Improving the Mobility of the Elderly and the Handicapped Through User-Side Subsidies

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Special transportation assistance is currently provided for elderly and handicapped persons through a variety of programs at the federal, state, and local levels of government. Unfortunately, certain requirements for the earmarking of funds and certain administrative procedures associated with these programs appear to have created major impediments to the efficient provision of transportation services. This paper suggests three steps by which the efficiency of transportation services for the elderly and handicapped can be increased: (a) relaxing certain earmarking requirements, (b) fostering greater cooperation between administrative agencies, and (c) disbursing funds through user-side subsidy schemes that permit users to patronize the transportation providers of their choice. The implementation of user-side subsidies is emphasized. Several existing applications of the user-side subsidy approach are reviewed, and some potential applications are suggested for research and experimentation.

Many public programs at the federal, state, and local levels of government currently provide funds that can be used for improving the mobility of the elderly and the handicapped. These programs typically earmark transportation funds in four ways:

1. By the client group that is to receive assistance,
2. By the particular services the client group can obtain with the assistance,
3. By the organizations that provide the services, and
4. By the type of transportation expenditure for which the assistance can be used.

Criteria for earmarking funds vary greatly from program to program, and the agencies administering the programs often work independently of one another with little coordination of objectives and resources.

A recent publication of the U.S. Department of Health, Education and Welfare (HEW) identified over 60 federal social-service programs that allow expenditures for transportation services (7). In addition, state and local governments have a variety of programs of their own. Many of these programs provide for transportation assistance to improve access of the elderly to particular services such as medical care and recreation. Because improved mobility is an implicit rather than an explicit objective of these programs, the actual expenditures on transportation services under these programs are rarely accumulated as separate items. As a result, it is practically impossible to estimate the level of public expenditure on transportation for the elderly and the handicapped. There is no doubt, however, that these expenditures are substantial and growing.

One federal program for which improved mobility for the elderly and the handicapped is an explicit objective is that administered by the Urban Mass Transportation Administration (UMTA) and the Federal Highway Administration (FHWA) of the U.S. Department of Transportation (DOT). The regulations for this program use the term "elderly and handicapped persons" to mean the following (9):

> those individuals who, by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, including those with semiambulatory capabilities, are 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.

The client group for this program, then, is composed of persons who have difficulty using mass transportation facilities because of disabilities. By comparison, certain other federal programs define the elderly as those persons above a certain age, such as 60 or 65, and still other programs limit assistance to those elderly and handicapped below a certain income level (7).

The DOT program for the elderly and the handicapped provides assistance only for those transportation services that qualify as mass transportation—shared-ride services that are available to the public on a regular and continuing basis. Exclusive-ride taxicab services and services restricted to a particular organizational or institutional clientele apparently could not receive DOT assistance. Other federal programs restrict transportation assistance to certain kinds of trips such as those to and from medical or educational facilities (7).

In addition to restricting the public transportation services eligible for assistance, the DOT program also restricts the kinds of organizations that can receive the assistance and provide the services. Section 16b2 of the Urban Mass Transportation Act provides for assistance to private, nonprofit corporations and associations without the labor protection conditions required under other sections of the act. During fiscal year 1975, over $20 million was disbursed under section 16b2 to 1031 nonprofit agencies throughout the United States for equipment to be used in providing transportation services to elderly and handicapped persons (11). This assistance was not available to public transit systems or to private, for-profit taxicab operators although these and other mass transportation providers could receive assistance under other sections of the act.

Programs funded by DOT and other agencies also restrict considerable financial assistance for capital as opposed to operating expenses incurred by transportation providers. Under section 16b2, for example, a nonprofit agency can obtain financial assistance for vehicles and other equipment but cannot obtain assistance for expenses incurred in operating the equipment. The medicaid program (title XIX of the Social Security Act), on the other hand, prohibits the use of funds for the purchase of equipment but allows the purchase of taxi or transit services for medical trips (7).

