
Section 3

STRATEGIES FOR IMPLEMENTING BETTER TRANSPORTATION SERVICES FOR OLDER PERSONS

Public transportation providers who wish to capture a significant proportion of the trips of tomorrow's older persons will need to address a number of challenges. These challenges include those of user preferences, user limitations, and system improvements. The combination of these factors poses substantial, but not insurmountable, tests for public transportation providers.

Innovative transportation services are beginning to appear in many communities. Specialized services operated for human service agency clients and public and private paratransit operations, as well as innovative services offered by major transit authorities are some of the new service types being provided in small and large communities across the United States and in other countries. Many current sources

of inspiration and operational experiences can guide the development of future transportation options for older persons.

This section examines how improved public transit services for older persons have been implemented in various communities. These improved services demonstrate that, with appropriate public support, necessary changes can be made to serve much larger numbers and proportions of older persons than are now served by public transportation. The ultimate approach to providing improved public transit services for older persons is to directly face the challenges of user preferences and the user, system, or community problems that inhibit service improvements. There are now programs and practices in place that address all of these issues and can serve as inspiration for

people interested in real improvements to public transportation services for older persons.

Although the potential approaches to the challenges identified are often unique to each specific challenge, some patterns are discernable. The common patterns include

- Adopting customer- and trip-oriented, rather than vehicle- and staff-oriented, service strategies;
- Expanding and improving current patterns of operations and services;
- Providing new types of services;
- Obtaining additional resources;

- Obtaining the participation of new and different partners in service delivery;
- Training transportation system personnel in the needs and demands of older travelers; and
- Providing more traveler information and more user-friendly traveler information.

These examples of approaches to enhancing public transit services for older persons indicate the possibility of short-term improvements and also point the way to new program concepts for the future. This section concludes by examining operations that could provide better services for older persons in the future.

9

ADDRESSING USER PREFERENCES AND EXPECTATIONS REGARDING TRANSIT SERVICE ATTRIBUTES

INTRODUCTION

Older persons highly value transportation services that are reliable, frequent, door-to-door, comfortable, low cost, and spontaneous, and which serve a large variety of destinations over extended periods of time. Particularly in light of other commitments and constraints, services exactly like these may be difficult for some transit systems to provide. Even so, there are still many steps that transportation providers can take to make their services more attractive to current and potential older riders.

Many potential transit improvements related to user preferences were discussed in transportation industry focus groups and

interviews. These discussions resulted in a long list of service challenges and potential improvements, which are shown in Table 23. This chapter reviews activities that transit operators can take regarding reliability, flexibility, and comfort. Door-to-door services are addressed in Chapter 10.

RELIABILITY

The number one concern voiced in the focus groups of older persons was reliability. Among transit users and non-transit users alike, issues relating to reliability were repeated time and time again. Some were dissatisfied with on-time performance and schedule adherence. Some were upset about missing appointments because of late-arriving vehicles. Others were afraid of (or

Table 23

Potential Service Improvements Related to User Preferences

<i>Challenges</i>	<i>Potential Improvements</i>
Customer Preferences/Concerns	
Need for reliable services	Reconfigure schedules; increase monitoring of on-time performance; implement technologies that provide real-time arrival information for passengers
Desire for more flexible services	Contract with taxi companies for these services; provide premium (short notice) service for premium prices; implement policies allowing escorts and assistance with packages and boarding/alighting
Enhanced comfort	Increase seating capacity; provide padded seats; conduct travel training workshops with seniors for familiarization; train drivers to be more courteous and more sensitive to needs of older passengers; add shelters and other amenities
Lack of sufficient service	Increase service levels during peak hours, evening hours, and on weekends
Preference of older persons for driving	Develop a full understanding of the materials in earlier chapters of this report; conduct effective market research to understand why older persons prefer driving and develop service features that are responsive to those preferences
Public transit's features do not match features and benefits of personal travel	Shift thinking from operating fixed-route bus service, including paratransit only because ADA requires it, to a focus on service development that is driven by a thorough understanding and acceptance of customer needs and desires
Older persons may not understand public transportation services	Implement effective programs that encourage successful trial use of service; develop new programs based on models in other industries
Drivers need more sensitivity to the particular travel needs and constraints of older persons	Improve or introduce customer service and sensitivity training for drivers
Reluctance of older persons to stop driving	Educate older persons to see the service alternatives that other older persons have used to reduce their driving; lead by example; implement effective training programs in collaboration with other partners with interests in encouraging older persons to reduce or stop driving
Negative stereotypes associated with public transit	Look inward first; provide education and outreach with success stories
Older travelers need to be viewed by transit operators as a market opportunity	Change thinking from a focus on operating buses to one of serving customers
Public transportation viewed as fixed-route service only	Change thinking from a focus on operating buses to one of serving customers
Assuming that the only alternative to paratransit is fixed-route service	Develop an understanding of the diversity of older persons' travel needs. Recognize that older persons, like others, use different means of transportation to meet travel needs; recognize that one size does not necessarily fit all people and all trips. Look to the automobile industry for lessons in addressing the travel preferences of various submarkets of travelers
Service not sufficiently flexible to permit trip chaining and other desired activities	Offer paratransit services; offer supplemental transportation services for certain riders or certain types of trips
Lack of sufficient paratransit service for transit needs of older persons	Expand paratransit eligibility to include all older persons and charge premium fares for premium services
Reluctance to consider changes in the structure and delivery of transportation services	Improve customer-centered service planning based on thorough market research regarding customer needs and interests; shift focus to customers, their needs, and a family of services to meet those needs; make public participation in service planning more meaningful
Need for broader view and imagination in designing and delivering services	Training and education workshops, conferences, seminars to encourage out-of-the-box thinking and action; dissemination of information on best practices; additional recognition for high-quality services

Table 23	
Potential Service Improvements Related to User Preferences (continued)	
<i>Challenges</i>	<i>Potential Improvements</i>
<i>Service Expectations of Older Persons</i>	
Customers of the future may have higher service expectations	Conduct forward-looking market research and service development planning to anticipate and plan for the needs and expectations of the market
Older persons have significant and important mobility needs	Recognize that travel needs exist and that local organizations need to take leadership responsibility in meeting those needs
Inadequacy of services in supporting programs to encourage older persons to cease or reduce driving	Understand the market and modify services to meet existing and anticipated needs; develop mobility planning and training programs to help older persons make a transition from driving to public modes of travel

upset about) being stranded. Essentially, the focus groups reported that on-time performance is a critical factor for seniors. The crucial question is what to do to improve reliability.

