

# Mobility and Specialized Transportation for Elderly and for Disabled Persons: A View from Four Selected Countries

WILLIAM G. BELL

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A cross-cultural comparison of specialized transportation developments in Canada, Sweden, the United Kingdom, and the United States offers a useful perspective on contrasting policy and practices. The United States, in contrast to the other three industrial countries, gives major policy attention to both the elderly and the disabled, whereas the other three countries regard the disabled, regardless of age, as the primary target group for specialized transit service and support. A number of features and approaches in the four countries are revealed, among them the common high subsidization of special transport service from public funds ranging from approximately 76 percent in the United States to an estimated 92 percent (for disabled riders) in Canada. In Sweden, where the data on subsidization are firm, the public subsidy for the disabled who qualify for specialized transport, 85 percent of whom are 65 years and over, is 80 percent of costs.

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The intent of this paper is to contrast and compare some aspects of specialized transportation developments, in terms of policy and practices, in four selected industrial countries, namely, Canada, Sweden, the United Kingdom, and the United States. These countries were selected for review largely because there are comparable data available in the literature.

Specialized transportation is a term of choice, and refers to that form of transportation concerned with selected groups in society whose mobility may be impaired when contrasted to other groups. Characteristically these groups, largely composed of older people and disabled persons, are restricted in their normal mobility, for reasons both social and economic, from using such generic forms of mobility as walking, private automobiles, or public transit services, where the latter are available. Transportation planners have not agreed on a single term to designate this new branch of the broad transportation network; some call this new and burgeoning field paratransit, or community transportation, or specialized transportation.

Attention to the issue of mobility for transportation-disadvantaged groups has emerged as a priority in developing as well as developed countries, focused primarily on older persons and disabled persons, premised on the issue of equity and the normalization principle (1). Some have argued that the capacity to move with reasonable ease from one place to another, which many nonelderly and nondisabled persons tend to take for granted, represents a basic determinant of the quality of an individual's life (2). Others have argued more strongly that mobility for special groups has the status of a civil right

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Department of Urban and Regional Planning, Institute on Aging, Florida State University, Tallahassee, Fla. 32306-4053.

(3). It has been pointed out that older people, for example, do not regard mobility as an abstract concept. Rather, they value mobility as access to good health care, visitations with family and friends, opportunities for recreation, shopping in major establishments and, in some cases, an opportunity to continue in the labor force. Thus, the availability of specialized or personal transportation concretizes the level of an individual's mobility. The presence or absence of appropriate transportation resources can be the means to either integrate or isolate a person in relation to his or her environment. It has been argued that in the case of older people, the availability of transportation at a reasonable cost is a key ingredient in a potentially productive and healthy old age, especially for those who might otherwise be transportation disadvantaged.

To attempt comprehensive coverage of specialized transportation developments in the four countries selected is neither feasible nor possible. The material to follow, therefore, will highlight some of the essential features of socially provided transit service to elderly and disabled persons.

Since the focus of this paper is on publicly provided transportation for aging and disabled persons, this paper will not touch on privately provided forms of transportation. For example, there will be no discussion of walking practices among the elderly or use of private automobiles and vans, whether modified for the disabled or not. There is, however, acknowledgment that the vast majority of older people, regardless of the country of residence, prefer and use the automobile in far greater proportion than public buses or other such conveyances. In the United States, older people as well as younger people prefer and use the automobile. As one researcher found (2), "Eighty-nine percent of all vehicle trips made by people over the age of 65 were made in automobiles, though the elderly were more likely than younger groups to be passengers and somewhat less likely to be drivers. Only 7 percent of trips by older people in Los Angeles were made on public transit."

One way of estimating the significance of a new field is the extent and quality of its professional literature. Since the late 1970s a remarkable and still expanding literature on specialized transportation has emerged, much of it derived from research and recent service demonstrations. The writing has come mainly out of Western countries including Europe, Canada, and the United States. Enrichment of the literature and cross-cultural contributions can be attributed in part to four publications collating papers from recent international conferences on mobility and transport for older people and disabled persons (4-7). These materials were the product of the first four international conferences held in the United Kingdom in 1978 and

1981, in the United States in 1984, and in Canada in 1986. Much of the material in this paper will use data that came to light from these four international events. The fifth international conference will be held in Stockholm, Sweden, in May 1989.

