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## FINDING INSPIRATION FOR THE FUTURE IN RECENT INNOVATIONS

Better travel options from transportation providers in the future will require a broader perspective than is commonly found at this time. Several excellent examples of broader perspectives can be found. In particular, these examples deal with the range of services available and a focus on consumers. They also involve making a comprehensive examination of the kinds of transportation services that are being offered in relation to the kinds of services being demanded now and in the future.

The three previous chapters dealt with potential improvements to address user preferences, user needs, and system conditions. Although the potential improvements are often unique to specific challenges, some patterns are discernable within the wide list of potential

opportunities. The common patterns include the following:

- Adopting customer- and trip-oriented service strategies 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.

Although it is theoretically possible to effectively address all of the challenges listed by older persons and transportation

professionals, some challenges can be more easily addressed than others can. Some solutions can be implemented within existing structures for the delivery of transportation services and the legislative, policy, and regulatory environment, but other solutions will require fundamental structural changes in the way services are organized, managed, and delivered.

This chapter looks at various improvements to public transportation services that are being made, or can be made, to offer better public transportation services for older travelers. Short-term, low-cost improvements are possible and should be carefully examined. For improvements that require a greater investment of time and resources, new perspectives are needed. A full range of services would need to be implemented, and comprehensive examinations of services need to be conducted. Doing this would lead to a broad-spectrum approach to meeting the travel needs of older persons. This chapter describes communities in which some of the most forward-looking ideas have been applied.

## SHORT-RUN IMPROVEMENTS

One piece of good news is that there are short-run improvements that transit operators can implement to make transit services more senior-friendly. As identified by the focus groups of older persons for this study, these short-run improvements are as follows:

- Improve schedule reliability (or find means of providing accurate information on departures and arrivals such as technologies that provide real-time information on actual arrival times);

- Provide guaranteed-ride-home services;
- Find ways of welcoming people who are not accustomed to using the service;
- Find ways to help older persons board vehicles when needed;
- Improve information and provide much more of it, both for trip planning and while traveling;
- Add customer service features such as calling out stops, reserving more seats for older persons, providing more friendly and more detailed travel information, providing more telephone lines for information, and making systems more responsive to complaints;
- Work with human service organizations and volunteer agencies to better serve the more specialized travel needs;
- Partner with representatives of the aging community to build additional community support for more local transit funding;
- Provide special vehicles for special events;
- Minimize physical barriers such as steep or long stairs and standing and waiting outside in all kinds of weather for long periods; and
- Put an emphasis on polite, courteous drivers.

One of the key findings of the research is that none of the desired changes are particularly new or revolutionary. Some have been tried in one community or another.

## NEW PERSPECTIVES, NEW PARADIGMS

Some public transit systems are recognizing that transportation service delivery involves more than fixed-route service for the general public and complementary paratransit service for people with disabilities who meet ADA-eligibility requirements. Paratransit service may provide an appropriate, cost-effective way to deliver transportation services in

some settings. There are a variety of transportation options, or alternatives, that combine elements of fixed-route and paratransit services to more effectively meet the travel needs of customers. In a collaborative, coordinated setting, the focus can shift from the operation of fixed-route bus and rail service to the design and delivery of a family of transportation services to meet the travel needs and requirements of customers. Customers can include individuals, local agencies purchasing services, organizations advocating for the needs of specific groups of people, funding agencies, local elected officials, and others.

For a number of years now, a variety of sources have been discussing the concept of “reinventing transit.” Applying the principles of TQM (MacDorman et al., 1995) to new paradigms for public transportation (Cambridge Systematics et al., 2000) and the pronouncements of the APTA Transit 2000 Task Force are two examples of ways that industry leaders and researchers have been calling for new approaches to providing public transportation. According to Jennifer Dorn, Administrator of the Federal Transit Administration, “Public transportation must diversify its product line . . . to better meet customer trip needs” (Dorn, 2002).

The results of the research for this report support these calls for substantial change. In fact, the currently unmet needs of older travelers can serve as a powerful stimulus for the challenges facing the public transportation industry.

Travel mode is the basic issue for the transportation industry. Will the industry continue its almost exclusive reliance on fixed-route, fixed-schedule services? Or, alternatively, will public transportation providers move toward operating a range

of services at a range of prices? Choosing the first option implies satisfaction with a relatively small role in fulfilling the overall travel demands of the population in general and older travelers in particular. Accepting the second role would place the industry in a much better position to be the provider of a much larger portion of the trips of older persons and others in the future.