Schedule adherence has always been a primary concern for transit operators. For decades, transit operators have searched for ways to reduce delays, reduce waiting times, and improve the reliability of their systems. Because of factors beyond anyone’s control, such as variable traffic and demand levels, schedule adherence remains a difficult problem for nearly every transit system.

Technological Innovations

A variety of advanced technologies can improve the efficiency, effectiveness, and reliability of transit operations. Some of these technologies are

- **Computer-Aided Scheduling and Dispatch Software.** This software automates scheduling, maximizes resources by promoting ride sharing, avoids some schedule conflicts, and can improve customer billing. With this software, customers can get accurate information quickly about service availability. Although reliability should be enhanced, cost can increase

with the level of product customization desired. This software is effective with a centralized dispatch using toll-free telephone numbers.

- **Geographic Information Systems (GIS).** GIS assists organizations with mapping routes and utilization patterns. It can benefit the consumer through the provision of information on route options, ride times, and other trip factors.
- **Automatic Vehicle Locator (AVL) Systems.** These tracking systems can provide information about vehicle location and arrival times to consumers and system operators and can even provide contact in the event of an emergency. For medium to large operators, one of the biggest benefits of using AVL and automatic passenger counting is the overnight production of performance reports for each route, for the appropriate manager. The operator in Hull, Quebec, has had AVL since about 1985 and determined that improved performance through better management information was much more important than real-time control of bus headways or other operating features (Lessard, n. d.). The cost of AVL systems can be a serious issue for small transportation providers; some of AVL’s communications efficiencies can be achieved through radio and cell phone dispatcher to vehicle contact.

Recent Intelligent Transportation System (ITS) developments present an encourag-

ing new approach to the problem of reliability. Several companies are now marketing systems designed to provide instant information on actual—not scheduled, but actual—vehicle locations and arrival times. AVL technologies are used to track the speed and location of buses in service; this information is used to predict arrivals at specified locations, and this arrival information is then sent to electronic signs on shelters, posted on Internet websites, and sent to Personal Digital Assistants (PDAs) and other wireless devices. A number of metropolitan and small urban sites are now initiating real-time arrival systems. These include Ann Arbor, Baltimore, Dayton, Philadelphia, San Francisco, Seattle, and a variety of sites in California, Massachusetts, and Virginia. There are sites as well in Austria, Germany, Switzerland, and other European locations.

Advanced Public Transit Applications in Cape Cod, Massachusetts

The Cape Cod Regional Transportation Authority (CCRTA) has been engaged in what is termed “a full-featured intelligent transportation system deployment” for a number of years. Functioning as a non-operating brokerage agency that executes contracts for service with private providers, CCRTA oversees the operation of a 90-vehicle fleet (two-thirds of which are scheduled in a demand-responsive fashion) that provides service to a 15-town region.

Services are multimodal and include ferries and intercity buses as well as more common public transit modes. A computer-aided dispatching system, an AVL system, and a smart card and mobile data terminal (MDT) system are among the technologies being implemented. Information available on the web (at www.e-transit.org) indicates the current location and speed of vehicles that

operate on fixed routes and lets individuals plan specific trips by specifying origins and destinations.

Arrowhead, Minnesota

The Arrowhead region of Minnesota is a rural area that covers 18,000 square miles in the northeastern area of the state. It is characterized by a sparse population and severe winter weather, which lasts from October until April. Rural public transportation in the Arrowhead region involves 3- and 4-hour trips. Until recently, drivers were without radio contact for nearly the entire duration of these journeys. Given the harsh winter weather in this area, this circumstance caused some concern.

Since October of 1997, communication between transit vehicles and the central dispatch facility has been coordinated by the Advanced Rural Transit Information and Coordination (ARCTIC) system. AVL systems allow the central facility to track the exact location of transit vehicles. In addition, the automated scheduling system handles reservations and routing for the region’s fixed-route, paratransit, and subscription services. The benefits provided by the ARCTIC system are twofold. First, the safety of drivers and passengers is dramatically increased, as there is constant communication between the vehicle and the dispatching center, and the location of the vehicle can be tracked. Secondly, the ARCTIC system allows more potential passengers to ride the rural transit system, as reservations can be made in real time. Potential passengers can make their trip decisions based on the immediate weather conditions and then call the dispatching center to find the exact location of the nearest vehicle. Although this capability will not provide thousands of new riders overnight, it will contribute to the long-term

growth of rural paratransit in the Arrowhead region of Minnesota.

The key to the success of the ARCTIC system is the sharing of technology and resources between state and local agencies. This spreads the cost among the various participating groups (snowplows, state patrol cars, state DOT maintenance vehicles, transit buses, and volunteer-driven vehicles). In addition, it creates benefits across the board, which offset the total cost. For example, the Arrowhead region only has 38 snowplows to cover 18,000 square miles. Efficiency is a paramount concern. If snow is allowed to compact and freeze on the surface of the road, it will remain there until spring. It is therefore necessary to dispatch the snow-removal vehicles before snow begins to fall. This is accomplished through coordination between the ARCTIC system and advanced weather forecasting systems. The AVL capabilities of the ARCTIC system enable pinpoint accuracy in the placement of the snowplows, which leads to a more efficient use of salt, sand, and other resources. According to the ARCTIC project manager, the savings generated by the ARCTIC system (especially in the areas of sand and salt) were expected to reach \$1 million in 1998. A possibility of reducing the number of snowplows and drivers was also anticipated. These expectations were not realized because of hardware and software problems regarding the mobile data terminals (U.S. DOT, 2002).