Such variations in criteria for the earmarking of funds for transportation assistance illustrate the enormous range of statutes and regulations that govern public programs concerned with improving the mobility of the elderly and the handicapped. These complex constraints create a number of obstacles to the efficient and effective delivery of transportation assistance to those in need of it. An analysis by Tye (6) concluded that restricting transportation assistance for capital expenditures encourages premature replacement of capital equipment and inadequate maintenance. Kirby

(3) suggests that earmarking funds for nonprofit providers under section 16b2 "may jeopardize the financial viability of for-profit providers currently serving the elderly and handicapped." In addition, the tendency of the different administrative agencies to establish independent transportation services for their particular client groups often leads to unnecessary duplication of facilities and services (1).

The techniques used for disbursing funds provided under transportation assistance programs are also likely to have an important bearing on the efficiency and the effectiveness of the programs. An important distinction in this regard is between provider-side and user-side subsidies. Provider-side subsidies are funds disbursed to transportation providers for the provision of certain specified services; user-side subsidies are subsidy funds placed in the hands of the users in the form of discounted transportation vouchers or tickets. Under a typical provider-side subsidy scheme, one provider is given an exclusive contract to operate certain services and is reimbursed on the basis of costs incurred rather than passengers served. User-side subsidy schemes, on the other hand, reimburse any and all eligible providers according to the passengers each has served. Kirby and McGillivray (4) argue that provider-side subsidies tend to reduce competition among providers and to remove some of their incentives to operate efficiently, whereas user-side subsidies tend to encourage competition and reward efficient operation.

There is widespread recognition that greater efficiency and effectiveness are badly needed in programs providing transportation assistance to the elderly and the handicapped, and a number of agencies have already initiated efforts to streamline administrative procedures and eliminate unnecessary duplication. Such efforts should give special consideration to (a) developing legislative amendments to eliminate earmarking of funds by type of transportation expenditure and by provider type, (b) fostering (and perhaps mandating) greater cooperation between agencies administering transportation programs, and (c) exploring opportunities for disbursing transportation assistance funds through user-side subsidy techniques.

This paper is concerned primarily with user-side subsidies. User-side subsidy techniques are currently used in some locations for subsidizing transportation services. In particular, the Office of Service and Methods Demonstrations of UMTA is funding a series of demonstration projects designed to test the application of user-side subsidies under different institutional and market conditions. This paper briefly reviews current experience in these ongoing projects and suggests other promising but as yet untested applications of the user-side subsidy technique for consideration in future research and demonstration projects.

IMPEDIMENTS TO EFFICIENCY IN TRANSPORTATION PROGRAMS

As currently constituted and administered, programs to provide transportation assistance to the elderly and the handicapped contain a number of impediments to the efficient provision of service. Some of these impediments are a result of language in the legislation authorizing the programs and can be removed only through legislative amendments. Other impediments, however, are a result of administrative practices and can be modified by the administrative agencies responsible for the programs.

Legislative Impediments

Programs that earmark funds for capital expenses—such as the program authorized under section 3 of the Urban Mass Transportation Act—preclude the delivery of assistance for operating expenses; all of the assistance must be delivered in the form of vehicles or other capital equipment. This kind of earmarking is usually justified on the grounds that allowing funds to be used for operating assistance invites inefficient operating practices and increased labor costs. Tye (6) has concluded, however, that capital assistance tends to encourage overexpenditure on new capital equipment and neglect of preventive maintenance. In addition, because capital assistance allows more state and local funds and fare-box revenues to be used for operating expenses, operating inefficiency and escalation of labor costs can result. In the case of programs in which funds are earmarked by client group, restricting funds to capital assistance often leads to the establishment of separate transportation facilities and services for each group; for example, buses purchased for use by handicapped persons under a certain income level may remain idle while a separate fleet serves a broader group of elderly and handicapped persons.

Of the almost $12 billion provided under the Urban Mass Transportation Act for assistance to mass transportation over the 6-year period through 1980, roughly two-thirds is earmarked under section 3 for capital expenditures and the remaining third can be used under section 5 for either capital or operating expenditures. Interestingly enough, in mid-1976 UMTA officials recommended to the Congress that half of the section 5 funds be limited to capital expenditures, citing the familiar concerns about operating inefficiencies and escalation of labor costs. Continuation of this policy of encouraging vehicle purchases but withholding operating assistance raises the spectre of large and small agencies around the country acquiring new vehicles that they eventually cannot afford to operate. In attempting to guard against operating inefficiencies and escalating labor costs, the restriction of funds to capital expenditures is clearly creating severe problems of its own. The wisdom of earmarking funds for capital assistance, particularly for programs aimed at certain client groups such as the elderly and the handicapped, needs to be reexamined.