### LINKING MOBILITY REQUIREMENTS OF ELDERLY WITH DISABLED PERSONS

Because not all elderly are handicapped and not all handicapped are elderly, a basic issue of national policy and local service provision is the linkage of these two groups, as reflected in legislation, the literature, and the operations of transportation agencies. On a cross-cultural level the respective approaches to merging or separating the mobility requirements of these two population groups may be a function of policy preferences, legislative intent, or the respective political power of older persons and disabled persons in that society (8). The travel needs of both groups may overlap but they are not necessarily identical. One general definition suggests that 25 to 40 percent of all elderly are disabled, hence they require specialized services.

On the issue of cross-national comparisons of analogous services, Katz (9) cites this caveat:

Because of different embedded cultural assumptions in different countries, successful methods and technologies from one country cannot automatically serve as models for another country unless the two countries share similar values, beliefs, attitudes, resources, demographics, and so on. Furthermore, one may find that there are other means of addressing the same problem in another culture to which neither country was fully aware, since a particular approach was taken for granted as the 'normal' way to do things.

Comparative population statistics on Canada, Sweden, the United Kingdom, and the United States are presented in Table 1. Note that comparable firm statistics on the variations in the proportion of disabled persons in these four countries are not available. A 1986 report by the European Conference of Ministers of Transport (ECMT) (11) offers this comment:

For any one country there is often a range of estimates provided by different sources. . . . The differences appear to be mainly due to differences in definition, or in the quality of data collection, rather than to real differences between the various countries. . . . A reasonable estimate (in the ECMT countries) appears to be about 10 percent. The ECMT report notes that the 10 percent estimate was also the figure used during the UN [United Nations] International Year of the Disabled. Since Canada, Sweden, and the United Kingdom are members of ECMT, the 10 percent estimate is a useful one.

TABLE 1 COMPARATIVE STATISTICS ON CANADA, SWEDEN, THE UNITED KINGDOM, AND THE UNITED STATES, 1987 (10)

Statistic	Canada	Sweden	United Kingdom	United States
Estimated population (in millions)	25.9	8.4	56.8	243.8
Proportion of population 65+ years (%)	10	17	15	12

In Canada, Sweden, the United Kingdom, and other European countries, the disabled are the primary group for whom specialized transit services are designed and operated. In these countries age is irrelevant in qualifying for designated special transit services. Specific handicapping conditions constitute admission to specialized services.

By contrast, in the United States local transportation services are expected to target both groups uniformly, addressing the able-bodied aging as well as the disabled of all ages. In the United States the aging and the disabled are treated by specialized transit as a single constituency, whereas in most Western countries they are treated as two constituencies.

The European and Canadian approach does not imply that aging persons are ignored in their respective countries. For example, they may qualify for special attention on public transit systems in the form of reduced or concessionary fares, and in the case of Sweden, 85 percent of the disabled riders who qualify for Sweden's specialized services are aged 65 years and above (12).

Combining the elderly with the handicapped in local special transit services has generated both positive and negative responses. On the negative side, many able-bodied elderly tend to resent the implication that aged persons are "like" the handicapped. On the positive side, grouping aging persons with the disabled may have resulted in more attention to the mobility needs of elders than might otherwise have been the case (2).

On balance, it may be more advantageous for the elderly in some countries to be grouped with the handicapped in order to gain the policy attention of decision makers. Collaboration by both groups on transportation issues is more desirable than having older people forced to compete with the handicapped for limited transportation resources.

As an observation on the issue of handicapped persons as the target for special transport services, there is variance among countries on the central handicapped constituency of interest to specialized services; there tends to be a bias favoring the physically impaired and less apparent concern for the sensory impaired such as the sightless or the hard of hearing. Sweden's special transport system appears to be more comprehensive in scope and serves all handicapped persons including the mentally ill.

### BASES OF SPECIALIZED TRANSPORTATION EFFORTS

Specialized transportation has established itself as an integral part of the broad transportation network of services in most industrial or developed countries. The movement that put forth the view that certain groups in society had a claim on a country's resources and were entitled to a measure of mobility approximating that enjoyed by others in society rests on legal, ethical, and political grounds.

#### Legal Grounds

Canada, perhaps, has gone further than any country in asserting the legal grounds for service to the handicapped by both the general transportation system and special transit programs. Support for the rights of the handicapped rests on sections of the National Transportation Act, the Canadian Human Rights

Act, and the recently approved Canadian Charter of Rights and Freedoms, among others, all of which address aspects of avoidance of discrimination based on physical disability (3, 13).

