

By Sandra Rosenbloom

Meeting **Transportation Needs** in an Aging-Friendly Community

Surprisingly, the most promising focus may be on keeping older people driving longer.

In the face of continued and ever growing “automobility” and suburbanization, there is little evidence that the United States is prepared to meet the mobility challenge facing older Americans. Policy makers and even advocates may have fooled themselves about the magnitude and cost of the policy options available. Many assume that older people who face mobility problems or must cease driving will be served by public transit and by special demand-responsive transportation services. Yet all indications are that neither traditional public transit services nor special demand services will come anywhere near meeting the mobility needs of the country’s aging population. Moreover, there is far too little policy focus on enhancing the travel modes that do serve most older people: cars and pedestrian facilities. What are the options for making transportation in our communities more aging-friendly?

Travel Modes Available to Elders

Many analysts assume that older people will come to rely on conventional public transit services and, to a lesser extent, on special demand-responsive services as they age. Are these assumptions a valid basis for planning?

Traditional public transit

The assumption that older people will rely on traditional public transit services may be

based on historical patterns showing that older people have used public transit more than younger people have. Unfortunately, those patterns represent a cohort effect; in the past many people reaching 65, particularly women, had never driven and had long relied on public transit for some of their trips. There is no evidence that older people suddenly begin to use public transit upon retirement. In fact, there is far more evidence that older adults are even less likely to use public transit when they retire than when they are in the labor force. Most public transit services are best at meeting the needs of those traveling to work, and not those making other kinds of trips (Transit Cooperative Research Program [TCRP] and National Cooperative Highway Research Program [NCHRP], 2006; Rosenbloom and Ståhl, 2003).

Even more important, the overwhelming number of people now 65-plus probably never used public transit when in the workforce—public transit use has been dropping for decades among workers (TCRP and NCHRP, 2006). As new cohorts of car-oriented citizens reach traditional retirement age, even fewer use public transit. Today only 1.3 percent of all trips taken by people over age 65 are made using any form of public transit. In fact, the use of public transit by this age group is lower than that of younger people. In 2001, for example, older people who drove—the majority of that age group—took less

than 1 percent of all trips using any type of public transit (U.S. Bureau of Transportation Statistics [U.S. BTS], 2003a). Even nondrivers over age 65 took only 8 percent of all trips by public transit but took 66 percent of all their trips in a private car. When they did not drive or ride as a passenger, older drivers and nondrivers alike were many times more likely to walk than to take public transit (U.S. BTS, 2003a, 2008b).

Traditional public transit services as currently funded and delivered are not responsive to the needs of most older travelers, particularly those no longer in the labor force. Studies consistently show that older travelers have a variety of safety, personal security, flexibility, reliability, and comfort concerns about public transit, even if it is physically accessible. Moreover, they often do not find the actual routes and hours of service to match their desired travel patterns (TCRP, 1998c, 1999c, 2002a; U.K. Department for Transportation [U.K. DfT], 2003; Herbel et al., 2005).

ADA paratransit services

The 1990 Americans with Disabilities Act (ADA) requires public transit operators receiving federal financial assistance to provide special demand-responsive services to people with serious disabilities to complement bus services. Many people assume that these ADA complementary paratransit services will meet the needs of their aging relatives who do not or cannot drive and are unable to use conventional public transit. But these assumptions are easily challenged. To begin, ADA complementary paratransit was designed to be a temporary alternative for most people with disabilities, until all buses were fully accessible (National Council on Disability [NCD], 2005). As more transit vehicles, transit stops, and the pathways to them become accessible, operators will be allowed to substantially decrease the amount of special services that they provide—even as the population of older adults grows.

Second, eligibility for ADA complementary paratransit services is based on disability and not age—and that disability must be severe enough to significantly interfere with the use of traditional public transit. While disabilities do increase with age, the majority of older adults are not disabled (U.S. Census Bureau, 2005). Today roughly 58 percent of older people simply do not qualify for ADA complementary paratransit services, where they exist, because they do not have serious physi-

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cal or mental impairments.

A substantial number of the 42 percent of older people with at least one disability will also be ineligible for these services because their functional impairments do not rise to the level of ADA eligibility.