Disregarding the real travel needs of the elderly could place the transit industry in the unfortunate position of losing customers to new and different services that would fit the definition of “disruptive technologies” (Christensen, 1997)—organizations that provide the right combination of increased reliability and convenience, as well as a better price, for local travel. Because of the typical problems faced by large industry leaders in instituting new technologies, the most attractive position for public transit may be that of fostering service innovations through a variety of small-scale partners who will be satisfied initially with small markets and lower cost structures.

But accepting innovations is often difficult. According to the *New Paradigms for Local Public Transportation Organizations* report,

The search for new paradigms reflects a recognition that many public transportation institutions and services, which have remained largely unchanged over the past 30 years, have become unresponsive and inflexible in the face of trends, conditions, needs, and expectations that are dramatically different than they were even a decade ago. (Cambridge Systematics et al., 2000)

This report, which would interest all persons interested in improving public transportation, makes the following points:

- Fundamental change (a paradigm shift) is needed;
- The focus of the new services needs to be on customers (service), not modes (assets);
- Logistical controls need to be implemented to satisfy customer needs;
- The customer needs to see a seamless product;
- Individualized, door-to-door services need to be emphasized; and
- Examples of the kinds of new services that should be adopted by the transit industry in the United States include FedEx, Sealand/CSX, London Transport, and paratransit services in Gothenberg, Sweden.

The new paradigms for transportation that are required, according to this report, would include

- Less emphasis on dedicated assets;
- A central logistics function for management and performance monitoring;
- Door-to-door thinking;
- Less emphasis on minimizing the price of service;
- More emphasis on creating high-quality services;
- High-level strategy, low-level accountability; and
- Focus on varying and changing demands.

The report goes on to note:

We can send a package door-to-door across the continent with a single phone call and can report to senders and recipients its exact whereabouts instantaneously. Our travel expectations are now being built around this level of performance. The fact that we cannot manage the door-to-door trip for people as effectively says legions about the paradigm shift that is needed

in passenger transportation. (Cambridge Systematics et al., 2000)

This kind of paradigm shift would provide the kinds of services being requested by many older travelers:

- Reliable departure and arrival times;
- Door-to-door service;
- One central number to call for “one-stop transportation shopping”;
- Reduced walking distances to fixed-route bus services;
- Flexible service available on demand (no 24-hour waits for trips);
- Comfortable vehicles and waiting areas;
- Connections between a wider range of origins and destinations; and
- Services available during more hours of the day and more days of the week.

## **A FULL RANGE OF SERVICES: THE FAMILY OF SERVICES CONCEPT**

Part of the paradigm shift would involve a greater range of services. A concept that originated in Sweden, but is now applied much more widely, is that of the family of services (Ståhl, 1992). This concept recognizes that there is no single solution to the mobility needs of a whole population. For example, services that provide for larger sectors of the population can provide wider coverage, higher frequency, and lower cost, but they will not be usable by some groups. Services that become more specialized to meet the needs of small groups will be less flexible to use and more expensive to supply. The objective of the family of services is to provide mobility

for all at the lowest cost and with the greatest potential for spontaneous travel by encouraging people to use the tier of service that offers greatest flexibility and costs least to provide.

## **Service Components**

### ***Accessible Public Transit***

The basis of a family of public transport services for an urban or suburban area is a network of high-quality, accessible public transit services (provided, for example, by low-floor buses). These offer the opportunity for spontaneous travel and are relatively inexpensive to provide and use. They do require people to be able to walk to and from bus stops (about ¼ mile, or 400 meters, at each end of a journey), to move quickly when boarding and alighting, and to tolerate crowding at peak periods.

### ***Service Routes***

For people who find mass public transport too demanding to use, the second tier of the family of services is Service Routes (described in more detail in Chapter 9). These are scheduled bus services using low-floor mini-buses (around 20 seats) on routes that may be fixed or allow small diversions. The routes bring the buses close to trip origins and destinations to reduce walking distances, and buses can be hailed anywhere along their routes. The timetable allows plenty of time for boarding and alighting, and staff are trained to help passengers if necessary. Service Routes can be used by anyone; in some small towns, Service Routes provide the whole public transport service. Service Routes are more expensive per passenger than mass public transport but less expensive than taxis or dial-a-ride. Taxi services are provided with user-side subsidies for

particular groups of passengers: those who need door-to-door service, or those who cannot manage a Service Route vehicle but do not require help entering or leaving the vehicle or attention during the journey (Berg and Christensson, 1981).