During its planning stages, the original concept of the ARCTIC system was not well received in Minneapolis and in localities in and around the Arrowhead region. At first, citizens and elected officials criticized the idea of spending \$1.5 million on a high-technology system. However, after seeing the savings generated by the ARCTIC system, other areas in Minnesota are

becoming interested in having an ARCTIC system of their own.

FLEXIBILITY

Older travelers in this project's focus groups reported frustrations with the limited service hours and destinations generally available through fixed-route public transit services. In addition, according to focus group participants, one of the most aggravating and inconvenient aspects of the paratransit services offered by public transit agencies was the lack of flexibility with regard to scheduling. Several seniors complained that the standard paratransit 24-hour advance notice requirement makes it nearly impossible to adapt to changing conditions and denies them any sort of spontaneity. One focus group participant said that he only needs paratransit when weather conditions prevented him from driving. Unfortunately, by the time he finds out that bad weather is imminent, it is too late to schedule a trip. Others complained that the advance notice requirement robbed them of any spontaneity in their trip choices, which made them feel "trapped" and "powerless." In addition, 100 percent of the transportation industry focus group participants mentioned "spontaneity" as an important feature in an ideal system.

Transit services could become more flexible in a variety of ways. Key examples of new or additional services are extended service hours, increased abilities for trip chaining, and new kinds of services such as service routes, contracted services, and other innovative services.

Extended Service Hours

Many participants in the older persons' focus groups complained about the lack

of weekend and evening service in their area. Very few transit systems that were interviewed provide weekend and evening paratransit service. Metro Regional Transit Authority (RTA) in Akron, Ohio, provides paratransit services from 5:30 a.m. to 10:30 p.m. on Saturdays and 7:30 a.m. to 7:30 p.m. on Sundays. Tri-Met in Portland runs their fixed-route and paratransit service from 4:30 a.m. to 2:30 a.m., 7 days a week. In a quick survey, no small, rural systems were found that provided extensive evening or weekend service.

Transit systems (especially smaller ones and those operating in rural or suburban areas) generally cannot afford to provide service on weekends and evenings, as there are simply not enough riders to justify the operating expenses. Several examples of innovative programs to serve older passengers in the evenings and on weekends are described in later chapters.

Increased Trip Chaining

Another common complaint among participants in the older persons' focus groups was the inability to combine trips. Several paratransit users complained that there was no way to "make a stop at the pharmacist on the way home from the doctor" or to run two errands at the same time. Again, this refers back to the concept of flexibility. Older persons are looking for a convenient way to accomplish more than one task in one day by trip chaining. Transit providers, understandably, do not normally provide that sort of service through fixed-route, fixed-schedule operations. Public transportation is most often rooted in the concept of many people traveling to few destinations. Public transit entails pickups and dropoffs. Traditionally, if you wanted

someone to drop you off, wait, and take you somewhere else, you would need to use a cab. If transit systems suddenly started allowing users to lay out several trips at a time, they would be overwhelmed with demand and would only be able to serve one person at a time.

Supplemental transportation programs, such as The Shepherd's Center Escort Transportation Service and the West Austin Caregivers in Austin, Texas, (Kerschner and Aizenberg, 2001), provide a type of "one-on-one" service. These programs use volunteer drivers to transport seniors to medical appointments, shopping centers, activities, and personal errands. If the client requires assistance, the volunteer will escort the client inside his or her destination and back to the vehicle. The key benefits of these escort-based supplemental transportation programs are that the volunteer driver will wait for the client to finish his or her appointment and will allow the client to make multiple stops. Escort-based supplemental transportation programs provide for a high-quality and highly personal level of service. To provide this service, suitable volunteer drivers and other staff must be found and trained. These programs should probably be adopted as a supplement to regular public transportation services and not be seen as a replacement for transit or paratransit service.

Service Routes

The concept of "Service Routes," a transit service type that can be seen as an intermediate level of service between traditional fixed-route, fixed-schedule service and demand-responsive paratransit operation, began in Sweden. A main objective is to minimize walking distances

to and from bus stops. Service Routes are local or community bus services in which a wheelchair-accessible small bus operates a scheduled service on a route that runs close to housing and destinations used by elderly and disabled people (Ståhl, 1991). The bus typically has a low floor, a ramp for wheelchair access, and an entrance with an initial step from the road of about 8 inches (200 to 230 mm). The bus drivers are allowed ample time for their routes, and they are able to provide personal service for passengers if required. The first Service Routes proved attractive to many elderly and disabled people who had previously used special dial-a-ride services. Service Routes can be used by anyone and are more economical to provide than dial-a-ride services. By attracting passengers from dial-a-ride services, Service Routes can reduce the total cost of providing public transportation.

Initial Tests in the United States

There have been limited tests of Service Routes in the United States (McLary et al., 1993). This form of service is generally operated with smaller vehicles with low floors, kneeling features, and ramps. According to McLary and colleagues (1993), “this system serves mainly the elderly and persons with disabilities who cannot cope with public transportation involving large vehicles, long distances to the bus stop, and the stresses encountered during the trip. These people either do not use public transportation or can use it only with great difficulty.” Initial tests of these services in Madison, Wisconsin, did not draw riders away from paratransit services as was hoped but seemed to generate new transit riders attracted to the availability and convenience of the new service (McLary et al., 1993).