Also important in the annals of Canadian law is the landmark decision by the Canadian Rail Transport Committee in the case of *Kelly v. VIA Rail Canada*, 1 CHRR D/97 at 107/8 (1980) (14). The case involved Clariss Kelly, a young law student in a wheelchair who sought to travel from her home to school and back by train. The nationalized railway, VIA Canada, denied her assistance to board the train and required that she be accompanied by an attendant who would have to pay a separate fare. The commission ruled in favor of Kelly and established what has come to be known as the Canadian Model of Accessibility: *self determination*, as to whether an aide is required; *one person/one fare*, whereby an attendant is included on the one ticket; *equality of access*, requiring the railroad to provide manual boarding for disabled persons; and *dignity of risk*, enjoining the railroad from extracting waivers of liability from handicapped travelers.

Legal provisions in other countries establishing national policy on the handicapped and elderly are less elaborate than in Canada but no less effective. In the United States there are sections in two acts worth noting, Section 5.04 of the Rehabilitation Act of 1973, and Section 16(b)(2) of the 1970 amendment of the Urban Mass Transportation Act of 1964. Section 5.04 says handicapped persons cannot be denied the benefits of or be subject to discrimination in any program funded by federal funds. The 16(b)(2) amendment says that elderly and handicapped persons have the same right as other persons to use mass transit facilities and services.

Legal provisions are significant and potent, but where there may be no such law in existence, this author and others have argued that there are ethical grounds that provide a basic rationale for specialized transportation services.

### Ethical Arguments

As indicated previously, there are two principles that legitimate special transport efforts, the normalization principle and the principle of equity (1).

The normalization principle holds that elderly and handicapped persons should be assisted to maintain a pattern of living and a lifestyle approximating the norm associated with a given culture. In a transportation framework the principle suggests . . . first, that elderly and handicapped persons shall be assured a level of mobility approximating that achieved by other 'normal' and equivalent sections of the population. Second, that transportation programs support the desire of the elderly and the disabled to live out their lives at home, a setting deemed more desirable and normal than is the institution, as long as it is feasibly possible.

A second principle, that of equity, further elaborates the normalization principle. In transportation terms the principle of equity is implicit in Section 5.04 of the Rehabilitation Act mandating equity for handicapped persons in the United States; the principle is asserted directly in the language of Section 16(b)(2) of the Urban Mass Transportation Act.

### Political Activity

It would be naive not to recognize that when large sums of money from national and state sources for transportation are involved that political influences can be ignored. In Sweden and Canada, organizations of the handicapped exercise constant pressure on national legislators and local transportation-related officials to ensure maintenance of adequate levels of service for the disabled. In the United States, organizations of and advocates for the elderly tend to be more prominent politically than those associated with the handicapped, though the latter are far from silent. Although the evidence on the voting behavior of elderly persons reveals that they do not vote as a bloc, they do vote, and in substantial numbers. Advocates for older Americans remind legislators of this practice on the part of the elderly, if they need reminding, in soliciting support for and improvements in community services for the elderly, including transportation.

### ALTERNATIVES IN SERVICE APPROACH AT THE LOCAL LEVEL

A pervasive and controversial operational issue faced by planners of specialized transportation in several countries is the recommended policy on local services for the disabled (5, 15). In some instances the issue becomes charged with emotion, particularly for the disabled in wheelchairs and their advocates. In terms of national policy to be imposed on local services, the issue can be framed as selecting among two alternative approaches: Can the special transport needs of the disabled and the elderly be met best by a fully accessible modified regular public transit service or by a specialized door-to-door service? The first approach is identified widely as the mainstream strategy, the second alternative as the parallel transit services strategy.

The mainstream approach requires traditional public transit systems to modify schedules, equipment, and facilities to make them more adaptive to the transportation requirements of the transportation disadvantaged (5, p. 183). These adaptations require change in public transit's normal operating procedures, including changing the attitudinal response of transportation planners to the needs of the disabled, as well as a major outlay of funds for the retrofitting of vehicles, facilities, and equipment not designed with the handicapped in mind. The parallel method calls for the development of special-purpose transit programs geared to the scheduling needs, trip destinations, and physical and other attributes of elderly and disabled persons. The specialized method represents a customized system, using appropriately designed small buses or vans, to provide a door-to-door demand-responsive service. Specialized transit may be administered as part of a local public transit agency, if one exists, or can be a free-standing new service where none existed previously.

In examining arguments for mainstreaming transport for the disabled, the case rests essentially on a reassurance that stability of the specialized service will be maintained in the event financial resources are threatened in the future. Advocates for this approach argue that in a financial pinch when transportation budgets may become tight and cuts are made, free-standing,

relatively new specialized services are vulnerable and may be eliminated, whereas an established service within a public transit agency is more likely to weather a financial storm. A second argument is that the disabled do not want to be treated differently than others—the agency responsible for public transportation should serve all area constituents including the disabled.