### ***Paratransit***

Paratransit services provide trips in response to specific customer requests (hence the term “demand-responsive”). Small buses, vans, or cars are typically used. For passengers who need help from their homes into a vehicle or attention during the journey, dial-a-ride services with an attendant in addition to the driver can provide mobility (Berg and Christensson, 1981). These services are the most expensive to provide. Because they often serve individuals with limited incomes, full trip costs are seldom paid by riders, but because public funds for such services are typically in short supply, these services often have highly limited availability. Also, because they usually need to be booked at least 1 or 2 days in advance, spontaneous travel is seldom possible.

### ***Taxis***

For many years, taxis have provided on-demand services for riders. Typically operated by public companies, taxis offer exclusive services from the origin to the destination of the passenger’s choice. This is a premium service that usually commands premium fares. In recent years, some taxi companies have broadened the scope of their services to include shared ride and subscription trips. (Taxis are also discussed in Chapters 5 and 9).

### ***Pedestrian Travel***

An essential complement to a vehicular family of services is an accessible pedestrian

infrastructure. All journeys involve some walking or assisted walking, and the lack of accessible infrastructure is as much of a barrier as an inaccessible vehicle. (Accessible pedestrian infrastructure is discussed in detail in Chapter 10.) “Safe, convenient, and comfortable walking is the key to local mobility” (OECD, 2001).

## The Family of Services Concept in Europe

Families of transportation services are now common in Scandinavia and are developing in other parts of Europe. Sweden has led the way in providing integrated systems of accessible transport for people with differing degrees of disability. The full range of public transportation options appears likely to consist of the following components:

- Accessible fixed-route public transport (low-floor buses and accessible metros) for those who can reach bus stops or metro stations;
- Service Routes for people who need a little more care than public transport can provide and who do not need very frequent service;
- Subsidized taxis or volunteer drivers for people who need transport door-to-door but do not need specialized care during the journey;
- Dial-a-ride for severely disabled people who need considerable assistance or care; and
- Subsidized private automobiles for those who are physically able to drive and who live far from public transport services.

## The Family of Services Concept in Mesa, Arizona

The community of Mesa, Arizona, east of Phoenix, is developing a family of

transportation services. This family of services includes

- Fixed-route bus service;
- Complementary paratransit service;
- “Enabling Transportation”; and
- Neighborhood circulator service.

Fixed-route transit services for the general public and complementary paratransit services for older adults and people with disabilities have been in place (OECD, 2001). Like many public transportation systems around the country, Mesa has been experiencing a rapid growth in the demand for its complementary paratransit service. With no dedicated tax for public transportation services and limited resources, Mesa has not been able to increase the level of paratransit services it provides.

To expand transportation alternatives for older adults in Mesa, Mesa Senior Services implemented a new program called Enabling Transportation (ET) in 2000. Modeled after the TRIP program developed in Riverside, California (see Chapter 11), ET is a mileage reimbursement program that enables older persons in Mesa to choose a volunteer driver to provide them with transportation services and reimburse this driver with funding provided to them by the city of Mesa. Volunteer drivers are recruited directly by the participating resident and may be a neighbor or friend. Travel is reimbursed at a rate of \$0.32 per mile. The city of Mesa pays the participating resident, and the resident pays the driver.

ET is available to Mesa residents who are 65 years of age and older. Eligible residents complete a program application and sign an agreement to participate in the program. By executing the agreement, residents commit

to recruiting a volunteer driver, reimbursing the driver for miles operated, keeping and submitting mileage reimbursement forms monthly, and abiding by all ET program policies.

Residents are encouraged to ride with other ET residents. Drivers with multiple passengers may be reimbursed at a rate of \$0.40 per mile.

The city of Mesa is also planning to implement a neighborhood circulator route within a defined neighborhood area in 2003. This service will offer flexible routing to meet customer service requests.

## **The Family of Services Concept in Big Stone Gap, Virginia**

Since 1974, MEOC has provided Area Agency on Aging transportation and general public transportation to the City of Norton (population 4,247) and the counties of Lee, Wise, and Scott in the far southwestern corner of Virginia. The service area is rural and mountainous, with a population of just over 90,000—15 percent of which is over the age of 65. For many years, coal mining was the dominant industry in this part of the state. The long-term effects of coal mining and coal dust exposure are evident in the frail nature of the elderly population in this area.