Community Circulator Service: Cleveland, Ohio

Like Service Routes, Community Circulator routes operate in communities or neighborhoods. Routes are designed and implemented to connect areas where high-propensity transit riders reside with destinations that they need to reach. Destinations may include shopping centers and malls, hospitals and other medical facilities, community centers and other social service agency locations, and locations to transfer to fixed-route service. Community Circulator service is open to the general public. The service is provided with small, accessible buses that can operate on neighborhood and community streets and get close to the entrances of the activity centers that are served.

The Greater Cleveland Regional Transit Authority (GCRTA) has run Community Circulator routes since it implemented its first route in 1990. GCRTA is presently operating 10 Community Circulator routes in Cuyahoga County and has pending requests for 10 more. GCRTA’s Community Circulator service generally operates on weekdays between 6 a.m. and 7 p.m. and on Saturdays between 8 a.m. and 6 p.m. Typically, buses operate every 20 to 30 minutes. Passengers are picked up and dropped off at the door of residential concentrations and activity centers. The buses operate on a fixed route, but passengers can catch a bus at any location along the route, not just at established bus stops. Fares are less than half the fare for fixed-route service. Transfers from fixed-route to Community Circulator service are free. An all-day family pass is available.

To plan and implement its Community Circulator routes, GCRTA employs a

community-based planning process. GCRTA staff uses a *Rank Index for Community Circulators*. This index was developed (1) to meet increasing requests for circulator routes in the face of limited resources and (2) to identify which circulator routes have the best potential to succeed and be cost-efficient.

The *Rank Index* enables GCRTA staff to rank route requests against one another and to rank requested routes against existing routes. The *Rank Index* has three elements:

1. Concentrations of people in the route's service area with the highest propensity to use Community Circulator services;
2. Traffic generators that would be directly served by the proposed route; and
3. A 25-percent increase in the final score if 50 percent or more of the cost of a proposed route can be covered by associated fixed-route service adjustments, or a 25-percent reduction in the final score if such a savings cannot be achieved.

In the ranking, concentrations of people with a high propensity to use Community Circulator routes include the density of people over the age of 65. Traffic generators include senior housing and locations that older persons have a desire to reach such as shopping centers and medical facilities.

In its community-based planning, GCRTA works with local stakeholders to identify an advisory group that it can work with in developing the service. Ideally, the advisory group will include people representing key stakeholders so that consensus and ownership can be developed through the planning process. Once a request for service has been received and a decision is made to consider a new route, GCRTA's process includes the following steps:

1. An advisory group is organized and convened.

2. In initial meetings:

- Members of the advisory group are asked to discuss why they feel a circulator route is needed and who would use it and why;
- Alternative route alignments are developed and reviewed;
- GCRTA staff review the technical analysis that results from application of the Rank Index;
- After alternatives have been narrowed to a proposed route, GCRTA takes a bus to test-run the route with members of the advisory group on the bus (GCRTA has found this to be particularly helpful in building consensus on the best route to operate and resolving issues related to where buses can and cannot effectively operate); and
- Existing fixed-route service is reviewed to determine the opportunity to modify fixed-route service and the extent to which cost savings would be able to cover Community Circulator route costs.

3. A service recommendation is developed, endorsed by the advisory group, and forwarded to GCRTA, key stakeholders who requested the service, and the general public.

Development and implementation of Community Circulator service requires the support of key stakeholders and the advisory group. Local support is important, especially if fixed-route service will be modified or reduced with implementation of the Community Circulator service. GCRTA introduces new Community Circulator service into a community or neighborhood with a community event, media attention, and the distribution of brochures and bus schedules.

GCRTA has found that performance of its Community Circulator service closely tracks the ranking that comes from its Rank Index methodology. Further, performance is

best where there is a strong base of existing fixed-route riders who are already using fixed-route service to make local trips. With changes and reductions in fixed-route service to minimize or eliminate duplication of service, these local trips shift to the Community Circulator service.

Rider Request Service: Fort Worth, Texas

Rider request service is door-to-door transportation service that is implemented to replace fixed-route service in areas where fixed-route service is performing poorly, and a performance evaluation would suggest that the service be eliminated. Just like the fixed-route service it replaces, rider request service is open to the general public.

The Fort Worth Transit Authority implemented a comprehensive restructuring of its fixed-route services and modified the radial structure of routes with the introduction of non-downtown routes. To address the elimination of routes and the resulting increased walking distance to remaining routes, Fort Worth introduced its rider request service.

The objectives in implementing rider request service were to

- Increase service area coverage to accommodate more people;
- Reduce the frequency of service;
- Reduce the number of vehicle miles of operation; and
- Make service available to whole neighborhoods with the broader image, awareness, and advertising of the transit system that would result.

Presently, Fort Worth operates rider request service in seven areas. This service is curb-to-curb in each of these areas like

complementary paratransit service. Customers within the service area call to schedule pickups the day before a desired trip will be made. Approximate pickup and dropoff times are scheduled. Fort Worth permits same-day scheduling of trips during lower demand midday hours, as well.

Within each of the rider request areas, time points are also established where customers are able to simply wait for a bus to get to a desired destination within the rider request area. Destinations can include locations for transfer to fixed-route service out of the rider request area. Customers who are making the same trip on a daily basis can schedule the trip as a subscription so that a daily call to schedule the trip is not required.

Service is generally available on weekdays between 6 a.m. and 8 p.m. and on Saturdays between 7 a.m. and 7 p.m. Limited rider request service is available on Sundays between 6 a.m. and 8 p.m. The fare structure is the same as that for fixed-route service. Transferring between rider request and fixed-route services is free.

The character and patterns of use differ among the rider request areas, with use being characteristic of the need in the area or community. Use is characterized by area as follows:

- Access to local schools;
- Transfer connections to get to downtown;
- Travel to local shopping centers; and
- Local travel for a variety of needs.

