

thereby creating the need for special services for these people.

Referring to Figure 3, it becomes apparent that special transit innovations should be able to affect the greatest number of people in each scenario. For example, high impacts from special transit could affect 13, 19.5, and 18.2 percent of the entire population in Ontario in each of the scenarios, respectively. The probable number of people in sheltered and group housing could make community automobile fleets possible, and walking and cycling innovations will have widespread effects.

In a policymaking context these conclusions have the implication that considerable investment in modes other than fixed-route transit is required if no brokerage or other concepts develop. This is not in the Ontario government's current concept of the future, and authorities are only beginning to consider the implications of this conclusion.

SUMMARY AND FURTHER WORK

The major conclusion that can be drawn from this work is that the life-style group scenario approach appears to be a promising manner of looking to the future. If further work is to be done, quantification of the groups and projections could add firmer

evidence to the conclusions. This work will be done in the future when detailed results from the 1981 national census of Canada are released.

ACKNOWLEDGMENT

The work carried out under contract to the Ontario Ministry of Municipal Affairs and Housing is summarized in this paper. A great deal of aid given by members of the Project Planning Office within the ministry is gratefully acknowledged.

REFERENCES

1. The Elderly in Ontario: An Agenda for the 80's. Ontario Secretariat for Social Development, Toronto, Ontario, Canada, 1980.
2. L.O. Stone and S. Fletcher. A Profile of Canada's Older Population. Institute for Research on Public Policy, Montreal, Quebec, Canada, 1980.
3. M. Wachs. Life-Styles and Transportation: Needs of the Elderly in the Future. U.S. Department of Transportation, 1975.
4. R.A. Wolfe and E.J. Miller. Transportation and Seniors in Ontario. Ontario Ministry of Municipal Affairs and Housing, Toronto, Ontario, Canada, 1982.

Transportation of the Elderly and the Handicapped in Rural Areas: The Manitoba Experience

JIM WALLACE

A transportation service for the elderly and the handicapped in small towns and rural municipalities is described. This service is supported by grants from the province of Manitoba and is administered at the community level. Actual operations are usually undertaken by a local organization that deals with the handicapped. Available ridership and cost data are discussed. Problems encountered in attempting to estimate the number of potential users are examined along with possible conflicts with local taxi and ambulance services. The advantages and disadvantages of working through local governments are outlined. It is concluded that it is possible to provide a satisfactory level of service at reasonable cost in areas where it is traditionally considered difficult, if not impossible, to provide such services.

A key element in bringing the elderly and the handicapped into the mainstream of community life is the provision of adequate transportation services. In recent years there have been a number of advances in this field, but they have been largely confined to urban areas or heavily populated rural areas, and little has been done in small towns and rural municipalities. Although the need for transportation of the elderly and the handicapped in urban areas in the province of Manitoba has not been neglected, steps have been taken to provide service to those in lightly populated rural areas as well.

In its early years Manitoba was an agricultural province, with a majority of the population living on farms or in small rural towns. Since the turn of the century there has been a shift to urban living, until today about 70 percent of the population lives in a few large urban centers and the remainder on farms or in small communities. Outside the city of Winnipeg, which has more than half the province's

population (578,000) and a few other small cities such as Brandon (34,901), Portage la Prairie (12,555), and Thompson (17,291), there are few public transportation facilities, and even local taxis are rare. Under such circumstances the elderly and the handicapped who cannot drive or do not own an automobile are dependent on friends and relatives or become virtual shut-ins.

At first glance the problems of providing an organized and effective transportation service for a small user group spread over a wide area appeared almost insurmountable. The initial impetus to do something came from handicapped persons. Their perseverance, coupled with the help of service clubs and other community-minded citizens, municipal governments, and the Department of Highways and Transportation, has resulted in a program designed to meet the unique needs of rural Manitoba.

BACKGROUND

The first organized attempts to provide transportation for the elderly and the handicapped in rural Manitoba came in the mid-1970s when a number of local programs were started with federal funding under Canada Works grants. These projects demonstrated the need for service tailored to the needs of the elderly and the handicapped and delivered through broad community involvement, in a financial and administrative sense. When Canada Works funding was terminated, the local municipalities and various charitable and service organizations that had par-

ticipated in the projects attempted to keep them going, but the withdrawal of federal support resulted in the eventual demise of several transportation services for the handicapped in the province.

Two of the stronger organizations managed to maintain services but were continually insolvent and on the verge of collapse. They appealed to the province for financial assistance, which was provided by the Department of Highways and Transportation on an ad hoc basis because no policy framework or guidelines existed and there was no assurance that the groups could be provided with ongoing assistance in the future.