In addition to general public transit, MEOC provides a variety of services tailored to the individual requirements of anyone in their service area. Able-bodied persons without cars can get a ride wherever they need to go, using the general public demand-responsive system. Persons requesting a higher level of service meet with caseworkers, who

determine the level of need and report back to MEOC. For example, persons who are deemed to be too frail to ride a bus for several hours are eligible for the MEOC “one-on-one” service which provides trips tailored to individual clients and includes service such as trip chaining. (See “Expanding Flexibility to Permit Trip Chaining” in Chapter 11 for a more detailed discussion of MEOC’s “one-on-one” service.) MEOC prides itself on making extra efforts to meet the needs of the elderly clients in their service area. If a caseworker identifies a need, MEOC will meet it.

The “can do” attitude at MEOC can be attributed to several factors. One contributing factor is the lack of a “bureaucratic mindset” among MEOC employees. MEOC uses a flat organizational structure and an informal work environment to foster communication, personal interaction, and cooperation between caseworkers and transit workers. There are only two directors and three department heads, which leaves the vast majority of the staff on equal footing. The workspace is open; there are no individual offices or cubicles, no barriers between people. When a caseworker needs help for a client, a transit worker obliges and vice versa. Other contributing factors are the strong community ties among MEOC employees and the widespread community involvement of MEOC. MEOC keeps in constant contact with local elected officials and maintains contracts with local mental health services, services for mentally retarded persons, the local Department of Social Services, Virginia Initiative for Employment Not Welfare projects, Welfare-to-Work projects, Vocational Rehabilitation Centers, and Services for the Blind. They also provide Medicaid transportation. If a person or organization is in need of service, MEOC will provide it.

Current marketing efforts at MEOC are very limited because the system has matured and is operating at near full capacity. They still provide brochures and schedules upon request, and they have their telephone number on the side of their buses, but there is no real need for further efforts because people know who they are. MEOC officials point to the mid-1980s as a time when stronger marketing efforts were in place. MEOC handed out brochures at special events, provided public service announcements, put up numerous signs, and aggressively sought partnerships with local human service agencies. Their current prosperity can be attributed to these efforts.

The biggest problems currently facing MEOC involve funding and cooperation/coordination between agencies. MEOC must deal with conflicting regulations that are attached to funds received from various agencies. These “upstream conflicts” have a negative impact on MEOC’s ability to be flexible and accommodating to service requests. According to MEOC officials, it is the federal funding conflicts that present the greatest problems, especially in the area of Medicaid transportation funding.

The transit manager of MEOC spoke about his vision of the future of transportation services for older adults. MEOC wants to make the transit experience as painless as possible for passengers. Anyone who calls in for a ride will get a ride, and it will be billed to the appropriate agency with all details handled behind the scenes by MEOC. MEOC wants trip administration to be “transparent” for the passenger; according to the transit manager, they have almost achieved this goal. The manager believes that in the future there will be a large segment of the elderly population that will be more affluent than today’s older persons,

and these affluent older persons will have different needs and expectations. They will expect a higher level of service in all aspects of transportation: everything from the quality of the vehicles used to the attire of the driver and the manner in which appointments are made. These affluent seniors will also want transportation for recreational and entertainment activities as well as for medical and shopping trips. MEOC may branch into two segments: one serving the traditional disadvantaged clientele and one serving the more affluent neighborhoods and assisted living facilities.

In a personal interview, the transit manager offered the following advice to special needs transit providers in rural areas: “Be active in the community planning process from the transit perspective. Get to know the local planners and site-inspectors, know what is being proposed, and work with the community planners to locate new facilities in places that are convenient to serve.”

## **A Family of Services Operation in Uppsala, Sweden**

Uppsala County is one of Sweden’s fastest growing counties. The county, together with Stockholm and the Mälars Valley, is the country’s largest labor market and makes up one-third of the population of Sweden. The population is young and well educated, in large part because of the students at Uppsala’s two universities—Uppsala University (Sweden’s first university) and the Swedish University of Agricultural Sciences (SLU). Forty percent of the county’s population is under 30 years of age. There are nearly 300,000 residents in Uppsala County. Uppsala, the county capital and the oldest city in Sweden, has a population of about 190,000 and is

Sweden's fourth largest city. Commuter train traffic between Uppsala and Stockholm is the most extensive in the country, with trains for the 35-minute ride departing on an hourly schedule. About 10,000 persons commute from Uppsala to Stockholm on a daily basis.