In one area, older persons who are no longer able to use fixed-route service to meet their needs use the service extensively.

Service Routes in Sweden

The Service Route concept appeared in Sweden in 1983 when the Borås Transportation Company introduced a new type of public transportation called Service Routes (Ståhl, 1991). Service Routes are one component of what is called in Sweden a “market-adapted public transport system.” Another component of this overall public transit system is Sweden’s Special Transportation System (known as STS, which is the equivalent of ADA paratransit services in the United States), on which the passenger must meet eligibility criteria and often also pre-book trips. A third component is regular fixed-route mass transit services.

Planning a Service Route network requires particular care. The Service Route network places priority on bringing buses near to where residents live, whereas the conventional fixed-route transit network is usually constructed in the form of straight radial lines that quickly connect different residential areas with one or more central business districts.

Service Routes in Sweden usually begin service between 8 a.m. and 9 a.m. and operate until 6 p.m. or 7 p.m. daily. There are hourly headways on weekdays and Saturdays, reduced to 2-hour service on Sundays. The Service Route must accommodate route layout, operating times, trip intervals, vehicles, and service to meet the conditions and needs of the elderly and people with disabilities. It can utilize thoroughfares such as pedestrian malls, broad bicycle paths, and even market squares that are not used by other traffic. Bus stops are at the entrances to shops, hospitals, and care centers, and the distance to stops in residential areas is minimized.

Vehicles are small and fully accessible, and staff are specially trained.

By 1991, more than 50 cities in Sweden had introduced Service Routes, either as supplements to mainstream public transport or, in some places, to replace seldom-used public transport routes. When Service Routes are introduced, the number of elderly public transit passengers increases, generally by 10 to 15 percent. In addition, up to half of those eligible to use STS (taxi and dial-a-ride) choose instead to use Service Routes, with savings for local government of 25 to 40 percent of operating costs. Surveys in 1995 showed that almost 80 percent of the elderly passengers using Service Routes were people entitled to STS, whereas only 10 percent of the elderly passengers on low-floor buses on mainstream public transport were entitled to STS.

For people entitled to STS in Sweden and living in an area served by low-floor transit buses, 85 percent of their travel was by STS. For people entitled to STS and living in an area served by Service Routes, 48 percent of their travel was by Service Route. Thus, Service Routes are very attractive to people entitled to specialized paratransit services and forms a good complement to STS. People in Sweden served by Service Routes make twice as many trips per week (1.7 one-way trips) as those served by low-floor buses (0.9 one-way trips) (Ståhl, 1998).

Contracted Services

It can be a highly attractive and effective option for transportation authorities to purchase specialized transportation services from other providers instead of providing these services themselves. Many transit providers are purchasing ADA services, late-night services, feeder services, end-of-the-route services, and other services from

private providers (including taxi operators) and human service agencies. So-called “brokerage” operations have become commonplace: public transit authorities write contracts with other organizations that include service quality standards, shifting some typically difficult issues like wage scales and work rules to those other organizations.

Collaborative Relationships and Contracting in Fort Worth, Texas

In developing its transportation services, the Fort Worth Transit Authority has developed collaborative relationships and agreements with agencies within its service area. The relationships described below are representative.

Lighthouse for the Blind. Lighthouse for the Blind, a non-profit agency, is paid by the Fort Worth Transit Authority to conduct orientation and mobility training for sight-impaired people who wish or need to learn to use fixed-route bus service. Their training is provided by certified orientation and mobility instructors and uses curricula developed by the American Foundation for the Blind. Lighthouse reports that transportation is, by far, the biggest obstacle that sight-impaired people face on a daily basis. People with disabilities can often negotiate virtually every aspect of their daily lives, except for transportation. Lighthouse has been working with sight-impaired people in the Fort Worth area for nearly 30 years and finds that the age of its clients is growing older as the population ages. In fact, most (89 percent) of its clients have been sighted and experienced an age-related loss of sight.

Training focuses on the following activities:

- Moving around the external environment;
- Planning a bus trip in advance;
- Crossing streets;
- Using a cane;
- Using the soles of feet to recognize place; and
- Asking people for aid.

Some of the people Lighthouse trains are those who use or have used complementary paratransit service; others are people who have not used fixed-route or paratransit services prior to their loss of sight. Lighthouse finds that the older a person is when sight is lost, the greater the difficulty in developing confidence in starting to use fixed-route bus service.

WHEELS (American Red Cross). The American Red Cross operates one of the few county-wide social service agency transportation systems in Tarrant County. The Red Cross has a contract with the Fort Worth Transit Authority to provide some of its complementary paratransit service on weekdays and weekends. WHEELS provides the transit authority with additional service capability when its own capacity is exceeded. WHEELS has a negotiated fixed-rate reimbursement for each trip provided.

Taxi Services

Taxis provide door-to-door public transport services for the general public at a higher price than other public transit options. However, taxis are often less expensive to operate per passenger journey than specialized dial-a-ride, door-to-door services. A recent study (Gilbert et al., 2002) found that transit agencies were contracting with taxi companies and similar organizations (all referred to as “private for-

hire vehicles,” [PHVs]) to provide the following kinds of services:

- Community Circulators;
- Feeders or replacements for fixed-route services;
- Primary providers of ADA paratransit services;
- Human service demand-response transportation;
- Rural transportation;
- Specialized transportation services for seniors; and
- Guaranteed ride home services for carpool and vanpool participants.

Gilbert’s study listed the benefits realized when transit operators contracted with PHV operators as

- Cost savings;
- Efficient means of meeting peak-period demands;
- Flexibility to incorporate changes into a beginning program;
- Provision of transportation services to the general public as well as subsidized transportation to residents who are elderly or have disabilities; and
- Additional annual as well as seasonal business for PHV operators.

