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Attracting Senior Drivers to Public Transportation: Issues and Concerns

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This report was created as a means to help transit agencies attract senior drivers to fixed route transit services. With the number of seniors expected to rise dramatically over the next several decades, additional pressures are being placed upon transit agencies to provide viable alternatives to driving. Despite progress at many agencies, attracting senior drivers is still a significant challenge; many members of the senior population remain unaware or apathetic about recent improvements to transit. Following an in-depth review of the needs, behaviors, and attitudes of elderly individuals and issues they face when riding public transportation, strategies are presented for attracting seniors to transit. The presented strategies are based upon a review of the literature, interviews with various transit agencies, and examination of many agencies' web sites. Techniques such as ride-free-days, senior passes, neighborhood bus routes, flexible route services, travel training programs, commercial advertisements, and advanced marketing strategies are discussed in detail. Experiences noted at several transit agencies may provide insight for transit planners and marketers trying to improve ridership among the elderly. A list of recommendations is provided at the end of this report that describes potential strategies for bringing the elderly onboard public transportation.

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Foreword

The Federal Transit Administration (FTA) sponsored this research to help determine preferred strategies for attracting senior drivers to public transportation. The research report initially evaluated several aspects of existing transit supply and demand. Website analysis and a series of interviews were later conducted to learn more about the issues transit agencies face when attempting to attract elderly riders. Recommendations were ultimately developed suggesting the most promising strategies for best familiarizing the growing number of senior riders with fixed route transit.

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Preface

The information developed and presented in this document was prepared for the Federal Transit Administration (FTA) by researchers from the Lehman Center for Transportation Research at Florida International. The project team included Dr. Fabian Cevallos, Jon Skinner, and Tekisha Ivy. Additional assistance was provided by Ann Joslin, Research Associate at the Center for Urban Transportation Research at the University of South Florida.

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EXECUTIVE SUMMARY

Study Goals and Objectives

This report was written to help transit agencies attract senior drivers to fixed route transit. The report identifies opportunities and challenges faced by seniors and transportation providers related to the utilization and provision of public transportation services. In particular, it attempts to address ways to attract senior drivers to services *other* than paratransit. Although paratransit fulfills an important need of the elderly and people with disabilities, it is an expensive service, and occasionally abused by individuals who are able to access fixed route transit.

As the public transportation industry develops quality services with consideration for the special needs of the elderly, the elderly will become more willing to utilize the services. In the meantime, agencies must craft solid strategies to educate the elderly about the benefits of public transit. By learning to ride various forms of public transit, our nation's elderly will achieve greater independence at a lower cost.

As a means to understand more about attracting senior drivers to public transportation, the research team conducted an extensive literature review and interviews with transit agency staff, to determine the range and efficacy of practices currently utilized to attract the elderly.

Why is Attracting the Elderly to Public Transportation Important?

There is vast evidence that almost all drivers will outlive their driving abilities. As the human body ages past sixty, seventy, and beyond, abilities such as strength, vision, reaction times, and short-term memory deteriorate. The decline in abilities may occur so slowly that some senior drivers do not realize how severely their skills have deteriorated, making it difficult for them to determine when to stop driving.

Older adults who drive later in life subject themselves to additional danger on the road. By the age of 75, older drivers are involved in approximately the same number of vehicle accidents per mile as teenagers. Senior car crashes are more likely to occur at an intersection, and often involve another vehicle. The likelihood of injury is compounded because the elderly body is much more fragile than that of a younger individual. As a result, car accidents pose a more significant danger to the elderly.

Eventually, the human body is no longer able to operate a motor vehicle safely. Another form of transportation is necessary to provide the mobility formerly provided by the automobile. Although several alternatives exist, public transportation is one of the most

safe, reliable and affordable options. Transit also offers substantial independence, making it the most logical solution for millions of seniors around the country.

Yet there are millions more seniors for whom public transportation is simply not convenient. In many rural and exurban areas, transit is either nonexistent or very limited. Even in large cities, with well developed systems, transit may be confusing and difficult to access. In these circumstances, transit agencies must develop new strategies to expand or improve services for the elderly. New promotional methods are necessary to inform and educate seniors about riding transit. Otherwise, a large percentage of our nation's elderly, some of whom are unsafe drivers, will have no choice but to continue driving.