AB Uppsalabuss is responsible for planning, financing, marketing, and developing public transport in the city of Uppsala. The company is 100-percent owned by the municipality and has a board consisting of politicians elected by the city council. The system operates 150 buses and provides 12 million passenger trips per year.

For many years, Uppsalabuss has had a special interest in making public transport accessible. Service Routes were started during the early 1990s when the first low-floor bus came into operation. Low-floor vehicles now make up approximately 70 percent of the fleet; this includes both 40-foot vehicles and articulated buses. In the city center, small, low-floor, battery-powered buses are used for both a park-and-ride system and those who need to travel short distances in the business area. There is also training and education for drivers in the special needs different groups have on their trips.

Travel need surveys are conducted to get an overall picture of what passengers need at the door where the journey starts, at the bus stop, on the bus, at the bus stop where the passenger alights, and on the path to the final destination. The objective of these travel need surveys is to learn how to increase accessibility for persons with limited mobility and learn about types of assistance that can enhance accessibility for all passengers. (For example, studies are being conducted on how to use different colors to make information readable for

visually impaired persons and on how steep of an incline is practical for allowing wheelchair access.)

Travel information is a key concern in Uppsala. Information is available on the buses so that passengers can read and hear announcements of the next stop. The Uppsala system will also have information at bus stops; an audiovisual system is under development. Providing information on board the bus about approaching stops was being implemented in the fall of 2001.

A new bus route network demonstrated a new and different need for Service Routes. Previously, more elderly people lived in special housing. The transportation system changes have enabled more elderly people to stay in their own homes for a longer time. Institutional living is not the same as it was 10 years ago: people in the special homes now are very old, and their need for public transport is not as high as before. This situation will demand more flexibility than is offered by the Service Routes. Therefore, the Service Routes were planned to be entirely replaced by dial-a-ride services by August 2001 (Eklund, 2001).

The stated goal of Uppsalabuss is to make public transportation accessible to everyone by 2010. By applying the family of services concept, the community has been able to minimize the use of the more expensive specialized transit services for people with disabilities.

## **Family of Services Operations in London**

In London, low-floor buses are gradually being introduced. For many years, a subsidized taxi service, known as "Taxicard," has been provided for people who are unable

to use mainstream public transport services because of disabilities. Since 1989, all new London taxis have been required to be wheelchair accessible, and since January 2000, all taxis are accessible. In addition, the London Boroughs (local government units) provide dial-a-ride services for those unable to use taxis.

## **COMPREHENSIVE EXAMINATIONS OF OVERALL SERVICES**

The comprehensive reexaminations of overall service patterns in several transportation organizations suggest that these reexamination activities could be emulated in other communities with attractive results. One of these focused on all transit services; the other particularly targeted older persons.

### **Comprehensive Service Restructuring: Fort Worth, Texas**

Periodically, it is prudent for a transportation organization to conduct a comprehensive review of the services that it offers. Such a top-to-bottom review enables an organization to take a fresh, objective look at its services in relation to the customers and markets that are being served.

In 1996 and 1997, Fort Worth conducted such a review and implemented a significant restructuring of its services. Prior to the restructuring, Fort Worth was operating a system of fixed-route transportation, with all routes radiating out of downtown Fort Worth. Any travel to locations not along a specific route required travel into downtown and a transfer to another bus to complete a trip. In January 1998, the Fort Worth

Transportation Authority (the “T”) implemented a new system of services.

The radial fixed-route system was replaced with the following system of services:

- Fixed routes that continued to serve downtown;
- Cross-town routes;
- Rider request routes;
- Express routes; and
- One downtown and four suburban timed transfer centers.

The T wanted to move away from a strictly radial route network to one that better served suburban trip-making while maintaining a high level of service to downtown.

The new system was designed with the following customer feedback and service assessment in mind:

- Ninety-three percent of riders would continue to use the T even if they had to transfer;
- Riders wanted quicker and more frequent service;
- Non-riders said that the number one reason they did not use the T was because bus travel took too much time;
- Riders wanted to spend less time on the bus to reach their destinations;
- Riders and non-riders wanted transportation to places within their neighborhoods;
- Riders and non-riders wanted access to places not currently served; and
- Reduction in travel time was possible by using interlined routes and flexible/neighborhood service.