The case for specialized service rests on three points. First, not every community, urban or rural, has a local public transit service. Therefore, the mainstream approach will do nothing for disabled persons in these communities. Second, public transportation was designed mainly for going-to-work trip destinations, and these are not congruent with the diversified nonwork trips made by disabled persons and older people. A substantial number of nonwork trips are made in off-peak hours when there are fewer buses on the road and schedules are different. Third, in bad weather passengers in wheelchairs have difficulty maneuvering from home to inconveniently located bus stops.

A Canadian transportation official argues that in light of the financial demands placed on aging transportation networks by retrofitting vehicles and equipment, parallel systems are more cost-effective when comparative capital and operating costs, as well as climate conditions, are considered (15).

The specialized transportation program in Stockholm, Sweden, operating as a subsidiary of the public transit agency in the area is a prototype of an integrated system, in which planners have incorporated both approaches in services for the disabled. With the proviso that only persons with specific disabling conditions qualify for the specialized service, the Stockholm program has integrated three discrete components. These include:

- A demand response unit using commercial taxis for individualized trips that can originate from home or elsewhere;
- A fleet of accessible minibuses and vans for routinized and repetitive trips offering door-to-door service; and
- A program of continued modification of conventional public transit vehicles, equipment, and facilities to extend accessibility to the handicapped trip maker (16).

In any event, these two major approaches coexist and deserve equal planning attention. In the United States, under recent regulations promulgated for enforcement of Section 5.04, national policy allows for a local community option. Either approach is acceptable. The local community is free to make the decision, taking into account local conditions and the feasibility of one approach over the other. For an excellent retrospective analysis of the tortuous path of national policy on the disabled in the United States, see Katzman (17).

#### SCOPE OF TRANSPORT POLICY FOR THE DISABLED

Addressing the mobility needs of disabled persons is a complex issue whose parameters can be perceived by policy analysts and decision makers as either narrow or comprehensive in scope. It would appear that a comprehensive policy or a multimodal integration of the travel requirements of the disabled best serves their interests. Canada and Sweden are two coun-

tries that have elected a comprehensive transportation policy for the disabled and the elderly.

According to Latham (13), in Canada,

It is the policy of the Government of Canada to ensure that all persons have access to a safe, economic, efficient, and adequate transportation system . . . the federal Minister of Transport has the authority under the Canadian Human Rights Act, the Ferries Act, the Canadian Shipping Act, the Transport Act, the National Transportation Act, the Railway Act, and the Aeronautics Act to establish standards for accessibility by disabled people to facilities and services under federal jurisdiction.

The Minister of Transport has established a Transportation of Disabled Persons Implementation Committee (TDPIC) to obtain consultation and advice on policy and measures to improve and extend access for the disabled on rail, surface transportation, air, and marine vessels. Membership in TDPIC is composed of representatives of major disabled consumer organizations, staff from the national transportation providers like VIA Rail, and government officials. Recommendations prepared by task groups of TDPIC are directed to the minister for consideration and implementation.

Sweden has taken major steps over the past 15 years toward changing its policy to facilitate use of most transport services by the disabled and the elderly. The intent of Swedish policy is to integrate the disabled and the elderly into society to as large an extent as possible. Hence, it regards public transportation as playing a major role in satisfying that goal.

In 1979 the Swedish Parliament established a Swedish Board of Transport to recommend and implement national policy on transportation, with special attention to the disabled. As part of its responsibility the board was given a mandate to plan, initiate, and monitor the adaptation of most forms of public conveyances to attain an improved level of accessibility for impaired persons (12, 18). After consultation with organizations of the disabled and of the aging, operators, vehicle manufacturers, and government officials, the board promulgated a series of regulations and performance standards for buses, subway trains, commuter trains, locomotive-driven carriages, and sea-going vessels. An interval of several years was allowed before the regulations became operational; the new standards became effective in 1984 and 1985.

Additionally, the Department of Traffic Planning, Lund University, was charged with evaluating the impact of the new regulations, the pace of adaptation, how the adaptation process was implemented and accepted by operators, the benefits of the changes for elderly and disabled riders, and recommendations for additional measures to be taken (12).

The new directives set standards that were substantive in nature. For example, in new buses they covered features of the vehicle's interior and exterior, such as height of the first step, width of the entry door, design and function of the interior handrails, number and placement of seats reserved for elderly and disabled, announcement of bus stops and other information offered vocally by the driver, floor covering, ventilation of the bus, height of letters and figures on destination signs, and the like. The board estimates that on the average, the extra cost for these adaptations did not add more than 1 percent to the cost of the vehicle; for railway carriages the added cost is higher (18).