Earmarking of transportation assistance funds by type of provider is also a troublesome constraint on providing efficient service. The UMTA section 16b2 program provides for the earmarking of certain section 3 funds for a particular group of providers—nonprofit agencies. The language of the Urban Mass Transportation Act appears to sanction 16b2 expenditures only after other providers such as bus and taxicab operators are found to be unable to provide adequate services for the elderly and the handicapped. In practice, however, funds have been disbursed directly to the states under 16b2 for use in assisting nonprofit agencies without a thorough investigation of the capabilities of other providers. Clearly, this kind of earmarked funding for nonprofit service providers precludes certain efficiencies in the provision of service and may well weaken the financial condition of other taxicab and transit operators serving the community at large. Even though these funds were earmarked for capital expenses by section 3, they could have been used to purchase equipment for lease to private bus, taxicab, and limousine operators who already serve the elderly and the handicapped. Unfortunately, however, it is much easier to disburse funds to nonprofit agencies under section 16b2 than to assist other providers because 16b2 projects can be funded without the

labor protection assurances required for other projects by section 13c of the act.

Section 13c specifies that the Secretary of Labor must be satisfied that for each project funded under the Act (except those funded under section 16b2) arrangements have been made "to protect the interests of employees affected by such assistance" (8). The development of such arrangements often involves complex labor negotiations that can delay and even preclude funding of particular projects. Thus the administrative hurdle of 13c labor protection currently encourages the disbursement of funds under section 16b2, which contains the two types of earmarking likely to be most detrimental to efficient provision of service—by capital expenses and by type of provider.

Administrative Impediments

A variety of administrative impediments to efficiency can arise in transportation programs for the elderly and the handicapped (1). A major source of these problems is apparently the attitude of "turf protection" taken by certain program agencies when the pooling of resources with other agencies is suggested (7):

> Frequently attitudinal barriers among human resources agency staff at the service delivery level grow in the name of target group "advocacy" (or "federal restrictiveness") when, in truth, selfishness is the real cause of a transportation provider's unwillingness to share vehicle space for a fee.

Such attitudinal barriers are likely to prevent certain management and operating efficiencies and result in unnecessarily high program costs, as illustrated by a recent empirical study of 16 programs serving the elderly and the handicapped (2):

> The study suggests that on a cross-section basis, transportation programs for the elderly and handicapped appear to operate at lowest unit average costs at scales of operation considerably larger than most of those existing under contemporary federal assistance programs. The data suggest that management costs can be spread over systems comprising larger geographical areas, and delivering a larger number of passenger miles.

Special incentives or regulations appear to be needed to ensure that local agencies take advantage of worthwhile opportunities to pool their resources.

Even when administrative agencies are free of troublesome earmarking constraints and turf-protection disputes, however, a further impediment to the efficient provision of service can arise as a result of the technique selected for disbursing program funds. In dealing with the providers of transportation services, program agencies can choose between two general categories of disbursement techniques: provider-side subsidies and user-side subsidies (4). Provider-side subsidies disburse funds directly to the transportation provider for the support of certain specified services and fare levels. User-side subsidies, on the other hand, place the subsidy funds in the hands of selected users in the form of discounted transportation vouchers or tickets.

The vast majority of transportation assistance programs currently use the provider-side subsidy technique (4). This technique tends to eliminate the competition between private service providers that exists among unsubsidized taxi and limousine services, for example, and in the provision of many other necessary goods and services such as food, clothing, and housing. For fixed-route transit services, the public has become dependent on regional authorities as the sole providers of subsidized services, and, for specialized services, groups such as the elderly and the handicapped rely more and more on services provided by the social-service agencies. Private taxicab and bus operators, who have vehicle fleets, maintenance facilities, and considerable expertise in supplying transportation services, are usually denied the opportunity to participate as providers in publicly funded transportation programs although they might be able to offer subsidized services at lower costs than regional transit authorities or social service agencies.

Administrative agencies should ensure that subsidized transportation services are provided efficiently by disbursing subsidy funds so as to give all qualified providers an opportunity to offer services and to reward efficient operation. User-side subsidy techniques appear to offer a means for achieving these objectives by placing discounted transportation vouchers in the hands of eligible users and encouraging them to patronize the transportation providers of their choice. Providers then receive subsidy funds only after serving eligible users and are thus motivated to tailor their services and fares to meet the demand.