The goals for restructuring the T were the following:

- Design routes that better serve customer needs and increase ridership by

providing more flexible, consistent, and convenient service;

- Design a system that is more efficient to operate than the current system; and
- Accomplish the change with as little impact on current employees as possible.

An overriding goal in designing and implementing the new system was maintaining or slightly reducing the overall level of service. As implemented, vehicle hours were reduced by 1.5 percent, vehicle miles by 5.5 percent, and cost by 4.0 percent.

Fixed routes into downtown that remained in service were the more highly used and productive routes. Some of these routes were simplified, with less branching, and their total distances were reduced. Other unproductive routes or route segments were eliminated. New express routes were also introduced, providing express service into downtown Fort Worth from each of the quadrants and into Dallas.

Five transfer centers were created: one downtown and one in each quadrant of the service area (i.e., north, east, south, and west). The non-downtown transfer centers were established at major shopping areas, easily identified by residents of the area. These transfer centers were served by the fixed-route system that continued to serve downtown Fort Worth. Fort Worth introduced cross-town routes to serve riders who wanted to make non-downtown trips without the need to ride into downtown and transfer to complete their trips.

Rider request routes were introduced into areas where fixed-route service had been removed, and gaps in service were created. Rider request service is curb-to-curb in

each of these areas in the same way that complementary paratransit service is operated. 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. (For more information on rider request routes see “Rider Request Service: Fort Worth, Texas” in Chapter 9.)

Fort Worth has developed a comprehensive performance evaluation system to track service performance on a monthly, year-to-date, and annual basis. Each category of service and routes within these categories are tracked by the following performance measures:

- **Cost-efficiency**—cost per mile, cost per hour;
- **Service effectiveness**—passengers per mile, passengers per hour;
- **Cost-effectiveness**—cost per passenger; and
- **Market effectiveness**—subsidy per passenger, index point total, index average.

The T tracks service performance within each service category through the use of a performance index. Performance is rated for each performance measure. For every 20-percent increment that a route is above or below category performance, the route (or service) receives a score of +1 for being above and a -1 for being below. Calculating an average score creates the index. Performance is indexed for service evaluation and rated according to the following indexing scheme:

- Index of 1 or greater = Satisfactory—No significant modifications required;

- Index of 0 to .99 = Marginal—Modifications should be considered after low performers are addressed;
- Index of 0 to -1.99 = Deficient—Improvement plan implemented and must show results in 6 months or route will be restructured; and
- Index of -2 or greater = Acutely Deficient—Improvement plan implemented and must show results in 6 months or route will be eliminated.

In evaluating the performance of service, the T recognizes that service that is not performing well may still need to be operated. The T calls such service a “lifeline.” Lifeline service is defined as service within ¼ mile of public housing, public social service facilities, public medical facilities, public postsecondary schools for low-income residents, or essential shopping. A lifeline route must have daily ridership of at least 100 riders.

The T significantly reallocated resources, which is what a restructuring of service is all about. Prior to the restructuring, 100 percent of the T’s resources were invested in radial fixed routes serving downtown Fort Worth and express routes. Now services are more responsive to individual needs.

## **Elderly Mobility Initiative: Phoenix, Arizona**

Meeting the mobility needs of older persons may be addressed comprehensively on a regional basis. The Maricopa Association of Governments (MAG) has taken just such an approach in Phoenix, Arizona. Following a *Special Transportation Needs Study* (Maricopa Association of Governments, 1999), MAG hosted a “Stakeholder Dialogue” to begin a regional focus on elderly mobility in the region in August 2000. This effort is being called the *Elderly*

*Mobility Initiative*. In March 2002, MAG hosted a National Conference on Aging and Mobility, which was well attended by leaders in the field.

MAG is taking a long-term view. The vision is that by 2025, among other things, mobility options for older persons will be safe, reliable, accessible, affordable, well understood, and efficient. The mission of the MAG Elderly Stakeholder Working Group is to provide regional leadership in developing and designing a transportation system that addresses the issues of older persons.

Ad hoc groups for developing regional action plans were created in four functional areas:

- Older driver competency;
- Alternative transportation modes;
- Infrastructure and land use; and
- Education and training.

