

Using Taxis to Serve the Elderly and Handicapped

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Three user-side subsidy demonstration projects funded by the Urban Mass Transportation Administration are described, along with an evaluation of six locally sponsored subsidized taxi programs in the San Francisco Bay area. Although these programs are not located in decidedly rural areas, the techniques and methods employed are applicable to the provision of services to the elderly and handicapped living in rural and small-town communities. The study concluded, for example, that subsidized taxi service is especially well suited to low-volume, scattered demand as in smaller communities; that taxi operators are willing to participate in subsidized programs to transport the elderly and handicapped; and that user-subsidized taxi service is a workable, economically viable transportation mode for the elderly and handicapped.

Taxis are by no means newcomers to the area of service to the elderly and handicapped, although the mass transportation field has been slow to recognize the extensive role that taxis play or the potential they offer. Taxis have been either the first choice or the only choice for many elderly and handicapped who do not have access to automobiles.

A national survey of the urban transportation handicapped population recently published by the Urban Mass Transportation Administration (UMTA) (1) reveals some specific facts relating to taxi use and accessibility. Taxis are the most accessible form of public transportation for this group with fewer barriers identified in relation to this mode than with the bus or subway. Only a small proportion (7 percent) of transportation-handicapped people are not able to use taxis at all; 30 percent can use taxis as much as they like. In contrast to the mass transit modes, the key problem with taxi use is affordability. Sixty percent of the transportation-handicapped identify this as a problem. Thirteen percent of transportation-handicapped people use taxis in an average month, generating 7 million taxi trips per month for an average of seven trips per month per user. In this study, a transportation-handicapped person was defined as someone who, because of a specific problem or incapacity, including age, experiences more difficulty using public transportation than a person without a problem and who is not homebound. Given the federal requirement to provide service to the elderly and handicapped, the common response by public transit operators has been to institute demand-responsive minibus systems, usually at a fairly high cost per trip. In an effort to find a range of workable techniques for meeting the mobility requirements of the elderly and handicapped, UMTA has been testing and evaluating several demonstration projects involving the use of taxis. Although there are many special projects across the country involving taxis for this purpose, one of the significant aspects of the UMTA demonstration is that for the first time it has been possible to collect considerable data and to make some fairly extensive analyses of costs, trip rates, and characteristics of users and nonusers.

These taxi demonstrations are in the category of user-side subsidy. The term user-side subsidy denotes that the subsidy involved goes directly to the consumer of transportation services, rather than the traditional method of providing a systemwide subsidy to an operator. For example, tickets can be purchased by the consumer at a discounted rate, used in payment for transportation

service, and redeemed by the provider at face value. Thus, the user receives a reduction in out-of-pocket costs for each trip, while the supplier receives the standard fare. The revenue received is only for trips actually taken. The user also has the flexibility to patronize the provider that he or she feels gives the best service. User-side subsidies involving taxis are an alternative approach with some potentially significant benefits. These benefits include the following:

1. Lower overall costs because only trips provided are paid for, and taxis generally have lower operating costs than demand-responsive services operated by transit authorities;
2. Ability to utilize an already in-place provider mode that is generally available;
3. Support and bolstering of existing private taxi operations, many of whom have marginal profits to begin with, particularly outside of major metropolitan areas;
4. The flexibility to easily control the amount of subsidy devoted to the program by adjusting either the discount rate per trip, the number of trips allowed per individual in a given period, or by redefining the eligible population; and
5. Avoidance of having to contract with a single provider at the risk of driving competition out.

ONGOING DEMONSTRATION PROGRAMS

Following is a brief description of three user-side subsidy demonstrations funded by UMTA, and an evaluation by Crain and Associates of six locally sponsored subsidized taxi programs in the San Francisco Bay area (2, 3). Unfortunately, these sites are not in exclusively rural areas and they do not involve the long distances that people in rural areas often must travel. Many of the basic techniques and findings, however, are still applicable to small towns and rural areas. User-side demonstrations are ongoing in Danville, Illinois; Kinston, North Carolina; and Montgomery, Alabama. A fourth is soon to start in Lawrence, Massachusetts. The first two sites have taxi service but no public transit systems. Montgomery has both taxi operations and a fixed-route transit system. Program participants use the taxi services in the same manner as the general population by calling and requesting a trip. No advance notice is required. The subsidy rate to the user for these programs has ranged from 50 to 75 percent of the actual taxi fare.