Indeed, the vast number of older people in the United States do not and probably will not live in or travel in neighborhoods with ADA paratransit service, and, even if they do live or travel in such corridors, they are unlikely to qualify for those services for most of their lives after they reach age 65. National data show that fewer than 8 percent of older people with disabilities report ever using these services (U.S. BTS, 2004). In fact, most ADA paratransit systems provide a small number of active users with a fairly large number of trips each (TCRP, 1998a).

Community transit services

Most U.S. communities also host many other special demand-responsive (“paratransit”) services provided by nontransportation governmental agencies, nonprofit organizations, faith-based groups, and advocates for older adults. The U.S. General Accounting Office (GAO) (2003, 2004) identified more than seventy federal programs alone that finance such organizations to provide a range of transportation services to a variety of users, including, but not limited to, older people. Ultimately, however,

we have no good data on who is provided rides, how often, and how much these transportation services cost.

We do know that many such community transportation systems limit their services to a small number of agency clients or affiliated riders rather than providing for the general public or older people (GAO, 2003; Rosenbloom, 2004). Even to these selected riders, these systems often provide limited services and restrict travel to trips they consider “important,” such as to agency activities or medical appointments. But older people don’t make more than 5 percent of their trips for any kind of medical purpose. So even people who are served by such systems usually have a number of other unmet trip needs—from social and recreational activities to grocery shopping. Overall, less than 3 percent of older people with disabilities report ever using the services of community transportation providers (less than half the number reporting the use of ADA services) (U.S. BTS, 2003b, 2004).

Realistic Travel Options

Perhaps surprising to some, the auto-based system and walking emerge as the most realistic travel options currently available for many older adults.

The auto-based system

In 2007, the overwhelming percentage of people over age 65 had a driver’s license. As a result, those over 65 accounted for more than one in seven drivers on U.S. roadways (computed from Table DL-20, U.S. Federal Highway Administration [U.S. FHWA], 2008). By 2030, older drivers will account for as many as one of four U.S. drivers and substantially more in many rural and retirement communities (Herbel et al., 2005). Older people have become more and more reliant on the car as their licensing rates have increased.

Today those ages 65 to 84 take roughly 90 percent of all their trips by car, most often as

the driver. Even those 85 and older take 80 percent of their trips by car, driving half the time. In fact, in 2001, older people actually made a greater percentage of their trips as drivers than did people between ages 25 and 64 (Rosenbloom and Herbel, 2009; Herbel et al., 2005; Rosenbloom, 2005).

The car is also a significant mode for those who do not drive; in 2001, nondrivers over 65 made almost as high a percentage of their total trips in a car as did drivers that age. Clearly, older people who do not drive are very dependent on others for rides, often on other older drivers. While nondrivers take the majority of their trips by car, they do not make as many trips nor are their trips as long as those of drivers. In 2001, drivers ages 65 to 69 made 87 percent more trips by car than did nondrivers of the same age. Even at age 85, drivers made more than twice as many trips as those who did not drive (Rosenbloom, 2005; Herbel et al., 2005).

Pedestrian facilities

National data show that the second most important travel mode for older people, behind car travel, is walking. Walking is necessary for all other modes of travel, and it can provide a healthful physical activity geared to older people’s needs. About 9 percent of all trips taken by those over age 65 are walking trips; among older adults who don’t drive (almost all of whom are women), walking accounts for almost one out of every four trips, and its importance increases with age (U.S. BTS, 2004). But walking is far from an easy task for many older people.

In several national studies older people with and without disabilities reported significant problems in the pedestrian environment, including the lack of sidewalks or the lack of a system of connected sidewalks. Other commonly reported problems were unsafe intersection crossings, crowded sidewalks, cyclists on the sidewalk, cars parked on or obstructing sidewalks, broken or uneven pavements, and the failure to remove leaves, ice, snow, weeds, and

other obstructions that can cause falls. Fear of personal security is also an issue for older pedestrians (U.S. BTS, 2003a; U.S. FHWA, 2001; U.K. DfT, 2003).

A 1994 national study found that among older respondents who reported problems in “getting around outside home,” over 75 percent said that their major issue was difficulty in walking. Among the small number of those who reported difficulty in using public transit because of their disability (as opposed to other reasons for not using public transit), the single most frequently cited problem was difficulty in walking. Overall, reported barriers in the pedestrian environment far outnumbered reported problems with transit or paratransit modes (U.S. National Center for Health Statistics, n.d.).

