from a variety of programs of the U.S. Department of Health, Education, and Welfare (4), have been increasingly providing piecemeal from these same transportation services for their clients. Transit authorities and districts are asking whether they are supposed to operate their own special service subsidiary or contract with some social agency that might be closer to the problem to perform this function. Or, if the transit authority is going to start
providing these services, should the social agency that is to be relieved of the responsibility help pay for the costs?

One study of paratransit service for special groups in the San Francisco Bay Area (4) found that the 1,200 social agencies in that region are operating an aggregate fleet of vehicles that currently numbers about 800 and is growing at 25 percent per year. Almost all of these agencies, however, are having troubles with their transportation functions and would like to be relieved of the entire problem. Even so, they are split over whether the local and regional transit operators should take over this service, and many feel that BART, AC Transit, and SF Muni could never be responsive to the needs of the people involved. Thus, the problem accompanying the issue of the number of tiers is an organizational one: Who should run which tier, and how can the entire thing be made to function as a system?

Certification

Accompanying the definition problem is the practical problem of certification of those eligible to use these second and third tiers of the paratransit system. In practice, seniors have posed no problem; Medicare cards are usually used to identify persons who are over the age limit. However, a monumental question is being ignored in this process. It accepts the concept that every senior, regardless of income or degree of handicap, should be provided a service that might have a subsidy cost of $2 or more per trip (and this while a recent television program showed a 66-year-old Dutchman polevaulting over a river!).

No way has been found to avoid the issue for the nonsenior handicapped person, and procedures have been developed to certify by type of handicap. As previously stated, the Bay Area Task Force developed a precedent for such certification in terms of both a functional definition and a medically oriented classification scheme. Subsidiary issues concern self-certification, whether or not seniors have to have identifications with their pictures on them, whether or not there will be fraudulent use of the service, and so on.

Labor Protection and Prices

A major issue concerns the application of the labor protection clause of the act to UMTA grants for services for special groups. If transit operators take over the paratransit functions of social agencies and pay prevailing-rate labor scales, then prices will rise drastically. The price rise in itself might be acceptable, but it raises the distasteful question of whether we are willing to pay the top wage scale while also offering these labor-intensive dial-a-ride services indiscriminately to all seniors and to all the handicapped. If we are not, are we willing to have tax dollars flowing through transit operators to social agencies to perform the paratransit services? Or are we willing to have a paratransit subsidiary operation that pays a lower wage scale?

Paratransit and the Rural Problem

Rural areas have totally different problems and their own issues, priorities, and options. Currently the overriding issue is how the federal government is to involve itself and lead in this area.

UMTA DEMONSTRATIONS

The UMTA Service and Methods Demonstration (SMD) Program is diverting a major share of its attention to the transportation problem of the special transit-dependent
groups, and particularly the handicapped and elderly. Many of these projects are para-transit experiments and thus worthy of attention. The SMD program now operates at a funding level of about $10 million per year, a major share of which is used for these transit-dependent projects. The program distinguishes between experimental and exemplary demonstration to test new ideas and to proliferate the old but good ideas (5). Key ongoing projects include the following. Separate evaluation contractors have been set up to provide independent, objective evaluations. Results will be reported in the usual project reports plus annual summary reports.

1. Chicago. A planning effort is aimed toward a citywide coordination of social agency transportation and operation of door-to-door service for handicapped and elderly in a section of town. Out of this effort is to come the means by which Chicago will be in compliance with the elderly handicapped provisions of the federal requirements.

2. Danville. In a shared-taxi operation, seniors, the handicapped, and youth can buy taxi tickets at discounted prices. The object is to see whether this form of door-to-door service will generate a lower subsidy cost per trip. Two more of these "user-side" subsidy projects besides Danville are planned.

3. Cleveland. A soon-to-be-completed project is testing 3 demand-responsive systems for the elderly in 3 neighborhoods.

4. Portland and Albuquerque. A transit service for special groups, probably including demand-responsive systems, uses automated fare-collection equipment for buses. The equipment previously tested in Connecticut uses a credit card inserted into a box at the door of the bus, charges each trip according to its length, and bills the user at the end of the month. For special groups the bill can be sent to a designated social agency rather than to the traveler.