Consistent with UMTA's emerging paratransit policy, taxis must permit shared rides in order to participate in UMTA-funded user-side subsidy projects. Thus, the driver may deviate from the direct route to a destination to pick up another rider who is going in the same general direction. This would be done only when two trip requests were easily combined and would not require pre-scheduling of trips or adjustment of desired trip times in order to share the trip with another user.

Two types of subsidy mechanisms are being tried: books of tickets purchased by the user in advance at a discounted rate and used as needed; and the voucher, or charge, slip. Charge slips are maintained by the taxi

driver and signed by the certified user, who then pays cash for the discounted value of the trip. With both methods, the taxi operator submits the tickets or charge slips to the city and is reimbursed. These two mechanisms are being evaluated from the standpoint of expense and simplicity of administration, potential for fraud or misuse on the part of both users and taxi operators, and overall program control.

Another intent of these programs is to find out more about the travel characteristics and travel demand of the target group, when a low-cost, relatively unlimited supply of high-level service was made available. Therefore, participant eligibility was established for anyone age 65 or over and handicapped persons of any age. A \$20 ceiling was set on the amount of subsidy available to each individual per month, but there were no restraints on trip purpose, distance, or time.

The locally sponsored subsidized taxi programs that have been evaluated are in six San Francisco Bay area locations—San Leandro, Santa Clara County, Sunnyvale, Palo Alto, Lafayette, and Fremont. Typically, these projects have more restrictions than the UMTA demonstrations, either in terms of eligible target population or service constraints. Some projects require low income and some form of mobility impairment in addition to age, and there are also requirements in terms of geographic limitations. In some cases only specific trip purposes are eligible and advance reservation must be made for service. Three of the California programs are being supported by American Automobile Association funds, two city councils have committed general funds to the programs, and one community is using its revenue-sharing funds.

CONCLUSIONS

Although all the programs vary in terms of site characteristics and other variables, they share common features that make this a promising method of providing transportation for elderly and handicapped. The following conclusions have been drawn from the experience with these projects:

1. User-subsidized taxi service is a workable, economically viable mode of providing transportation to the elderly and handicapped. The already in-place service capability means there is little or no front-end capital investment required. Start-up problems tend to be minimal.
2. Subsidized taxi service is especially well suited to low-volume, scattered demand, which can exist in small communities.
3. Because taxi service is an existing, familiar form of transportation, it requires minimal consumer education or training. Elderly and handicapped clients seem to experience no major problems in using the service, and are quite capable of managing complex payment systems involving scrip, voucher sheets, reorder forms, and the like.
4. Concerns that the programs would trigger extremely high levels of demand have proved to be unfounded. On the average, 20-40 percent of the eligible target population register to use the service, but a much smaller percentage is actually using the service on a regular basis. There seems to be a small segment that relies heavily on the service, while the great majority of those eligible have alternative modes available and use the program occasionally or as a backup.
5. Taxi operators appear ready and willing to participate in arrangements with local governments, social service agencies, and other funding providers in order to offer taxi service to elderly and handicapped people.

Although such a service often creates additional paperwork for the taxi provider, the administrative burdens were felt to be tolerable by the taxi companies. In general, they felt that their business was enhanced by such programs, and they are willing to absorb the extra administrative burden without raising prices. It was noted that companies and drivers should be thoroughly informed in advance of their record-keeping responsibilities.

6. Workable financial arrangements are possible. Most companies are willing to accept an arrangement involving reimbursement for taxi services delivered, if the reimbursement can be made promptly without aggravating their cash-flow situation.
7. The administrative cost to the sponsor of supporting user-subsidized taxi services seemed to increase the cost per passenger trip by approximately 15-20 percent. In most programs the administrative problems were minor. Detailed record keeping is essential, however, for good budgetary control of the program. Sponsoring agencies should also ensure that their records are adequate for audit by their funding agency.
8. To date, no significant group or shared riding has been occurring. Although the UMTA demonstrations require that participating taxi operators offer a shared-ride option and shared riding is encouraged by the California projects, there is still little incentive for group trips on the part of the provider and the rider. Because this would serve to lower the total cost per passenger trip, attention needs to be given to developing effective ways to aggregate demand and accomplish more shared riding.
9. None of the systems studied have a total capability to serve the handicapped. That is, none can serve people who cannot use a conventional taxi vehicle. One solution to this might be the purchase of a special wheelchair-accessible vehicle, which could be operated along with the regular taxi fleet.

In relation to these last two points, experience in Portland, Oregon, is interesting. The transit authority operates a lift-equipped minibus demand-responsive service for the handicapped. It contracts out some of the trips that do not require special vehicles and that may involve longer than usual distances to a local taxi operator. The per-trip cost in doing this is significantly less than transit-company provided service and also frees the buses to provide higher volume service.