The planning process that each group followed was conducted within the following framework:

- Complete work in four to five meetings;
- Seek multijurisdictional and multidisciplinary participation;
- Look at current state-inventory and gap analysis;
- Look for applicable national and local best practices;
- Utilize public input; and
- Develop and submit recommendations.

Each working group was charged with formulating recommendations organized as follows:

- Recommended best practice;
- Rationale for implementation;
- Roadblocks to implementation;

- Resources needed; and
  - Responsibility.
- Increased security, and
  - Optimized stop locations.

Recommendations for alternative transportation modes are listed below.

- Establish a transportation consortium to design and oversee a transportation-coordinated system for older persons and other transportation-limited populations.
- Develop a transportation data system and promote one place or telephone number for people to contact to receive assistance with transportation.
- Build the family of transportation services available to older persons and transportation-limited populations by expanding these programs across the county:
  - Mileage reimbursement,
  - Taxi voucher,
  - Peer/group travel training,
  - Neighborhood circulators and community buses, and
  - Flex-route bus routes.
- Develop new transportation options:
  - Pilot an Independent Transportation Network (ITN) program (see next section of this chapter) in an interested community; or
  - Pilot a senior vanpool program.
- Promote private-sector involvement in providing alternative transportation options for seniors and other special need populations.
- Increase transit use through provision of improved amenities at transportation facilities such as the following:
  - Shade,
  - Restrooms at transfer points,
  - Bike lockers and storage facilities,
  - Park and rides,
  - Water fountains,
  - Benches,

Final recommendations were provided in the regional action plan on aging and mobility (Maricopa Association of Governments, 2002). Detailed implementation planning is underway.

## **A BROAD-SPECTRUM APPROACH TO SATISFYING THE NEEDS OF OLDER TRAVELERS**

Several transportation operations have attempted to address the special transportation needs of certain segments of the older population. The ITN in Portland, Maine, was established to enhance the mobility of elderly persons in small communities (TRB, 2000). ITN has been more ambitious than most other services in addressing customer satisfaction issues of acceptability, accessibility, adaptability, affordability, and availability. The ITN offers a range of demand-responsive services to a broad spectrum of older riders. A key feature is that the ITN offers a high level of consumer choice regarding service levels, trip costs, and payment options. ITN has been consciously configured as a service to meet the travel needs and desires of older persons that are not being met by other means (Freund, 2000). Also, the system's objectives are highly consumer-oriented: ITN's stated objectives include helping older persons maintain their mobility, dignity, and independence without compromising safety.

The ITN is a nonprofit membership organization that uses automobiles driven by both paid staff and volunteer drivers. Trips are available to persons 65 years of

age and over and visually impaired persons. There are no other restrictions on eligibility for services. Services are available 24 hours a day, 7 days a week, 365 days a year with no restrictions on trip purpose. Services are available within a 15-mile radius of Portland and within a 15-mile radius of the cities of Saco/Biddeford; trips are occasionally provided outside these boundaries, depending on the availability of cars, drivers, and volunteers.

The ITN initiated services in 1995; by March of 1996, it was providing 441 rides per month. Although the ITN is still in its developmental phase, its ridership growth has been significant: in June of 2001, the ITN had more than 1,000 members and provided about 3,000 rides per month. The system's annual expenses now total more than \$660,000.

Many of ITN's innovations are listed below.

- Services are demand-responsive, from any origin to any destination, for any purpose, within the service area. Door-to-door service is standard; door-through-door service and hands-on assistance are provided as needed. Services are available throughout the day and night.
- The system intends to achieve financial viability through a combination of fares and donations and does not depend on public subsidies. The ITN's director feels that older persons dislike receiving charity and that it is a matter of pride that they pay for the services that they receive. At the same time, it must be recognized that some older persons cannot afford expensive rides. Therefore, corporate sponsorship and community donations cover the 40 percent of the system's operating costs that are not covered by fares.
- Customers become "members" of ITN (annual membership is \$35 for an individual and \$50 for a couple or

family). Seniors prepay into their own account in advance of travel.