In 1980 it was decided to rectify these shortcomings by the introduction of a formal program for the provision of assistance to transportation services for the handicapped. The program was to be in place by 1981, the International Year of the Disabled.

A committee, which included representatives from the Manitoba League of the Physically Handicapped, was formed to make policy recommendations to the Minister of Highways and Transportation. This committee operated under the following broad guidelines:

1. All handicapped persons have a right to public transportation services;
2. Public transportation services for the handicapped are a responsibility to be shared by provincial and municipal authorities;
3. The provision of services must be undertaken at a municipal level, with the municipalities responsible for the administration and partial funding of the services;
4. The province must contribute financial resources and treat the service as a transportation rather than a social welfare matter; and
5. The program goal is to ultimately ensure that all handicapped persons in Manitoba have access to reasonably priced transportation services, regardless of where they live in the province.

Among the first and most difficult tasks faced by the committee was that of defining the meaning of "transportation handicapped" and estimating the number of potential users falling within the definition. After careful consideration it was decided that in order to encompass a broad range of users, including both the elderly and the physically handicapped, the following definition of a handicapped person would apply:

An individual who by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability is unable, without special facility or special planning or design, to use available transportation facilities.

Considerable difficulty was experienced in establishing the population distribution of handicapped persons throughout Manitoba. Statistics were often unavailable, and when they were available there were conflicts in the figures obtained from different sources. Eventually use was made of a report by Transport Canada on the identification and quantification of transportation-handicapped persons in Canada. By using the total of 781,159 handicapped persons in Canada and the fact that Manitoba has approximately 4.5 percent of the total population, it was estimated that there were approximately 35,152 handicapped persons in Manitoba. When the proportion of this group estimated to live in the major urban areas was removed, it left a balance of

4,789 persons in this category scattered throughout the remainder of the province.

In an attempt to further pinpoint the location of potential users, a survey was made of the domicile of members of the Manitoba League of the Physically Handicapped. This resulted in the identification of eight communities in which there was sufficient potential demand to warrant their inclusion in the first stages of the program.

As a result of the work of the committee and some fine tuning within the Department of Highways and Transportation, a policy paper was passed by Cabinet, provision was made for funding, and the new program was introduced in September 1981.

THE PROGRAM

The "Program for Transportation of the Handicapped in Rural Manitoba" contains the following main elements.

1. The program is designed to assist communities that have taken the initiative in providing transportation services for handicapped persons in rural Manitoba.
2. To qualify for funding under the program, the communities concerned must demonstrate a serious commitment to keep a service in operation once it is established.
3. Grants are only made to municipalities. Two or more municipalities may work together, with one acting as the sponsor of the joint service for the purpose of receiving grants.
4. Municipalities may operate the service directly or enter into an agreement or contract with any other party for its operation.
5. Service will be provided to all eligible persons without regard to any group membership or affiliation.

The limited experience with the services operated under Canada Works grants had indicated that the main difficulties were financial hardship and cash flow problems, particularly during the first year of operation. To ameliorate these problems, three types of grants were included in the programs.

1. Start-up grants assist in defraying expenses incurred during the initial operating period. This is a one-time grant of \$6,000 payable when the commitment to start the service is made.
2. Capital grants assist in the acquisition of capital assets such as vehicles. These grants, which must be approved in advance, are paid on proof of purchase of the asset. The grant is for 50 percent of the capital cost, up to a limit of \$10,000.
3. Operating grants assist in defraying the cost of the ongoing operation of transportation services for the handicapped. These grants, which are paid annually, are based on 50 percent of the operating costs after user fees (estimated at 25 percent of gross costs) have been deducted. The maximum payable in any one year is \$20,000.

To remove uncertainties and ensure continuity of service, municipalities entering the program will continue to receive annual operating grants, provided that their operation complies with provincial standards. These standards include a requirement that there be service for a minimum of 40 hr in any 7-day period and that the dispatcher be available by telephone from at least 0.5 hr before operation until at least 1 hr after service has been completed.

Service requests may be booked in advance or users can take their chances if they fail to call

ahead. Some daily runs such as trips to work or school at the same time each day can be set up as standing details. In cases where demand exceeds capacity, service is carried out on a priority system based on the following criteria:

1. Nature of transportation handicap--wheel-chair, semiambulatory, vision impairments, or all other handicapped persons; and
2. Purpose of trip--employment; medical; education; or personal business, social, or recreation.

The vehicles and ancillary equipment must meet minimum specifications established by the province, including the provision of fire extinguishers and first-aid kits. For reasons of safety as well as ease of dispatch, all vehicles must be equipped with adequate two-way radio equipment.