SOLUTIONS

Vehicle and Facility Modification

One approach has been to modify buses and rapid transit stations to accommodate the handicapped. Several minibus designs have a wide variety of special features including wheelchair ramps and elevators. These vehicles appear to satisfy every conceivable need of the handicapped but have the disadvantage of high price, ranging as high as $50,000 per unit. Furthermore, some of the units are modified versions of the same small buses that have exhibited considerable maintenance problems. Thus, an operator, attempting to comply with the federal requirements concerning the handicapped, might purchase several $50,000 vehicles and find that as many as a third are down for maintenance at any given time. The implication is that something is wrong in the balance of expenditures.

The ultimate in the modified bus is the UMTA-developed unit, Transbus, which incorporates the first basic changes in urban transit buses in 15 years. The emphasis is on passenger comfort and a design that is easily used by the handicapped and elderly, for example, a floor as low as 23 in. or lower and wheelchair ramps or lifts. Incorporating features to provide for the handicapped into rapid transit design focuses on elevators in stations, accommodation for wheelchairs inside rail vehicles, and special communication services within stations. The most costly item is elevators in every station. The modifications to the BART system to accommodate the handicapped are reported to have totaled $10 million (6).

Demand-Responsive Systems

There have been a number of demand-responsive or dial-a-ride experimental systems. The costs and productivity rates for such systems vary widely but are comparable to figures quoted for general public dial-a-ride systems, i.e., 2 to 5 passenger trips per vehicle hour and costs of $1.50 to $5.00 per passenger trip. Most of the experimental systems do not use vehicles with wheelchair lifts or, if they do, use the lifts sparingly.
We have no reliable cost data on demand-actuated systems that serve only those in wheelchairs and the severely handicapped. The UMTA-sponsored Neighborhood Elderly Transportation (NET) Project in Cleveland, jointly funded by UMTA, the city of Cleveland, the Cleveland Transit System, and private foundations, is a relevant example. It serves approximately 17,000 people, aged 60 or older, in the center city on a demand-responsive basis. Activated by telephone calls from patrons and coordinated by dispatchers, the small buses provide door-to-door service within the neighborhood. Two of the vehicles are specifically equipped to serve the physically handicapped. The principal goal of the project is to determine whether such a system can positively contribute to a state of independent living for the elderly.

An alternative approach to obtaining door-to-door transportation service for special groups is the purchase of taxi trips. As previously mentioned, the UMTA demonstration in Danville, Illinois, is testing the cost effectiveness of this alternative relative to a dial-a-ride bus system. In California there is a definite movement in this direction; tests are going on in 11 small communities (El Cajon, Sunnyvale, Palo Alto, Los Gatos, Benito, Huntington Park, Claremont, Monrovia, Southgate, Whittier, and La Mesa). The rationale for this approach is that most handicapped persons, even some in wheelchairs, can use a taxi, and the lower wage rates of the taxi industry plus the high efficiency of their dispatching operations, developed from decades of experience, provide a cost per trip which is lower than bus systems. The labor disputes concerning this approach are only beginning to emerge.

Organizational Approaches

Which agency might be best at operating these subsidiary paratransit services for these special groups is yet to be determined. At this time such systems in a given urban area are being operated almost exclusively by a number of social agencies and special projects. Some transit operators have edged into the field through charter operations, e.g., package charter trips for seniors. Some small private carriers and taxi operators are providing a broad range of transportation services for the handicapped usually under contract to one or more social agencies. It will be interesting to see whether out of the current planning efforts of regions attempting to comply with the new regulations will come plans for a carrier that will provide a comprehensive elderly-handicapped service with a systematic approach as an alternative to the current proliferated one.

Financial Approaches

Financing of these special group services is closely linked to the organizational problems. The problem is how to organize and rationalize a continuing flow of funds to cover the operating deficits of these subsidiary paratransit operations. An interesting example of an organizational-financial approach is the Golden Gate Bridge Highway and Transit District system in the San Francisco area. In that case the district purchases, through a contract arrangement, the needed specialized transportation for handicapped riders. The specialized service is performed by a social agency with experience in this activity.

REFERENCES