- There are three forms of service: regular service, errand service, and night rides. Services are primarily paid for on a per-mile basis with surcharges added for special services. There is a \$3.00 charge for the initial pickup and a per mile charge of \$1.00. The minimum fare per trip is \$5.00. Errand service is designed for a sequence of short stops (e.g., stops at the bank, drugstore, and hardware store). There is an extra charge of \$1.00 per stop. Night rides are those after 9:00 p.m. and before 7 a.m. There is a \$6.00 premium charged for night rides.
- Fares vary according to the level of responsiveness. Customers receive discounted fares if they call 24 hours in advance and/or share rides with others. Single-occupant trips on short notice require premium fares. Fares vary from \$0.85 to \$2.00 per mile; through June of 2001, the average one-way fare charged was \$6.50.
- A variety of innovative payment plans are in place or proposed:
  - Trip cost sharing by merchants visited by the riders (Ride & Shop);
  - Trip cost sharing by professionals visited by the riders (Healthy Miles);
  - An automobile trade-in program in which program participants can donate their cars to the program in exchange for trips equal to the total value of the car (Car Trade program);
  - Gift programs through which children, friends, and others can provide rides for older persons with gift certificates, monthly payments, or payments for individual rides (Adult Child Payment Program);
  - Transportation credits for volunteer services;
  - Discounted trips for frequent riders (Frequent Rider Miles);
  - A proposed affinity credit card program so that children, friends, and others can provide mileage credits from credit card purchases

(the Frequent Rider Miles program from credit cards);

- Contracts for rides with third-party payers (Ride Services); and
- A fund for low-income riders who cannot afford to pay full fare (Road Scholarship Fund).
- The system relies heavily on volunteers for drivers and other positions; the ITN now has 100 volunteer drivers. The ITN uses a “Look Who’s Driving Now” volunteer program that includes high-profile local political leaders as drivers as a means of attracting volunteers and publicizing the program.
- Close attention is paid to the expressed needs of the riders. Riders are involved in a variety of research programs that test and evaluate service components. The system emphasizes the dignity and desires of the participants.
- The system pays rigorous attention to cost-saving measures.
- The service is highly data-oriented, with files on each individual participant including his or her travel needs and account status. The system is moving to implement automated dispatching software and GIS technology.
- Community leaders are encouraged to participate on the ITN Board of Directors, both to guide the system and promote its value to the community. A Board of Advisors includes national experts in transportation and other services.
- Pilot replication sites are under consideration in Arizona, Maryland, New York, Texas, and Virginia.

The strength of the ITN is that it has reconfigured the usual transportation system components into an unusual and attractive combination of business practices that are highly oriented to the specific needs of older persons. Still, much remains to be done: to succeed and prosper beyond its developmental phase, the ITN will need to obtain stable sources of funding, attract additional riders, and lower its average trip costs.

## CONCLUSION

Two of the most important new concepts in providing transportation to older persons are that many particular submarkets of older riders exist and no one form of transportation service will benefit all these riders. These ideas will most likely be important in efforts to offer improved public transit services for older persons in the future.

In the long run, multiple types of services, offered at varying prices, with options that riders could choose on their own to fit the specific demands of individual days and trips could go a long way toward replacing the “one-size-fits-all” approach to public transportation. Shared-ride, demand-responsive services, dispatched and controlled through advanced technologies, could provide higher levels of service than are now available, at higher levels of productivity and cost-effectiveness. Frequent, comfortable, affordable, spontaneous service to a wide variety of origins and destinations, over a wide range of service hours is what seniors desire. Providing trips with these attributes may prove challenging for some transit agencies, but services of these types will be rewarded with patronage. A serious challenge for the public transportation industry will be finding ways of improving services while collecting revenues that cover the costs of such services.

Although it is theoretically possible to effectively address all of the challenges to better transportation services identified by older persons and transportation professionals, some challenges can be more easily addressed than others. Some solutions can be implemented within existing structures for the delivery of transportation services and the legislative, policy, and regulatory environment. Other

solutions will require fundamental structural changes in the way services are organized, managed, and delivered.

Solutions that can be expected to most fully succeed in meeting the travel needs of older persons are the most complex and require long-term thinking and action. They fall into three general areas:

1. Those that will require a significant departure from traditional approaches to service delivery;
2. Those that will require close collaboration and partnerships at the local, state, and federal levels of

government so that organizations serving older persons and others are able to develop coordinated solutions to travel needs; and

3. Those that will require a shift in focus from the operation of transportation modes—fixed-route, paratransit, rail—to a focus on the market for transportation service, its key segments, the needs of customers in those marketplaces, and the design and delivery of transportation services tailored to those needs.

If these kinds of solutions are implemented, the public transportation industry is likely to achieve a much higher level of success in meeting the travel needs of older persons.