User fees are established by the municipality. For purposes of calculating operating grants, this fee will be considered to cover 25 percent of gross operating expenses. Should a municipality choose to lower fees and make up the deficit, this is perfectly acceptable. The normal user fee is about \$1.50.

THE MANITOBA EXPERIENCE

Because this program has only operated for slightly more than 1 year, it would be premature to draw exhaustive conclusions from the experience to date. There are, however, a number of interesting trends and a few lessons learned that may provide insight for other officials who are contemplating such a program.

There are now five services in full operation in rural Manitoba and six others at various stages of consideration of entry to the program. The five services currently in operation cover rural areas with a total population of 59,329, which is about 10 percent of the population of rural Manitoba.

Each of the services has unique characteristics that are a function of the area served, the local population, and the needs of transportation-handicapped persons in the area. The following examples illustrate this diversity.

The service based in The Pas serves the town of The Pas, the local government district of Consol, and the reservations of The Pas Indian Band and the Swampy Cree Tribal Council. The Pas is located north of the 53rd parallel in an area of precambrian shield, which is largely lakes and forests. The local population, which is largely involved in forestry and other resource-related industries, is estimated at 9,993.

The service of The Pas Handivan was one of those originally established under a Canada Works grant and kept in operation by ad hoc government funding; therefore, there is a longer operating history for this service than for the other services. Service is provided by a modified 12-passenger commercial van. An analysis of trip services for 1 year, expressed in person trips, is given in Table 1. Demand has now reached a point where approval has been given to add a second vehicle.

A second service in Neepawa is located in the southern agricultural area of the province; it serves the town of Neepawa and three contiguous rural municipalities with a total population of 7,231. The service was started by local initiative with a custom-modified van provided by the local Lion's Club. An analysis of trip services in Neepawa is given in Table 2.

The person trips reported by Neepawa are considerably fewer than in The Pas. This is because the

Table 1. The Pas Handivan, Inc., analysis of trip services.

Date	No. of Trips				
	Total	Schools	Medical	Recreational	Other
1981					
April	977	660	31	82	204
May	1,246	980	26	80	160
June	950	709	26	80	135
July	156	-	5	66	85
August	134	-	3	88	43
September	669	544	3	90	32
October	1,123	1,033	5	70	15
November	952	833	20	76	23
December	730	588	21	65	56
1982					
January	1,153	994	20	38	101
February	1,006	843	16	51	96
March	1,274	895	17	55	307
Total	10,370	8,079	193	841	1,257

Table 2. The Neepawa and district Handivan analysis of trip services.

Date	No. of Trips				
	Total	Schools	Medical	Recreational	Other
1981					
August	94	0	28	64	2
September	116	0	40	76	0
October	104	0	30	70	4
November	131	0	41	88	2
December	208	0	44	96	68
1982					
January	92	0	34	34	24
February	114	0	58	42	14
March	192	0	65	107	20
April	226	0	85	112	29
May	224	0	89	113	22
June	223	0	75	118	30
July	201	0	62	96	43
Total	1,925	0	651	1,016	258

Neepawa service has not contracted to transport handicapped children to school.

The newest service in Selkirk is operated with a larger vehicle--a bus with a capacity of 16 passengers. The area served consists of the town of Selkirk and two adjacent rural municipalities with a population of 24,336 in close proximity to the city of Winnipeg. Where the other services are largely demand responsive, the Selkirk service operates some fixed-scheduled routes to small rural communities to bring groups into Selkirk for medical appointments, shopping, and recreational purposes. This mixture of demand-responsive and fixed-route operation appears to be highly successful.

Financial comparisons are difficult to make on an equitable basis after such short experience, but some interesting results are available. A match of the analysis of trip services for The Pas with the audited financial statements indicates a net cost of \$2.53 per passenger. A comparison of this rate with other transit services in Manitoba is given in Table 3.

The data in Table 3 indicate that transportation-handicapped persons in rural Manitoba can be provided with door-to-door transportation service at a cost less than that of regular transit services on suburban routes. Rural transportation for the handicapped is now being provided in The Pas at a net cost per passenger that is 22.73 percent of the cost of similar service in urban Winnipeg. There is a lower cost because overheads are much lower due to volunteer help, lower driver wages, and no heavy overheads for infrastructure or administration.

Table 3. Comparative net cost per passenger.

Item	Cost (\$)			
	Winnipeg Transit			
	System Total	Suburban Service	Handi Transit	The Pas Handivan
Total system cost per passenger	0.85	3.76	11.73	3.91
Avg revenue (from users)	0.39	0.39	0.60	1.38
Net cost per passenger	0.46	3.37	11.13	2.53

Note: Data are from Winnipeg Transit (1981 figures) and The Pas Handivan 1981 and 1982 financial statement.