USER-SIDE SUBSIDIES FOR TRANSPORTATION SERVICES

User-side subsidies have been described as follows (4):

> Those for which certain "target group" users are permitted to purchase transportation "vouchers" at a price substantially below the value of the vouchers to the transportation providers. The users exchange these vouchers for transportation services, and the transportation providers then redeem the vouchers from the public agency at values agreed to in advance.

The vouchers may be any kind of ticket, charge slip, or credit card that can be used as evidence that trips have been made. The purpose of the vouchers is simply to provide the information needed by the funding agency to determine the correct payment owed to the providers of transportation service. (In fact, if some other means can be relied on for recording this information, such as an on-board counter, a voucher may not be necessary.) The price the users pay for transportation service can be a fixed amount per trip or a percentage of the regular fare and can range from zero up to the full fare. The users will normally make their payments either by purchasing tickets in advance and handing them to the provider of the service at the time a trip is made or by paying cash at the time of the trip and signing a charge slip for the remainder of the fare. If a credit-card scheme is used, of course, users can be billed monthly for their share of the fare (5).

Ensuring that subsidy funds paid to the providers of transportation service correspond to trips actually made by members of the client group is a major administrative concern in user-side subsidy schemes. Fraud can occur, of course, if reduced-rate tickets are used by ineligible persons, if providers find some way of obtaining and redeeming unused tickets, or if providers overcharge for services. Other government programs that use the user-side subsidy technique, such as medicaid and the food stamp program, have encountered some of these difficulties. However, fraud seems unlikely to be a serious problem in public transportation applications for the following reasons:

1. Programs can be administered at the local level so that ticket use by individual members of the client group can be closely scrutinized.
2. Private providers are usually relatively small, competing businesses who are highly dependent on local "good will" for their livelihoods and thus can ill afford

to jeopardize their standing in the community by association with fraudulent activity.

3. Users can easily obtain information about the fare structure for available services.

The user-side subsidy approach is not as common in transportation programs as in other social service areas such as medical care, nutrition, and housing. If proper administrative procedures can be developed, however, user-side subsidies offer many important advantages over the more traditional provider-side approaches—capital grants, deficit coverage, and purchase-of-service contracts.

A "pure" user-side subsidy is based on the economic tenet of supply and demand operating in a free-entry, competitive market. By lowering the cost of service to certain users, it stimulates demand and relies on this increased demand to generate a response in the supply of services. Service providers are expected to compete to attract users in order to "earn" their subsidy. This type of user-side subsidy scheme differs from many provider-side subsidy schemes in that the transportation providers cannot take user-side subsidies for granted and have an incentive to operate as efficiently as possible. In a free market situation, the user-side subsidy should result in the providers offering high-quality service at the lowest possible cost. (Of course, too restrictive regulation of transportation providers, services, and fare levels by public regulatory bodies will tend to reduce the efficiency of user-side subsidies.)

The user-side subsidy also offers administrative flexibility to program agencies by specifying who will be subsidized, at what level, and for what kinds of trips. By limiting the sale and use of tickets to members of a particular client group, identified by means of a special identification card, an agency can limit the use of its funds to trips made by members of that group. Overall program costs can be controlled by limiting the total number of tickets sold. In addition, limits can be placed on the number of tickets sold to each person, possibly by coding the tickets with each person's identification number to ensure that tickets are not passed from one individual to another. Some programs have also limited the use of tickets to certain trip purposes, such as shopping or medical trips, but such restrictions may be difficult to enforce.

Another major advantage of user-side subsidies over provider-side subsidies for programs aimed at particular client groups is that the resources of different funding agencies can be used conveniently without unnecessary duplication of transportation facilities. It is difficult to limit funds to a particular client group through provider-side subsidies without establishing or contracting for services designed exclusively for that group. In the case of user-side subsidies, however, a certain level of subsidy can easily be provided for one client group for services that may be available at a different level of subsidy to a second client group and at no subsidy at all to the community at large. Each agency can simply distribute tickets to its particular client group under conditions consistent with the agency's program objectives. For example, an elderly person might use a ticket to obtain a shared taxi ride at half fare and share the taxi with a disabled person who uses a different ticket and pays no fare at all.