The lack of appropriate pedestrian facilities has safety as well as mobility implications (U.S. FHWA, 2001). Older people have more pedestrian crashes than anyone except children, and they are far more likely to be seriously injured or die in those crashes (Rosenbloom and Herbel, 2009). In fact, older people are far more at risk as pedestrians than as car passengers or drivers. Some experts believe that older people are at least 15 times more likely to be injured or killed as pedestrians than as car drivers, on an exposure basis (Rosenbloom, forthcoming).

Implications for Future Mobility

This section highlights possible ways to increase both the safety and mobility of older people in each of the travel modes discussed above.

Public transit

Simply providing a greater number of traditional public transit services would undoubtedly serve the needs of some older travelers. But major studies have suggested that these services must be improved in a number of ways to meet the needs of an aging population (TCRP, 1997a, 1997b, 1998b, 1998c, 1999a, 2002a, 2002b; Rosenbloom, 2004). Most studies stress that to

do so requires increasing safety and security in all parts of the system, providing better information both before and during travel, expanding the hours of service and providing additional routes, making service more reliable, and enhancing driver training (TCRP, 1994, 1998b).

But even increasing and improving traditional public transit services is unlikely to meet the needs of most older people unable to drive. Research suggests that transit operators have to provide more customized services, more directly linking residential concentrations of older people to the destinations to which they want to travel and at the hours they need to travel, often outside the traditional peak period, and sometimes at night (TCRP, 2002b, 2004a). Those services must be provided in fully accessible and preferably smaller vehicles and must offer service attributes not commonly found in traditional transit services, such as a higher level of driver assistance, some route deviation, and allowing travelers to disembark anywhere along the route as opposed to only at designated stops (TCRP, 1997a, 1998a, 1999b, 2002b).

It will, of course, cost a great deal to provide a greater number of traditional transit services, and the costs of providing more customized services are likely to be even higher. But in total, the costs of providing both will be substantially less than the costs of providing a large number of older people with special demand-responsive services would be. In Phoenix, for example, in 2006, the average operating cost for an ordinary bus trip was \$2.37, but the comparable operating cost for a paratransit trip was over \$35. Expanding public transit options when and where they can meet the needs of older travelers makes more sense than limiting older travelers to expensive paratransit services.

Special and demand-responsive services

No matter how much public transit services are modified and improved, some older people will not be able to use them (TCRP, 1997a, 1997b). To respond, society could expand all

types of special transportation services and relax eligibility requirements so that older people unable to drive qualify for service. Unfortunately, these services are extremely expensive; in 2007, the average one-way ADA paratransit trip for the fifty largest transit systems cost almost \$36. That is, taking one eligible person to and from a medical appointment cost over \$75 (FTA, 2008).

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So, over the past decade, many transit systems, rather than expanding service and making older people eligible for services, have moved in exactly the opposite direction—restricting service and carefully limiting eligibility (Thole and Harvey, 2005; NCD, 2005; Griffin and Priddy, 2005).

The high costs seen in U.S. paratransit systems are inherent in the nature of the service. It is hard to generate substantial economies of scale transporting people with significant disabilities within a large, low-density service area—while being forbidden by law to significantly delay their trips to pick up or drop off other passengers. While it is possible that the productivity of such systems could be improved, these services will still remain very expensive both absolutely and in comparison to the cost of a regular transit trip. Most transit systems are unlikely to expand these services unless they receive substantial additional funding.

In addition to the ADA services provided by public transit operators, there are a wide variety of community transport providers (Easter Seals, 2008). Some operate large systems that resemble ADA paratransit services. A number of well-known and award-winning community transport systems, such as Ride Connections (Portland, Oregon) and Portland, Maine's ITN, have trip costs that are only two-thirds of those of public

transit operators, in spite of using substantial volunteer resources (Rosenbloom, 2007).

At the other end of the spectrum are community transport providers who do not operate systems but find ways to match volunteer drivers to older (and other) travelers with mobility needs. Their costs tend to be substantially less than more formal systems. However, given their administrative costs (which sometimes include providing additional insurance to volunteers), their unit costs are still higher than that of an ordinary transit trip (Beverly

Foundation and AAA Foundation for Traffic Safety, 2001).