User-Side Subsidies for Taxi Services. In places where city or national authorities provide alternative transport services for people who cannot use mass public transit, it has been found that about 90 percent of the journeys of those who can’t use buses can be made by conventional taxis. Conventional taxi service means large chassis cars, which sometimes have a swivel seat for the front passenger to make entry and exit easier.

Because of the high fares for taxis, in places where they are used as an alternative to mainstream public transport, approved users

have their taxi journeys subsidized to reduce the fare to about the standard bus fare. Older persons may be restricted in the number of trips per year they are allowed to make.

Taxis with user-side subsidies form part of STS throughout Sweden and have been operating for many years in London as “Taxicard.” Passengers pay the subsidized fare, and the balance, typically 80 percent of the total, is paid to the taxi operator by the local authority. Users in some areas are limited in the number of journeys per year that are subsidized, and in most areas the maximum subsidy per trip is limited. On journeys longer than the subsidy limit, the passenger pays the full cost of the additional distance.

Accessible Taxis. In places where taxis are accessible to people in wheelchairs, they allow spontaneous travel that is difficult or impossible to achieve by specialized dial-a-ride services. A particularly important role is for access and egress trips to and from airports and railway stations. As air and rail services become easier to use for passengers in wheelchairs, the access links to the line-haul terminal become the main barrier to accessibility. Accessible taxis can cater to these links.

Since 1989, all new vehicles for the “black cab” trade in London have been required to be accessible. In 2000, only accessible taxis were allowed to operate in London. Because the special London taxis are built to the same standard for the whole of the United Kingdom and are the only permitted type of taxi in most large urban areas, the taxi fleet is becoming accessible for all the urban areas of the United Kingdom. The extra cost of making the London “black cab” accessible has been minimal.

In several European countries, accessible taxis are being developed whose design is based on larger vehicles. These provide even easier access and more space for a wheelchair than does the London taxi (Stahl et al., 2001).

Other Innovative Services

There are other innovative services (some of which are more predominant in countries other than the United States) that transit authorities might ask agencies in their communities to organize and provide. A number of these are discussed as “supplemental transportation services” by Kerschner and Aizenberg (2001). Others are discussed below.

Shared Services

For many years in Australia, Britain, and Switzerland, certain mail collection and delivery services have used vehicles that are able to carry passengers. This service is called the Post Bus. Post Buses run to schedules set by the requirements of the postal service, usually in rural areas, but they do provide minimal public transport services where otherwise there would be none (Watts et al., 1978).

The British Post Bus services were originally started to exploit a taxation loophole, which refunded fuel tax to the operators of buses on scheduled local services. This tax refund made it less expensive for a mail distribution service to operate as a bus than as a mail van, even if it carried no passengers. The services do not carry many passengers, but they have proved sufficiently popular to continue after the withdrawal of the tax concession.

There is now a postal bus service operating in the United States. Operated by private

contractors in association with the Council on Aging Specialized Transportation (COAST) system in eastern Washington state, this service provides two round trips daily. Passengers are carried on trips when mail is not being carried.

Informal Services

Hospital Cars. Many hospitals have moved to sites at the edges of towns that are difficult for patients to access. One method of providing transport for patients at low cost has been to pay volunteers a small mileage allowance to use their own cars to take patients to and from the hospital. In England, these “hospital car” services are organized professionally by the hospital and can provide efficient and economical services for patients who do not require paramedical care during their journeys. The hospital provides any additional insurance required by the volunteer drivers.

Support Services. In England, “shopmobility” is a service that helps disabled people access to town center shops and facilities by providing motorized scooters on loan. Local authorities and/or charities often fund shopmobility. In 1995, there were around 100 such schemes operating in Britain, varying in size and the services they provided. Most provided wheelchairs and volunteer escorts; some had electric scooters, and all but a few are linked to parking areas or public transport (Morris et al., 1995).

Disabled users and decisionmakers responsible for shopmobility programs speak very positively about them. Decisionmakers are enthusiastic about the benefits to the town’s economy and status. Before these programs, one-fourth of the program users either did not go shopping or had to rely on someone taking them. Shopmobility has

provided freedom and independence and contributed to town center prosperity.

Luggage Services. In France, a luggage service is organized by the national railway system, Société Nationale des Chemins de Fer Français (SNCF), to carry luggage from a person's door to the train and from the train to the final destination. The service is booked with an extra fee at the same time as the train ticket, from the point of departure to the final destination. This service has proved popular and is frequently used by older persons.

COMFORT

Comfort issues are important in the travel decisions of older persons. Comfort factors include physical issues such as having a seat on a vehicle, having a comfortable and padded seat, not having to wait long periods of time in inclement weather conditions for vehicles to arrive, and not having to climb steep stairs. They also include perceptual or psychological issues involving items such as safety and friendliness.

A major dilemma for transit operators is how to overcome the initial apprehensions of the senior population. Seniors may believe stereotypes about crowded and unfriendly environments that might involve some physical risks. The question is how to change such perceptions.

Apprehensions about unfamiliar experiences, such as using public transportation for the first time, can be overcome once the new rider becomes familiar with the service and surroundings. However, if these fears keep an elderly person from initially trying the transit, then the fears can never be overcome. Travel training and driver training programs can address some of the usual apprehensions

about transit use; shelters for public transportation users address issues of physical comfort.

Travel Training

Travel training programs have become a popular way for transit systems to reach out to older passengers. Travel training programs are intended to acquaint older persons with the transit system, showing them how easy it is to board the bus and ride to their destination. In most cases, a travel training program involves "classroom" time, in which they learn about transit options, and "field" time, in which the seniors try out riding the bus. Sometimes the transit system will park a bus at a senior center or senior facility and invite the residents to board the vehicle and try out the seating. There may also be a seminar on reading maps and schedules or a discussion of bus pass options and discounts. The most successful travel training programs take it a step further, showing the trainees that transit can be a gateway to independence and recreation.