It is noteworthy that one other outcome of the 1979 redirection of national policy on the disabled in Sweden was a set of

amendments to the building code regulations. Sweden now requires that all freshly constructed commercial buildings and offices be fully accessible to the disabled.

### APPROACHES TO FINANCIAL SUPPORT FOR SPECIALIZED TRANSPORTATION

The final area to be reviewed is the financial support for specialized transportation in the respective countries. This area proved to be a most difficult one to compile. Despite the growth of special systems for the aging and the disabled in the four countries surveyed, and although funding arrangements of major national programs constitute the lifeblood for survival, comparable data on funding support have not yet found their way into the literature. The delay by planners and others in the field to develop information about this aspect of public or governmental subsidization of this form of national transportation suggests the field has not yet matured compared to other established forms of transportation supported by national budgets.

The various sources of specialized transportation expenditures were difficult to trace. In the United States, federal allocations for transportation for special groups are treated in the budgets of the transportation sector differently than are funds for specialized transportation in the human services sector, despite the fact that the latter are a major source of transportation funding for special groups far in excess of the former. For example, in the transportation sector, specialized transportation funds are a line budget item and allocations to subsidiary units are derived from a specific appropriation with a designated dollar amount. In the human services sector, transportation costs for special groups are buried and not broken out because transportation is permitted as a component expenditure within the broad service category budget.

There are other factors that complicate the task of preparing comparatives in national investments in specialized transportation. The leadership role of the national government in funding specialized transit differs among the four countries by reason of differences in their political orientation or structure. In the United States the central government exercises a strong leadership role, whereas in Canada the provinces retain considerable power on transport policy and services, leaving the national government a residual role. Similarly, there are marked differences in the philosophy governing the merits of subsidization of special transportation from governmental budgets. Sweden's approach calls for a substantial subsidy from national and other governmental units, whereas in the United Kingdom a strong conservative strain evident at the national level has supported voluntary systems at the local level but with limited designated financial assistance from the national level. It may not be possible, therefore, to offer meaningful comparisons of national investments in specialized transportation among the four countries.

The issue of funding cannot, however, be discussed without some consideration of such operational matters as program constituency, eligibility for service, the approach to rider subsidization, and the like. There is some information on a limited and uneven basis from each country on such features as the size of the current specialized transportation constituency, auspice

of service in multiple sources of financial support, and estimates of the total national investment in specialized transportation.

### Canada

According to Hewson (19), and quoting him directly on the national picture in Canada, on transit for the disabled,

In 1985 there were approximately 330 operators of special urban transit services for disabled persons in Canada, operating 1,300 vehicles at an annual cost, excluding capital, of \$60 million. . . . Some 20 percent of these services were either operated or administered by conventional transit systems.

The major significant features of transit services for the disabled include

- A rapid implementation of new systems since 1981;
- An explosive annual ridership growth rate averaging 13 percent nationally;
- A demand exceeding the capacity . . . particularly in larger communities;
- A need for better organization and management . . . to cope with growth;
- A great variety of eligibility criteria by provinces; [and]
- A great variety of delivery mechanisms.

Eligibility criteria for transit services for the disabled in local communities . . . except in New Brunswick and Prince Edward Island . . . reflect provincial funding policies. . . . At present three major categories of persons are eligible for special transit services:

- The elderly and disabled, i.e., 1 to 15 percent of the population eligible in Alberta, Saskatchewan, and . . . in British Columbia;
- The disabled, i.e., 2 to 3 percent of the population unable to use conventional transit in Quebec, the Yukon, Newfoundland, . . . and parts of British Columbia; [and]
- The physically disabled, i.e., 1 to 2 percent of the population unable to board conventional transit in Ontario, Manitoba, and Nova Scotia.

A great variety of service options for the disabled exist throughout Canada. As a category most of the elderly and the ambulatory disabled are able to use conventional transit services . . . who have undertaken significant modifications. . . . Accessibility to conventional systems has not been a major issue because of high quality parallel systems. . . . For those of the ambulatory disabled unable to use conventional transit services but who do not require a lift-equipped vehicle, taxis are often used . . . for nonambulatory disabled, lift-equipped bus systems are operating in most urban communities of 25,000 or more persons . . . many provinces have . . . similar services in small urban and rural communities.