When considering the direct cost to the taxpayer (i.e., grants from local or provincial governments), it is interesting to note that the net cost per passenger is \$1.78, with the remainder being made up through donations and other nonuser fee revenue.

The experience has not been without its problems. Initially the amount of assistance required by local governments in getting a service organized was woefully underestimated. Originally it was perceived that all that would be necessary was one or two visits to the municipalities to discuss the program with interested parties. It is now known that a great deal more is involved. Fledgling services require a considerable amount of advice and assistance in getting organized, obtaining vehicles, training drivers, and starting operations. There is also a requirement for a considerable amount of moral support and encouragement during this period.

It is obvious that without local support the program is unlikely to succeed. By making grants payable only to municipalities and requiring that they be matched by local funds, the necessary commitment is usually assured. Leaving the detailed administration at the municipal level allows sufficient flexibility to meet local requirements, determine local priorities, and sort out any local conflicts. It also reduces bureaucratic intervention in matters better handled at the community level.

Although there is a firm belief in the need for involvement by local government, it has become apparent that there are broad differences in the attitudes of municipal councils. As a result, what was intended to be a universally available service to the handicapped has now become dependent on the degree of interest that can be engendered at the local government level. The reluctance of some municipalities to become involved may break down in time under pressure from potential user groups.

The program allows municipalities to operate the service directly or make an arrangement to have it operated under an agreement with some other organization. In actual practice no municipal government has yet opted to run the service itself. In every case the actual operator is an organization for handicapped individuals that is incorporated as a charitable organization for tax purposes. Such organizations have been effective at this job, and there is a fringe benefit because many local citizens make tax-exempt donations to this organization when they would never dream of contributing to the government.

Attempts to run services entirely by volunteers have not been successful, and there is some concern about the possible use of inadequately trained drivers. There is a place for volunteers in organizing and administering the service and in supporting full-time driver and dispatcher staffs.

There is a need for more study and experience to determine the optimum use for volunteers in these services.

There has been an extremely positive response from user groups to the approach of treating the service as a transportation rather than a social welfare matter. In addition, the involvement of transportation planners from the inception of the program appears to have helped avoid a number of problems.

Previous mention was made of the problems of accurately estimating the number of potential users. Although estimates of the number of physically handicapped persons may be reasonably accurate, experience has indicated that the number of elderly users is usually grossly underestimated. After a service is introduced, new users appear steadily for several months. Providing service to an undefined user population can be fraught with difficulty, and successful budgeting for the first year or two often owes more to good guessing than it does to sound financial forecasts.

Where services have started because of local initiative, this has come from one of two groups--the physically handicapped or the elderly. The limited experience to date has revealed that the group that provides the initial impetus will form the major user group, whereas others appear somewhat reluctant to make full use of the facilities. New ways are being looked at to encourage all groups to make use of the service without it being identified as belonging to one particular organization.

Although the transportation service for the handicapped is designed to fill a unique role, there is some possibility of conflict with other services, such as a local taxi (where one exists). Although local taxi services are not common in rural Manitoba, there are some that have been providing service to many of the elderly and the handicapped. A decision by local government to participate in a rural transportation program for the handicapped may erode the revenues of the taxi service to an extent where it goes out of business or provides considerably reduced service. This requires a trade-off decision by the councils concerned and may mitigate against establishment of the service, thus leaving those who cannot use a taxi without any transportation.

At the other end of the scale there is possible conflict with rural ambulances if the respective roles are not clearly defined. Transportation for the handicapped should not be used where an ambulance is required, or an ambulance should not be used for nonemergency journeys that can be done more appropriately by the Handivan.

Because the transportation vehicles for the handicapped cross municipal boundaries and charge user fees, they are technically operating as an inter-municipal livery and thus come under the jurisdiction of the Motor Transport Board and would be subject to its regulatory process. Nevertheless, there is provision for the Board to issue exemptions, and application had been made to have any vehicle operated by a municipality under the program exempted from regulatory requirements.

CONCLUSIONS

The program for transportation of the handicapped in rural Manitoba is still in its infancy, but the success to date has been rewarding. The key ingredients appear to have been involving the users in the planning and operation of the program, obtaining commitment by local government, leaving maximum

flexibility in the operation at the local level, and having financial and technical support available from the province.

There is every indication that rural transportation services for the handicapped can be operated at costs approximating those of some regular urban transit systems.

Although the program may not be transferable in its entirety to other jurisdictions, there are a number of useful lessons to be learned from the experience to date. There has been a great deal of satisfaction in seeing the elderly and the handicapped residents of rural Manitoba offered an opportunity to join the mainstream of community life.