Applications

Although user-side subsidies have been used to some degree in public transportation, few applications of such subsidies have been monitored carefully enough to permit a comprehensive evaluation of the administrative costs or the quality of services obtained by client groups from the service providers. The medicaid program has been subsidizing taxicab rides for its clients for some time, and several communities have used discretionary funds such as revenue sharing to institute user-side subsidy schemes for limited-mobility groups. Some of these applications are briefly summarized here as illustrative case studies.

UMTA has been developing a series of demonstration projects designed to test the user-side subsidy technique in a variety of institutional and operational settings. These demonstration projects are also briefly described.

Case Studies

In Los Gatos, California, a small city of 23 735 people, elderly and disabled residents may purchase a maximum of 10 taxicab tickets/month at a cost of $0.50/ticket. They can use 1 ticket/trip anywhere within the city limits. For each ticket used, the city reimburses the taxi operator $2.10 out of revenue sharing funds. In order to prevent potential cash flow problems for the taxicab operator, the city pays the operator a monthly advance based on average ticket use. The program seems to have worked well although no formal evaluation has been carried out.

In December 1974, the city of Oak Ridge, Tennessee, started selling taxi tickets at $0.25/ticket to persons 60 years of age and over. Each ticket can be used in lieu of up to $1.00 of the fare for a taxi ride, and the user pays any remainder over $1.00. The city pays $0.90 for each ticket turned in by the taxicab operator. On those rides for which fares are less than $0.90, the taxi operator makes a small profit; on those for which fares are more than $0.90, the operator sustains a small loss. The city apparently considers the program among its most successful.

In November 1976, UMTA set an important precedent by approving the use of its section 5 funds to subsidize shared-ride taxicab services for the elderly and the handicapped in Oklahoma City (10). A user-side subsidy scheme is being used in this pilot project to reimburse participating taxicab operators for subsidized rides. This particular project is the first instance in which UMTA has explicitly approved the use of section 5 funds to support a user-side subsidy scheme involving shared-ride taxi services and provides encouragement for other cities that are considering similar applications.

West Virginia's statewide Transportation Remunerative Incentive Program (TRIP) combines both user-side and provider-side subsidies to improve the mobility of the low-income elderly. The user-side subsidy portion enables the low-income elderly to purchase $8.00 worth of tickets monthly on a sliding fee scale based on income. Agreements have been worked out with public and private transportation providers across the state—including transit and taxicab operators, Greyhound Corporation, and the National Railroad Passenger Corporation (Amtrak)—to accept these tickets at face value as payment of fares. The provider-side subsidies will permit certain providers to purchase new equipment and expand services for all users, particularly in rural areas. TRIP is funded jointly by DOT and HEW.

A user-side subsidy program adopted in May 1975 by the New Jersey State Department of Transportation allows elderly and handicapped persons to travel for half fare during off-peak periods on intrastate bus and rail lines. An expansion of the program in 1976 made some interstate travel eligible for the off-peak half fare.

Ticket books containing 50 tickets are distributed free to eligible persons through banks. When a user makes a trip, he or she gives the service provider one ticket and the remaining half fare in cash. The provider then submits the ticket to the state and receives a payment based on an average fare established for that particular service and provider. This program was initially scheduled to operate for only 1 year, but the state DOT recently extended the program indefinitely.

Demonstration Projects

Demonstration projects funded by the Office of Service and Methods Demonstrations of UMTA have been designed to provide a comprehensive evaluation of the user-side subsidy technique as it is applied to public transportation. The first demonstration project started in December 1975 and provides shared-ride taxi services at reduced fares for the handicapped and the elderly in the city of Danville, Illinois, which has a population of 45 000. An eligible user pays 25 percent of the taxi fare in cash and signs a charge slip for the remainder of the fare, which the provider subsequently receives from the city. A maximum of $20 worth of taxi service per month per user is permitted, and the city monitors this by keeping a cumulative record of the costs incurred by each eligible person. By December 1976, about a third of the 7500 residents of Danville who were eligible for the user-side subsidy program had registered with the city to obtain identification cards. (About half of those receiving cards had not yet used them but were apparently keeping them for occasional or emergency use only.) Response to the program had exceeded expectations: More than 20 percent of taxi ridership was being supported by the user-side subsidy program. Service levels were apparently high, and the two Danville taxicab operators had placed additional vehicles in service as the need arose. There had been few administrative problems: Payment to the service providers by the city had proceeded smoothly, and there had been no evidence of fraud. A detailed monitoring program in Danville will provide information to other cities on administrative procedures, costs, service levels, and ridership.