The estimated total annual operating cost, including administration for the 330 special transit services for the disabled . . . as of March 1985 was \$60 million, as stated, divided by source . . . from provincial funds \$34 million (52 percent); from municipalities \$23 million (38 percent); fares \$1.5 million (8 percent); and other sources \$1.5 million (2 percent). . . . The proportion of revenues from user fares has declined from a high of 15 percent in 1979 to 11 percent in 1981 . . . and to 8 percent in 1985. . . . Revenues are based on an estimated total ridership of 1.5 million trips and an average fare of \$1.00. Capital costs are normally about 12 percent of total costs . . . and are estimated to be \$7 million . . . [of which] 7 percent came from federal funding, 75 percent from provincial funding, and 18 percent from municipal funds.

## United Kingdom

An overview of voluntary organized community transport in the United Kingdom offering regularized special services for the disabled and the elderly is provided in part by Sutton (20) and by Taylor (21). The operational details come from Sutton.

While the public sector agencies may account for the majority of special transport services, the growth in voluntary organized community transport in the United Kingdom has, in many respects, been the more remarkable. The first recognized community transport scheme, for example, only began operations in Birmingham in 1966, and in the years since there has been a phenomenal growth in the number of these types of special transport projects . . . estimated to number 300 in 1984.

The term community transport is used here to refer to secondary transport modes . . . and includes the following services:

- Voluntary car schemes,
- Community minibus schemes, [and]
- Dial-a-ride services.

Community transport is normally associated with voluntary effort . . . [however] within community transport . . . there are projects that employ full time staff to organize and provide services, and the voluntary input is located in the Management Committee. . . . As community transport has grown and developed over the years their operating practices have come to resemble the public sector services in type and range of services provided to client groups without gaining recognition of their status as transport providers.

There are four types of voluntary car services, as follows:

1. Nonorganized 'informal' lift giving, such as between neighbors;
2. Locally organized car pools meeting general needs, such as a rural car scheme;
3. Local agencies that recruit drivers to meet social needs over a larger area, such as district-wide Volunteer Bureau or Councils for Voluntary Service; [and]
4. Centrally organized schemes in collaboration with a public agency such as the Hospital Car Service.

Community minibuses (more than 8 and less than 17 seats) and ambulances, which can also be operated with a minibus permit, are used extensively by voluntary groups and fall into four categories:

1. Minibuses operated solely for use of the owner organization;
2. Minibuses owned by an organization that allows other groups to use them within carefully designed criteria;
3. Minibus 'pools' deliberately organized to overcome the limitations of 1 and 2 above, allowing rider use through sharing arrangements; [and]
4. Rural community bus projects, which are supported by local authorities and undertake scheduled 'public transport' trips as well as group hire.

Minibus Dial-A-Ride (DAR) . . . for the disabled were [designed] to cater to widely dispersed trip patterns, 'many to many,' and to provide a service in suburban, low density, areas to mainly nonwork journeys, including feeders onto conventional bus and rail service. Their lack of success was attributed to the following:

1. Trip generation was disappointing.
2. The ability to handle 'many to many' dispersed journey patterns remained uneven.
3. The cost of DAR is high . . . not even meeting operating costs.

With regard to funding arrangements in the United Kingdom, Taylor claims that community groups have an advantage over conventional transport in the multiplicity of funding sources potentially available to match different objectives of local community transport operators (21).

Most start with their local authority using either Section 137 of the Local Government Act 1972 or Section 83 of the Local Government [Scotland] Act 1973, or direct powers under the Health Services and Public Health Act 1968, the National Assistance Act 1948, or the Education Act 1944. Rating authorities must give 50 percent rate relief to charitable bodies under the General Rates Act 1967, and have discretion to put this up to 100 percent. Local authorities above parish level are empowered to include many voluntary groups in their bulk-purchase arrangements to pass on discounts received. Many authorities also administer local trust funds, and themselves run lotteries, community chests or Mayor's Funds, which are tapped for support.

Shire county, Regional or Islands Councils, and Passenger Transport Executives are put under a duty by the Transport Act 1985 to . . . cover social car schemes, dial-a-rides running under social car legislation, community buses, and permit minibus service . . . directly from public transport budgets . . . and to include such groups [elderly and disabled] in concessionary fares arrangements.

The above authorities and London boroughs . . . can make revenue or capital payments toward the provision of vehicles and equipment carrying the disabled.

Central government assistance has come mainly through the Urban Programs administered by the Department of the Environment, the Welsh Office, and Scottish Development Department which provides [a] 75 percent grant to match a local authority's 25 percent contribution . . . to fund opportunities for voluntary work in health and social care schemes.

The Department of Employment's Manpower Services Commission provides money under the Community Programs to create 1-year jobs for long-term unemployed people, and this support is the main source of paid staff for community transport groups . . . and for training [staff].