There are important ways to support, expand, and improve all these services, although substantially more funding would be needed.

In addition to coordination, state or other governmental units could help increase the productivity and lower the costs of more formalized community transport systems by developing ways to improve dispatching services, increase driver and dispatcher training, and the like (TCRP, 2004b, 2004c). But given the large and growing demand for these kinds of services, initial savings resulting from coordination or better operational practices will soon be swamped by the costs of providing new services to the growing number of older people who need mobility options.

There are also ways to improve and support community transport programs that match volunteer drivers to older people needing transportation—and perhaps encourage the development of more such systems. To do so, the state or other governmental units could disseminate information on how to establish and maintain such programs, provide insurance or lower insurance costs, and develop ways for volunteer drivers to receive auto maintenance at reduced rates. Another promising approach is the use of a voucher system which repays drivers

for their gas and auto costs; eligible travelers are given vouchers which they can then offer to drivers whom they ask for a ride (Beverly Foundation and AAA Foundation for Traffic Safety, 2001).

All of these kinds of providers have an important role to play in a family of mobility services for older people (Easter Seals, 2008). But federal, state, and local governments will have to commit substantially more money to such systems to allow them to serve more than the small number of older people they currently transport today. Given their (generally) high cost per trip, they should be reserved for those older people who need that level of service and cannot use other transportation options.

Improving the highway system

Since so many older people are and will be drivers until very late in their lives, the most promising mobility option is to modify all the components of the auto-based infrastructure so that older people can drive safely longer (Staplin, 2004), beginning with the driver. There is a need to develop effective in-car driver education programs targeted specifically at the needs and skills of older drivers (Stutts and Wilkins, 2003). The federal government could fund the development, testing, and evaluation of various in-car training strategies. Either the public or private sector could use this research to structure effective training courses to which older drivers could be referred or volunteer to attend.

In addition, programs could assist safe older drivers who have financial difficulties to continue driving in two different ways. A community can develop programs which provide assistance for maintenance or fuel, or even purchase of a car. This approach has been adopted by the U.K. to assist older drivers and those with disabilities. Another way to implement this strategy is to develop a car-sharing program for older people. Independent living centers, retirement communities, or naturally

occurring retirement neighborhoods could contract with an existing car-share operator such as Zipcar. Or they could cooperatively buy and operate a small fleet of vehicles, allowing individual residents to reserve and drive them on an hourly or daily basis.

The next component of the system that needs to be addressed is the highway network. Highways can be made safer for older drivers by improved street lighting, additional signage, new lane-marking and sign systems responsive to diminishing eyesight and contrast sensitivity, enhanced intersection signalization, reserved lanes and signal priority for left turns, and greater separation between motorists and cyclists and pedestrians (U.S. FHWA, 2001; Staplin, 2004; Consdorf, 2004; NCHRP, 2004, 2005; Oxley and Whelan, 2008). In fact, the U.S. FHWA has developed a series of design standards in all these areas to reflect the aging of the driver pool (U.S. FHWA, 2001, 2003).

The highway network can also be made safer for older drivers using technological solutions—in the road, on the vehicle, or in some effective combination. Older drivers can better manage the driving task if their cars warned them that they were following another vehicle too closely,

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drifting into another lane, or likely to hit center dividers or other highway infrastructure. Technology that facilitated left turns, for example, by warning drivers when it was safe to make the turn, might reduce crash rates, since older drivers are now substantially overrepresented in crashes turning left at intersections (U.S. NHTSA, 2007; Braitman et al., 2007).

A third element to be addressed is the vehicle itself; if cars were both more comfortable and easier to drive, older people would find the driving task less challenging. The public and

private sectors are conducting research on ways to redesign vehicles to compensate for diminished driving skills, make the driving task more pleasant and less stressful, reduce crashes, and improve crash outcomes (Boufous et al., 2008). Some vehicle improvements thought to be useful to older drivers have slowly been making their way into higher-end private cars. However, it may be some time before many cars include improved designs or technology (and older people are more likely to own older cars which will lack the newest improvements).