The user-side subsidy concept has also been tried on a statewide basis in West Virginia as part of its TRIP program. The state welfare department makes available to all low-income elderly and handicapped persons an \$8.00 book of trip tickets monthly, for which the client pays approximately \$1.00. Approximately 90 percent of the existing public and private providers have volunteered to participate in the program through the acceptance of TRIP tickets. This includes city bus systems, intercity buses, Amtrak, and taxi operations. Taxis, however, remain the primary mode on which the target group uses its TRIP tickets. An overall summary evaluation of the TRIP program is expected within the next year. This will describe both the operation of the ticket system on a statewide basis and the efforts at provider development in the rural areas of the state.

In summary, the experience using taxis to serve the elderly and handicapped in these cases has been quite positive. It is clear that taxis represent a mode we cannot afford to ignore as innovative transportation solutions are developed. More work particularly needs to be done in the areas of brokering services and integrating funds from various sources into subsidy programs.

REFERENCES

1. Grey Advertising, Inc. Summary Report of Data From National Survey of Transportation Handicapped People. Urban Mass Transportation Administration, June 1978.
2. P. G. Fitzgerald. User-Side Subsidies for Shared-Ride Taxi Service in Danville, Illinois: Phase I. Urban Mass Transportation Administration, IL-06-0034-77-1, June 1977.
3. P. Bloomfield and S. Flynn. Subsidized Taxi Programs for Elderly and Handicapped Persons in the San Francisco Bay Area. Urban Mass Transportation Administration, MA-06-0049077-9, Sept. 1977.

Abridgment

Identifying and Serving the Elderly and Handicapped in Rural Areas

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Transportation of the elderly and handicapped is supplementary to the main objectives of urban transit but fundamental to rural public transit. In urban areas, the major purpose of public transportation is to provide journey-to-work travel along corridors of high-density residential population to a central area of intensive employment. Beneficial side effects are produced, such as reduced rush-hour traffic congestion in central areas by the substitution of transit for automobile travel and increased accessibility to specific locations for purposes of high-density urban development. The same scale of effects is not possible (and not necessarily desirable) for rural public transportation.

Conventional mass transit for journey-to-work travel is not feasible in rural areas because places of employment are widely dispersed and residences of workers are even more widely scattered. Experience shows that the rural transportation-disadvantaged commonly use carpools and other shared-ride concepts for journey-to-work between several residences and individual places of employment. Job-centered van pools for employees of a single industrial plant or business enterprise are a good possibility for rural public transportation. School-bus-sized operations with fixed-route service from each passenger's home to a single place of employment might work if enough employees could be persuaded to ride. These are even more useful models for effective transportation of the elderly and handicapped in rural areas.

Given that the focus of rural public transportation

is on the elderly and handicapped, it is necessary to identify the elderly and handicapped. Not all rural elderly and handicapped are transportation disadvantaged. However, those without access to an automobile are probably disadvantaged.

In 1974, 18 percent of the households in non-metropolitan areas did not own an automobile, compared with 25 percent in metropolitan areas (1). Even more dramatically, almost 40 percent of households whose head of family was over age 65 owned no automobile, but fewer than 20 percent of all other households owned no vehicle. The relative transportation disadvantage of elderly households is compounded by the high incidence of such households in rural areas. Fully 21 percent of all households in rural areas have a head of family who is over age 65; as many as 27 percent of households in areas under 2500 population are headed by elderly persons (2).

Unlike the data on the elderly, no definitive data exist on handicapped individuals. It is believed that the incidence of automobile availability in households of handicapped people is probably greater for handicapped persons than for elderly people. Those handicapped persons without access to an automobile are individuals who need to be identified.

Local social service and welfare agency data can provide the necessary details of this primary target group. Data on hospitals, clinics, and senior citizens are available to offer specific information on the physical, economic, and other characteristics of their clients. Detailed address data will help

Table 1. Illustrative list of data sources.

Agency or Institution	Residential Address	Economic Data	Social Data	Health Data	Trip Frequency	Ongoing Transport Services
Social service agency	X	X	X	X	X	X
Health center	X		X	X	X	X
Neighborhood center	X		X		X	X
Senior citizen housing	X		X		X	X
Senior citizen center	X		X		X	X
Hospital and clinic	X	X	X	X	X	X
Vocational center	X	X	X	X	X	X
Rehabilitation center	X	X	X	X	X	X
Employment center	X	X			X	X
Reduced-fare card (transit authority)	X	X				X
Private organization (Red Cross, Easter Seals)	X		X		X	X