Three other UMTA demonstration projects are scheduled to begin during 1977—two in cities somewhat larger than Danville and one in a much smaller city. In Montgomery, Alabama, which has a population of 133 500, elderly and handicapped residents will be able to use shared-ride taxi or conventional bus services at reduced fares through a user-side subsidy program. Four large taxi companies and several smaller operators as well as the publicly owned Montgomery Area Transit System are expected to participate in the program. Eligible users will pay in cash a portion of the fare for shared taxi rides and sign a charge slip for the remainder (the procedure used in Danville). Each reduced-fare bus trip, however, will be recorded by the driver, and the transit system will then receive payments from the city based on the trip records maintained by the bus drivers.

An UMTA demonstration project in Lawrence, Massachusetts, a city of 67 000, will use transportation tickets as a user-side subsidy mechanism to provide reduced fares to the elderly and the handicapped for shared-ride taxi and privately owned transit services. Books of tickets will be sold at half price to those eligible, and there will be a monthly limit on their use by individual users, who will be able to obtain a bus ride or a shared taxi ride by paying the appropriate fares in tickets. The taxi and bus operators will submit used tickets to the city for payment. The Lawrence project will provide an opportunity to examine the administrative effort associated with the distribution and collection of tickets—a procedure rejected by the cities of Danville and Montgomery in favor of the charge-slip scheme.

The use of tickets to provide reduced shared-ride taxi fares to the elderly and the handicapped will also be tested in Kinston, North Carolina, which has a population of 25 000. Each of the 32 franchised taxicab operators in Kinston will be invited to participate in the project.

The primary purpose of these demonstration projects is to investigate service quality, costs, and administrative procedures associated with the following kinds of user-side subsidy programs:

1. Shared-ride taxi services only, provided by two or more service providers (Danville and Kinston);
2. Shared-ride taxi services provided by several service providers and publicly owned fixed-route transit services (Montgomery); and
3. Shared-ride taxi services provided by several service providers and privately owned fixed-route transit services (Lawrence).

These projects will also provide information on the frequency and the purpose of the use of services by eligible individuals. The results of these projects will provide an empirical base for a thorough evaluation of user-side subsidy techniques.

Potential Applications

Applications of user-side subsidies in public transportation have so far been primarily concerned with providing reduced fares for shared-ride taxi and fixed-route bus services for the elderly and the handicapped. A number of other promising applications that have apparently not yet been tried are discussed briefly below.

Serving the Semiambulatory and the Wheelchair-Bound

One subgroup of the transportation disadvantaged not now provided for in user-side subsidy projects is persons who require special assistance or specially equipped vehicles—i.e., the semiambulatory and those confined to wheelchairs. Regulations recently issued by DOT require that the transportation needs of this group be addressed. Each transportation improvement plan submitted to UMTA after September 30, 1976, must contain "...projects or project elements designed to benefit elderly and handicapped persons, specifically including wheelchair users and those with semiambulatory capabilities...." (9). These guidelines include a few examples of efforts that would satisfy the requirements, one of which uses the user-side subsidy approach (9):

> A system, of any design, that would assure that every wheelchair user or semi-ambulatory person in the urbanized area would have public transportation available if requested for 10 round trips per week at fares comparable to those which are charged on standard transit buses for trips of similar length, within the service area of the public transportation authority. The system could, for example, provide trip coupons to individuals who would then purchase the needed service.

Surveys taken recently in a number of states have revealed a surprisingly large number of independent transportation service providers who are equipped to serve the semiambulatory and the wheelchair-bound. Some taxicab operators have a few specially equipped vehicles in their fleets, and a number of private operators have fleets of such vehicles devoted exclusively to serving client groups with special needs. The major problem for client groups using these services is that,

because costs to the providers are high, fares are usually very high (perhaps four or five times the prevailing taxi fares). The user-side subsidy approach could reduce the costs to the users and at the same time ensure that the providers are adequately compensated, encouraging providers to tailor their services to the needs of the client group. In many areas, this approach would eliminate the need to establish separate transportation systems for the exclusive use of client groups with special needs.