Community bus operators can claim fuel duty rebate from the Department of Transport . . . and those in rural areas can also claim the transitional rural bus grant for the next 4 years. . . . In addition new public transport projects in rural areas can claim financial assistance from special funds.

Finally, there are tax concessions for charitable groups relating to corporation tax, VAT, and Car Tax on vehicles and special equipment.

Taylor concludes, based on this melange of various forms of state aid requiring manipulation to generate funds for community transport, that the total amount of state support for community transport in the United Kingdom in 1986 exceeded 30 million pounds sterling. In February 1988 terms, these funds translate to approximately \$55 million (American).

## Sweden

Sweden's program is perhaps the most direct in its funding approach, as well as the most firmly subsidized of any country. According to Ståhl the special transport program reaches into every municipality of Sweden (12).

Today all of Sweden's 279 municipalities can offer their inhabitants a special transport system, which requires applying and qualifying for a special permit. This permit is meant mainly for persons with quite serious disabilities who qualify for special services provided either by vans or by subsidized taxis.

A [state] governmental grant of 35 percent of the gross operating cost of this service is given to the municipalities. The

rules vary considerably between municipalities concerning the way persons qualify for this service and the fare to be paid by the person traveling. The most common rate of payment for the use of the special transit system is 20 percent of the costs of the journey when using subsidized taxis. A person with a special permit can use the special transport service for almost any purpose such as travel to and from work, treatment programs, shopping, visits to friends, entertainment, and so on.

Annual costs of this special transport system have increased considerably. About 300,000 persons, almost 4 percent of Sweden's population, in 1984, had a permit for use of special transport and about 85 percent of these were 65 years of age and over. This means that approximately 18 percent of the population in this age group of elders are traveling on the special transport service. About 95 percent of the journeys are made by taxicab. The cost for this service in the early 1980s was over 800 million Swedish crowns (approximately \$133 million as of February 1988) and the estimated increase per year is about 10 percent. . . . The increasing cost of the special transport service has forced Sweden to improve public transport to encourage its use by elderly and handicapped persons.

### United States

Financial support for specialized transportation at the national level in the United States comes from the transportation sector, the U.S. Department of Transportation (DOT) and other governmental agencies including the human services sector, of which the dominant source of funds is the U.S. Department of Health and Human Services. A 1977 government study uncovered 114 federal agencies with some funds for transportation for special groups, and 57 percent of these funding sources were located in the human services cluster of agencies (Government Accounting Office data, 1977). The total financial contribution for specialized transportation from federal human services funds is considerably higher than for DOT funds. For example, one 1987 estimate by Rural America suggests community transport is a \$1.9 billion industry, when community transport is viewed comprehensively to include services to poor children, the disabled, and the elderly. Of the \$1.7 billion, 7 percent is from UMTA but 53 percent is from other federal agencies, and 16 percent is from state governments, and the final 24 percent is from local sources including farebox revenues (22).

Rural America estimates there were some 11,000 community transportation systems in the United States in 1987, offering service in 86 percent of the 3,050 counties in the United States, serving an estimated 15 million persons through 500 million one-way trips annually. The voluntary sector dominates this burgeoning field, with 84 percent of the 11,000 systems under private nonprofit auspices; 14 percent are administered by public agencies and 2 percent are private for-profit agencies.

Four of the major sources of funding for elderly and handicapped transportation programs in the United States are

- *Section 16(b)(2) of the Urban Mass Transportation Act.* Provides grants covering capital costs, such as purchase of vans, buses, or equipment including wheelchair lifts. In 1988 the federal deferral allocation in this program was \$35 million.

- *Section 18, Surface Transportation Assistance Act.* Provides grants for rural public transportation for both capital and operating costs. Recipients of grant awards are expected to give special attention to elderly and handicapped groups in their area. National funds made available to state and local agencies for 1988 under this program were \$64.7 million.

- *Older Americans Act of 1964 as amended.* Transportation costs for the elderly are permitted under expenditures authorized under the act for state and local agencies in Title III (community services) and Title VII (nutrition programs) serving older Americans aged 60 years and over. Rural America estimates about \$100 million of Older Americans Act funds are allocated to transportation for the elderly.

- *Social Security Act.* Transportation reimbursement is also available to disabled and elderly clients under Title XIX (Medicaid) and Title XX (Social Service Block Grants) of the Social Security Act. Unfortunately, precise expenditures or even reliable estimates of expenditures under these titles are not available.

This summary listing does not take into account provider-side funding from a number of other sources, such as state and local government contributions, and transportation contributions from the voluntary agencies offering service to the aging and the disabled.