Some Successful Travel Training Techniques

Travel Buddies. Some travel training programs encourage the participating seniors to find "travel buddies" in their group. These travel buddies will accompany each other on trips and outings, looking out for one another. The buddy system serves several purposes: it dramatically increases the comfort level for both participants, it increases the safety level for both participants, and it makes the bus trip into a social outing.

Seniors Choose the Destination. Both Great Falls Transit District (GFTD), in Montana, and LIFT, in San Diego, report

that allowing travel training participants to choose the destination for a “training trip” is a very successful selling point. A lot of times, the elderly participants will be surprised to find out that a bus can get them where they need to go. Additionally, it is exciting for the seniors to choose a destination, which makes the training experience less strenuous and tense.

Group Leaders. An enhancement to the travel buddy system is to assign a group leader to each group of seniors that undergoes travel training. The group leader is a senior who rides transit regularly and is familiar with the system. When a group of seniors takes their first trip in the travel training process, the group leader will ride along with them to answer their questions and concerns. The leader also provides an example for the seniors, demonstrating things such as how to ask for a seat, when one should stand up to exit, and the proper way to pay the fare.

Peer Training. In some areas, senior volunteers are employed as “travel ambassadors” to assist with travel training programs. In exchange for a year of free transit service, volunteer travel ambassadors work one-on-one with other seniors as peer-trainers. Travel ambassadors assist trainees with their trip planning, answer their questions and concerns, and accompany them on the bus. Travel ambassadors often must complete a specified training session and commit to a certain amount of training service.

Follow-Up. Follow-up calls to each of the seniors participating in a travel training program are said to be important. These calls are generally made 3 and 6 months after the completion of the program. The purpose of the calls is twofold: (1) to ensure that the seniors are comfortable with riding

on the system and (2) to evaluate the success of the travel training efforts.

Travel Training for Older Persons at the Fort Worth Transit Authority

Customers who do not qualify for complementary paratransit service may be able to use fixed-route service for some trips. Even customers who use complementary paratransit service may be able to use fixed-route service for some trips that they presently make on paratransit service. Two elements are key in successfully encouraging customers to make the change: (1) a price incentive and (2) effective training in how to use unfamiliar, fixed-route service.

The Fort Worth Transit Authority offers travel training to older persons and others to learn how to effectively use fixed-route bus service. The program began in 1994, with a grant from the Federal Transit Administration. The objective was to train customers to switch from using complementary paratransit to using fixed-route service. Since its introduction, program eligibility has been expanded to include older persons and refugees. Some older persons sign up for training because they would rather learn how to use fixed-route service than use complementary paratransit service.

Training focuses on the following:

- Conducting an initial visit with the trainee to establish familiarity and assess personal travel capabilities;
- Executing a travel training agreement that establishes trainer and trainee responsibilities;
- Taking the client on a planned trip and conducting training during the trip;

- Repeating planned trips as required to establish confidence in independent travel;
- Conducting telephone follow-up to understand and resolve concerns; and
- Observing travel without the knowledge of the client.

Whenever changes are made to routing and scheduling that may affect a client, refresher training is provided to maintain knowledge and confidence.

Trainers and trainees have separate and distinct responsibilities:

THE TRAINER

- Travels with the client during the training program;
- Learns required bus routes to and from specified places of travel;
- Assists the client in understanding and correctly assuming the responsibilities of independent bus travel;
- Facilitates the client's learning in an atmosphere that promotes confidence, skills, safety, and problem-solving abilities;
- Identifies actual/potential problems and works with the client and significant others to resolve them;
- Maintains a good working relationship with the client; and
- Keeps an accurate written log of training time with a client and significant events during training.

THE TRAINEE

- Works cooperatively with the trainer to learn to travel independently;
- Accepts supervision and agrees to work to solve any problems that may arise; and
- Abides by policies, procedures, and regulations.

The Fort Worth Transit Authority estimates the number of trips made by people who

have received travel training. In the period between 1994 (when the program was started) and 1996, approximately 25,000 to 32,000 trips were made annually. In recent years, trips have increased to between 55,000 and 70,000 per year.

Travel Training in Eugene, Oregon

One of the really successful components of the Driving Decisions for Seniors (DDS) program in Eugene, Oregon, was the Bus Excursion Program, in which seniors trained other seniors on how to use the county transit system. One participant said, "Nobody except another senior seems to understand what it takes to get us interested [in taking the bus]." The transit system was presented to DDS participants as a highly complex technical system. Thus, those older persons who successfully navigated the system were encouraged to give themselves credit for having the skill to master a complex system. The purpose of this presentation was to "turn bus riding from a low-status act into a high-status one" (Heckman and Duke, 1997). A senior volunteer who was familiar with the local transit service took other seniors on "bus excursions" to restaurants or picnic spots within walking distance of bus stops. The bus excursion leader instructed the participants on planning the trip, boarding the bus, making transfers, and enjoying the trip. Of the DDS participants studied by Heckman and Duke, 64 percent (14 out of 22) of those seniors who voluntarily surrendered their driver's licenses did so after participating in the Bus Excursion Program. The Bus Excursion Program was described as "important, if not pivotal, in their decision to quit driving."

Part of the success of this program was the transit system's support and attitude. The

seniors saw that they were being treated with respect, and that by understanding the service, they could make it responsive to their individual needs. DDS thus successfully overcame the common perception that many older persons “detest the bus because of what it means: one more ‘demerit’ toward a demotion in social status that accompanies aging in our society. . . . [In contrast,] the Bus Excursion ‘honors’ bus riding by promoting intelligent transit system use as an achievement of high skill” (Heckman and Duke, 1997). One DDS participant said, “I used to think that riding the bus was so undignified . . . I just didn’t know any better . . . It sure has made my life easier” (Heckman and Duke, 1997).