The full cost of all these policies and programs is unknown. Moreover, it may be decades before all of the design and technological options just described are incorporated into the highway and auto network. Yet, given the very large number of older drivers, the cost per traveler or per trip may be substantially lower than any of the transit or paratransit options discussed in the previous section. It is important to note that long after they can no longer walk far or use public transit, older people can drive (European Conference of Ministers of Transport, 1999; Rosenbloom, 2004, 2005). Keeping older people driving as long as safely possible may well be the most feasible and cost-effective mobility option for an aging society.

Pedestrian Facilities

Given its importance for older people, many studies have suggested measures that alone or together can facilitate walking both as a mode itself and to gain access to public transit (U.S. FHWA, 2001; NCD, 2005; U.K. DfT, 2003). Most of these measures can be used to retrofit existing neighborhoods where baby boomers are aging in place; they can also be incorporated into new suburban developments or formal or informal retirement communities through new or modified subdivision and zoning regulations and impact or development fees. They can also be added to existing urban neighborhoods or incorporated into new developments in the core of central cities.



Suggested pedestrian improvements include raised pavement markings, median islands, improved user-activated signal crossing devices, enhanced signals, and improved pedestrian crossings. Other possibilities include adopting traffic-calming devices such as narrowing streets, lowering speed limits, and using traffic circles to slow traffic. Finally, it is important to improve access to public transit by creating accessible paths to accessible transit stops, following ADA standards (French, 2003; Kochera and Bright, 2006).

And in addition to physical changes, it is important to actively enforce traffic laws and maintain pedestrian facilities (Huang and Cynecki, 2000). A recent Swedish study found that pedestrian crashes went up 27 percent after speed limits were reduced at marked crosswalks throughout the country in 2000 because pedestrians assumed that drivers would reduce speed and acted accordingly—but

drivers did not slow down because there was no effective enforcement (Leden, Garder, and Johansson, 2006).

Land use

People need to travel because of the way their communities are structured spatially; because so many older people live in low-density neighborhoods, they are very dependent on the car to meet their mobility needs. (See Rosenthal and other articles in this issue for a full discussion of land use.) There has been substantial discussion of (1) older people moving (back) to denser urban areas to address their mobility needs (Evans, 1999; Spain, 1999) and (2) creating neighborhoods where it is possible for people of all ages to access a range of needed services within walking or transit distance from their home (AARP, 2005, 2008; Rosenbloom and Ståhl, 2003).

While land use options have promise, it does not seem likely that many older people will move to more walkable or transit-useful communities. Even if some older people do move if offered such options, the majority will undoubtedly continue to age in place in their communities.

If so, more attention should be focused on retrofitting those neighborhoods where most older people will age in place. This can be done by increasing the safety and accessibility of the pedestrian and public transit network, offering more appropriate housing options in those neighborhoods (so people can move into smaller homes but in the same neighborhood), finding ways to deliver more on-site or mobile services, and encouraging commercial as well as residential infill.

Summary and Conclusions

By 2030 there will be over 72 million people in the U.S. at least 65 years old and 11.5 million age 85 and older (U.S. Census Bureau, 2008). Most of those older adults will have passed their sixty-fifth birthday as drivers, and most

will stay drivers for decades after that birthday. Their lifestyles and the contributions they make to their communities will depend on the flexibility and convenience offered by the private car. Very few will have the interest or ability to move from their suburban or rural homes to places where they may be able to find reasonable alternatives to driving when they can or should no longer drive.

A variety of transportation alternatives, from public transit to community transportation systems, can be part of a family of services for older people who can no longer drive. But these

Older people are far more at risk as pedestrians.

alternatives, while providing lifesaving services to the small number of older people who use them, as currently funded and delivered are unlikely to replace anywhere near the mobility lost by millions of older people unable to drive.

To address these needs, we must do the following: adopt policies that provide substantially more funding for transit operators to develop meaningful transit services and increase ADA-type paratransit services for older people without serious disabilities, provide better support and financial resources for the wide variety of community transportation providers, develop programs and policies to keep older people driving safely as long as possible, enhance and maintain the pedestrian network, and ensure that traffic regulations are enforced. All of these actions must be combined with the major focus on retrofitting the neighborhoods in which the majority of older people are aging in place. 

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