Coordinating Funding Sources

In cities where several different agencies have transportation assistance funds to disburse, the user-side subsidy approach provides a means for ensuring efficient and effective use of each agency's resources. One central office could be established to administer the user-side subsidy program for public transportation. This office would be responsible for issuing numbered transportation tickets to the various funding agencies. The agencies would then make the tickets available to their own client groups under prices and conditions consistent with their particular program objectives. Members of these client groups would use the tickets to purchase transportation services from the service providers of their choice, and the providers would then turn the used tickets in to the central office for reimbursement. Finally, the central office would bill each agency for the used tickets the agency was responsible for distributing.

Channeling all transportation tickets and transportation assistance funding through one central office would permit a variety of cost-sharing arrangements between different funding agencies. For example, as part of a citywide public transportation program, a city might wish to commit general funds to paying half of the fare for bus services for all city residents. A home for the elderly might wish to cover the remainder of the fare for its client group. The central office could develop the appropriate billings to the city and the senior citizens' home based on the used transportation tickets turned in by the providers.

A wide range of providers could be involved in such a coordinated user-side subsidy program: private taxicab and limousine operators, conventional transit systems, specialized profit and nonprofit providers with vehicles equipped for the semiambulatory and wheelchair-bound, and even private individuals operating in volunteer capacities. Rates of fare and service standards established for the different providers might vary from inexpensive, volunteer services available only infrequently to quite expensive, high-quality, shared-ride taxi services. Users could be given a certain budget of reduced-rate tickets per month and be free to use them in whatever manner best met their needs. Some users who need the more expensive services with specially equipped vehicles, such as the wheelchair-bound, might be allowed larger reduced-rate budgets than users who are able to use conventional services.

Combining Provider-Side and User-Side Subsidies

Some of the major transportation assistance programs currently available, such as the UMTA section 3 and section 16b2 programs, earmark funds for particular types of service providers or types of transportation expenditures so as to preclude the disbursement of these funds through user-side subsidy mechanisms. Earmarking funds for capital equipment is common in transportation assistance programs, for example. Although the wisdom of this kind of earmarking is somewhat doubtful, cities are likely to have to deal with it as best they can for at least the next few years.

One approach that offers prospects for avoiding the major inefficiencies of earmarking by capital equipment is to combine this type of provider-side subsidy with a user-side subsidy scheme. A city or a consortium of social service agencies could establish a central vehicle fleet with the aid of UMTA, state, or other funds and lease the vehicles at nominal rates to providers of transportation services in the area. Agreements could be developed along the lines used by the large automobile rental and leasing companies; the city or the consortium would be the lessor and the service providers the lessees. Vehicles could be made available to any and all providers who were willing to meet regulatory requirements for safety and financial responsibility.

Making capital equipment available to transportation service providers at nominal rates would reduce their costs to some extent and permit them to operate with somewhat lower fares. Should these fares still prove to be too high for some purposes, a user-side subsidy technique could be used to permit various funding agencies to subsidize ridership for their particular client groups.

One application of the user-side subsidy in combination with provider-side subsidies might be of interest in large metropolitan areas with regional transit systems that are supported by several different jurisdictions. The prevailing fare structure might be publicly supported for all residents of the region by provider-side subsidies in the form of capital grants and additional subsidy funds to cover operating deficits (which is common practice). Suppose one jurisdiction in the region wished to institute a further fare reduction for elderly and handicapped residents but other jurisdictions were not willing to support the idea regionwide. The jurisdiction could institute a user-side subsidy scheme for its elderly and handicapped residents by making reduced-rate tickets available for use on the regional transit system. The transit management could then obtain reimbursement for the tickets from the jurisdiction without having to involve other jurisdictions in the scheme at all. Such an approach would be a convenient way of giving individual jurisdictions some discretion in the use of their subsidy funds without getting involved in highly complex "deficit-splitting" formulas.