Harper and Schatz (1998) report more common images of transit, images that were confirmed in this project’s focus groups for older persons: “A few seniors viewed public transportation as an option reserved only for the lower socioeconomic classes, and most viewed it as an inconvenient option” (Harper and Schatz, 1998).

Some social marketing may be needed to convince seniors and others that travel by means other than driving or riding in an automobile has real value. Public transit is often seen as an “inferior economic good,” a service for low-income and disadvantaged people, including the foreign-born, foreign-language-speaking, worker class. More people could be attracted to public transportation services if these services adopted a greater customer focus, a more user-friendly attitude, and began to cater to riders who ride by choice, not because they have no other choice. Travel training on how to use public transit services can be a key marketing element. The travel training program was a very successful component of the DDS program in Oregon. Travel training programs have been extremely

effective in increasing the usage of public transit services among people with disabilities, including individuals in mental retardation and developmental disabilities programs.

Passenger Training in Edinburgh, Scotland

Edinburgh is in the process of evaluating a passenger training program called “Elfbus.” The aim of the program is to assist people with disabilities in trying out new wheelchair-accessible, low-floor buses so that they can gain experience in the short term, and they can gain confidence in using buses independently in the long term.

Volunteers are being provided to accompany people with disabilities on bus journeys from their homes and back again. In the first stages, the program will be piloted by wheelchair users who are relatively confident in getting around. Lessons from the pilot trial will then be assessed before considering whether the project can be extended to other people with disabilities. The responsibilities of the participants have been defined as listed below. The whole program is a partnership among the participants listed.

RESPONSIBILITIES OF THE LOCAL GOVERNMENT (THE COUNCIL)

- Provide a loan to the voluntary organization to cover reasonable expenses incurred in delivering the project including administration fees agreed to between the Council and the voluntary organization;
- Provide monitoring forms for use by the volunteers;
- Write to the bus operators to ensure that the company is aware of the project; and
- Nominate a contact officer for liaison with the voluntary organizations.

RESPONSIBILITIES OF THE VOLUNTARY ORGANIZATION

- Ensure that volunteers are insured, trained, and briefed appropriately for their task;
- Match the volunteer and the rider;
- Maintain the confidentiality of the rider;
- Reimburse volunteers for expenses incurred in accordance with usual arrangements;
- Keep a record of each journey made for monitoring purposes and make this available to the Council;
- Account for the use of loans supplied by the Council at least quarterly;
- Nominate a contact officer for liaison with the Council; and
- Make contact with the bus rider (normally by telephone) in order to arrange a mutually convenient time for journeys.

THE ROLE OF THE VOLUNTEER

- Provide reasonable physical assistance to the rider, such as pushing a wheelchair user and helping them to maneuver onto, inside, and off the bus. The type of assistance will be agreed in general terms between the user and the volunteer before the first test journey;
- Have funds available to enable bus fares to be paid (for both the volunteer and the user);
- Pay for taxi fares if necessary to complete the journey;
- Make sure that the rider gets home again after the journey;
- Complete a monitoring form for each journey to record any lessons or problems encountered along with user perceptions of the journey; and
- Claim expenses from the voluntary organization, and keep regular receipts and records.

RESPONSIBILITY OF THE RIDER

- Notify volunteers of any difficulty in maintaining an appointment and give as

much notice as possible in the event of a need to cancel a journey;

- Advise the volunteer of the extent of assistance, if any, anticipated during the journey;
- Attempt to undertake all aspects of the bus journey (boarding, paying fare, taking tickets, etc.); and
- Assist with the completion of a monitoring form in order to record observations and comments on each journey.

RESPONSIBILITIES OF THE BUS COMPANY

- Ask drivers to provide assistance to disabled passengers by
 - Bringing the bus close to the curb; and
 - Using the ramps and lowering suspension if needed.

Driver Training

In terms of helping seniors to feel comfortable on a bus, driver training is at least as important as passenger training. When the bus door opens, the driver is the first face that a passenger sees. In a way, the driver is the face of the transit system, and he or she is responsible for the first impression that the system makes. If the elderly passenger is confronted with an unfriendly face, he or she may turn around and go home, or he or she may not come back. Positive interactions with drivers go a long way toward establishing a strong customer relationship. Transit systems are aware of the importance of driver interaction, especially with seniors, and for this reason many systems have instituted extensive driver training programs. These programs normally include training in basic first aid, assisting passengers with frailties and disabilities, and emergency procedures. In order to improve interaction with elderly

passengers, some transit systems have expanded on the normal driver training curriculum.

Shelters

Another major concern for elderly transit users is exposure to inclement weather. Long waits at bus stops can be uncomfortable or even unhealthy for a frail elderly person and will deter future transit usage. Many systems, especially those in colder climates, have taken steps to protect their bus stops from the elements. Seats are needed within shelters because not being able to sit while waiting for a vehicle is one of the large deterrents to transit use among older persons.

CONCLUSION

Addressing the travel preferences of the older persons of today might be the most important strategy in meeting the travel needs of older persons in the future. The

travel attributes most highly valued by older persons describe transportation services that are reliable, frequent, door-to-door, low cost, comfortable, and spontaneous, and that serve a large variety of destinations over extended periods of time. This chapter has reviewed actions that transit operators can take regarding reliability, flexibility, and comfort. Door-to-door services are addressed in Chapter 10.

Transit operators have several key opportunities for addressing the travel preferences of older persons. One involves the use of advanced technologies to improve reliability or provide real-time schedule updates. Others include extending service hours and augmenting trip chaining abilities to increase the flexibility of services. New forms of services, such as Service Routes, Community Circulator services, or contracted services, can also add flexibility. Travel training, driver training, and shelters for transit users are key means of adding to transit rider comfort.