Selected features of specialized transportation in the four countries are synthesized in Table 2.

An unusual form of dedicated funding for transit for older persons is used in two states in the United States. Pennsylvania's program of transportation for its aging is heavily reliant on a portion of dedicated proceeds from the state lottery. New Jersey has exploited casino gambling in its major city of Atlantic City, which dedicates a portion of state revenues from casinos to transport for the elderly. Kane reports that in the final 6 months of 1985, casino gambling contributions accounted for 22 percent of the total trips for aging persons (23). The dedicated fund from casinos was second behind revenues from Title III of the Older Americans Act (33 percent) and well ahead of funds from Title XX of the Social Security Act (12 percent).

The United States has experimented for at least a decade with the concept of user-side subsidy but with limited ultimate success. The first user-side experiment began in the early 1970s with Virginia's multimodal Transportation Remuneration Incentive Program (TRIP) and, subsequently, a number of demonstrations were tested in several other states (24). The concept of user-side subsidy for special transit is borrowed from practices in other fields such as education, and its successful implementation rests on the preexistence of the service for which the subsidy is provided. In a new and growing field like specialized transportation, which requires the initiation of new services where none previously existed, user-side subsidies have had limited success in generating new services. One version of user-side subsidy that is practiced is the underwriting of approved trips for clients of social agencies by the agencies provided financial and social support. The Title XIX, or Medicaid program, provides a user-side subsidy for Medicaid clients requiring transport to hospitals and clinics. On balance, it appears that the concept of user-side subsidy, while attractive and well received by operators, has not caught on in the United States.

As a final comment on user-side subsidies, it has been suggested that the ultimate in user-side subsidies for the disabled is to follow the example of the United Kingdom's Mobility Allowance, which provides qualified disabled persons a one-time grant to modify a private automobile for personal use.

TABLE 2 SELECTED FEATURES OF SPECIALIZED TRANSPORTATION PROGRAMS IN CANADA, SWEDEN, THE UNITED KINGDOM, AND THE UNITED STATES

Feature	Canada	Sweden	United Kingdom	United States
Year of data	1985	1984	1984	1987
Major constituency	Disabled	Disabled and elderly	Disabled	Elderly and disabled
Estimated no. of operational systems	330	279	300	11,000
Coverage	1-15 percent of eligible population	4 percent of national population, 85 percent of riders are 65+	Not known	86 percent of all counties in United States have service
Auspices of specialized transportation	80 percent in conventional transportation, 20 percent in specialized transportation	In conventional transportation, where available	Voluntary agencies	84 percent private nonprofit, 14 percent administered by public agencies, 2 percent private for-profit
Estimated ridership	1.5 million one-way trips	300,000 persons; no. of one-way trips not known	Not known	15 million persons; 500 million one-way trips
Source of financial support	52 percent provincial, 38 percent municipal, 8 percent fees, 2 percent other	35 percent state, 45 percent municipal, 20 percent fees	Not known; some funds for start-up costs and operational budgets from state nontransportation funds	7 percent UMTA, 53 percent other federal programs, 16 percent state government, 24 percent local government and user fees
Extent of subsidy	92 percent	80 percent	Not known	Approximately 76 percent
Direction of subsidy over time	Increasing	Decreasing	Not known	Not known
Estimated 1988 cost (\$ U.S.)	42 million (\$60 million Canadian)	133 million (800,000 krona)	55 million (£ 30 million)	1.9 billion

NOTE: Most of the data are estimates.

[One author (25) suggests that the effect of the Mobility Allowance in the United Kingdom has been to encourage greater recognition of the needs of the disabled people to travel, rather than simply to give them the necessary spending power to demand better transport.]

In the United States, recent demographic changes among the elderly are likely to increase the demand for specialized transportation. Among other implications of the 1980 U.S. census, Bell and Revis (26) argued that while car ownership will be maintained by a high proportion of reasonably affluent elderly, the demands for specialized transportation will increase if for no other reason than the continual rise in the number and proportion of older people in the United States. They suggest that most of the riders of specialized transportation are likely to be female, of advanced age, and drawn from minority groups. The one-sixth of the aging who are living in poverty constitutes the core group who are transportation disadvantaged in the full sense of that term. They suggest further that

The paramount issue in the mid-1980s is not whether specialized transportation in the United States will survive, for clearly it is here to stay. Rather what is at stake is the extent to which the specialized transportation network will muster the resources to structure an appropriately designed and effectively operated modernized transit program to serve the intrinsic and established mobility needs of elderly and handicapped persons.

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