Stimulating New Services

The concept of the user-side subsidy is a relatively simple one in which the aim is to offer reduced fares to certain client groups for existing services. Suppose, however, that a city wished to provide low fares on scheduled, fixed-route transportation services for all city residents but no fixed-route services currently existed in the city. Could the user-side subsidy technique be applied? In principle, the answer is yes. No cities appear to have taken this approach so far, but in May 1977 the city of Danville, Illinois, did apply to UMTA for additional demonstration funds to test a user-side subsidy scheme for stimulating and supporting new fixed-route services in the city. Under this proposal, the city would announce that residents could purchase tickets from the city for use on fixed-route services and that service providers who offered such services could redeem used tickets from the city at a value significantly above the price paid by the users. Agreements would be developed between the city and the responsible providers on the routes and schedules to

be offered, and the city would control service coverage and fare levels through the redemption value of the tickets.

CONCLUSIONS

Transportation programs for the elderly and the handicapped that earmark funds by the type of transportation expenditure (capital versus operating) or by provider type (profit versus nonprofit) impede the efficient provision of transportation service. Turf-protection attitudes on the part of administrative agencies also create impediments to efficiency. In addition, the disbursement of funds exclusively through provider-side subsidy techniques tends to deny many qualified providers the opportunity to participate in publicly funded transportation programs, thereby reducing competition and removing some of the incentives for the participating providers to operate efficiently.

Relaxation of earmarking requirements for transportation programs will in most cases require legislative action, but turf-protection attitudes and disbursement procedures can often be changed through administrative action. Procedures should be introduced to encourage or mandate greater cooperation between agencies administering transportation programs. User-side subsidy techniques should be considered as a means of maintaining competition between service providers and rewarding efficient operation.

Experience with user-side subsidies for public transportation is rather limited although recently funded demonstration projects will provide new empirical information over the next 2 years. Existing applications of user-side subsidies have demonstrated the administrative feasibility of this approach under a number of different institutional arrangements. Although a comprehensive evaluation of service levels and costs associated with the approach is not yet available, the evidence suggests that user-side subsidies deserve serious consideration by agencies administering transportation programs for the elderly and the handicapped.

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REFERENCES

1. Coordinating Transportation for the Elderly and Handicapped. Institute of Public Administration, U.S. Department of Transportation, 1976.
2. A. E. Kidder, L. Sen, G. Amedee, and D. McKelvey. Cost of Alternative Systems to Serve Elderly and Handicapped in Small Urban Areas. Proc., Transportation Research Forum, Vol. 17, No. 1, 1976.
3. R. F. Kirby. Paratransit: A State-of-the-Art Overview. TRB, Special Rept. 164, 1975, pp. 37-44.
4. R. F. Kirby and R. G. McGillivray. Alternative Subsidy Techniques for Urban Public Transportation. TRB, Transportation Research Record 589, 1976, pp. 25-29.
5. G. Nelson. FAIRTRAN: Operation of a Credit-Card Transit Fare System. TRB, Transportation Research Record 590, 1976, pp. 27-30.
6. W. B. Tye. The Capital Grant as a Subsidy Device: The Case Study of Urban Mass Transportation. In The Economics of Federal Subsidy Programs, Part 6—Transportation Subsidies, U.S. Congress Joint Economic Committee, U.S. Government Printing Office, Feb. 26, 1973.
7. Transportation Authorities in Federal Human Services Programs. Office of the Regional Director, U.S. Department of Health, Education and Welfare, Atlanta, 1976.
8. Urban Mass Transportation Act of 1964 and Related Laws. U.S. Department of Transportation, 1975.
9. Transportation for Elderly and Handicapped Persons Federal Register, Vol. 41, No. 85, April 30, 1976.
10. Private Taxi Firm to Provide UMTA-Funded Service. Urban Mass Transportation Administration, News Release, Nov. 5, 1976.
11. Department of Transportation and Related Agencies Appropriations for 1977. Committee on Appropriations, U.S. House of Representatives, U.S. Government Printing Office, 1976.

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Transportation for the Elderly and the Handicapped: The San Diego Study

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The purpose of a recent transportation study in the San Diego region was to estimate the needs of elderly and handicapped citizens and to develop a comprehensive program and policy package to meet those needs. Both the methodology and the recommendations of the study may be applicable elsewhere. Because of the varying financial, operational, and management structures associated with different types of transportation service,