Report Methodology

Initially, the websites of 35 randomly chosen U.S. transit agencies were inspected to determine the type and number of efforts specifically targeting seniors. Since a website is an important marketing tool, and its content and design play an increasingly important role in attracting new riders, particular attention was given to the overall quality of each agency's website. Researchers reviewed websites and rated several factors including website design, readability, ease of usage, and quality and quantity of information provided. Five agencies were selected for in-depth interviews based on conscious efforts to market to the elderly as displayed on their websites.

The selected agencies encompass a range of sizes and geographic locations: Sun Tran – Tucson, AZ, Sioux Falls Transit – Sioux Falls, SD, Spokane Transit Authority – Spokane, WA, Citilink – Fort Wayne, IN, and Broward County Transit – Fort Lauderdale, FL. Interviews were conducted with marketing officials, transit planners, and upper level administrators at each of the selected agencies. During interviews, extensive efforts were made to gather information about all present and past programs which made a direct or indirect effort to attract elderly riders. In addition to providing descriptions and outcomes of programs and marketing efforts, interviewees were encouraged to share future plans and existing challenges.

How Transit Agencies Are Responding

Many agencies are stepping up to the challenge by rolling out new methods for developing senior ridership. Research revealed that dozens of different strategies are being employed to improve and expand services for the elderly. Many methods are specifically focused on older adults, but others were found to have potential for increasing the ridership from other market segments as well.

Most agencies promote transit to older adults using a variety of methods. Promoting a seniors ride free day, marketing competitively priced senior passes, developing neighborhood bus routes, and expanding availability of service information were all strategies noted as beneficial. Travel training programs, in particular, are becoming very popular and are consistently rated as highly effective. Commercial advertisements and flexible route services are other popular tools.

Several strategies relate specifically to adapting new or improved technology to capture the attention of the millions of seniors who are familiar with computers. In some cases, agencies have completely redesigned their website to improve navigation and clarity for older members of the community. Agencies have created new commercials for transit, and have aired them both on television and through the Internet. Information technology staffers have expanded awareness of services available by designing electronic alert systems that send service changes to email addresses and cellular phones. New online ride stores now facilitate the purchase of monthly passes by seniors. No longer is a time-consuming trip to a transit agency office necessary, thanks to technology.

Despite advancements at many agencies, attracting new senior riders can still be a significant challenge. Agencies indicate that many members of the senior population remain unaware of improvements to transit. Older adults are often unaware of new mobility improvements like bus lifts, ramps, and kneeling buses. Few individuals with walkers and canes know about this or feel comfortable requesting help boarding a bus.

Agencies also still struggle with changing attitudes. Seniors are generally reluctant to relinquish the independence a car provides and are sometimes convinced that public transit is only for less fortunate individuals. Many seniors continue to voice that they want to "continue driving as long as possible" – which is usually a self-imposed definition that is rarely open to negotiation.

Recommendations

The information collected from the website investigation and interviews was further analyzed and used to develop a set of recommendations based on best practices and opportunities. The recommendations present a combination of strategies currently in use, although not widely, and highlight areas of opportunity for future consideration.

Many of the recommendations focus on attracting newly retired individuals or the 'young elderly' to transit. These persons are more likely to have strong physical and mental abilities and are less likely to suffer from ailments that make riding public transportation difficult. For older seniors, or those with disabilities, riding fixed route transit can still be easy, but these individuals may require additional education or training before they will attempt to ride. The principle project recommendations focus

around the following strategies: encourage seniors to plan for their future transportation needs; increase travel training programs; segment older adults for better marketing; provide new services to outlying communities; develop incentives and disincentives; consider the special needs of seniors.

Encourage Seniors to Plan for their Future Transportation Needs

Many transit agencies regularly make presentations at high schools, colleges, and senior living facilities. However, agencies rarely take advantage of opportunities to present information to adults in their late 50s or early 60s. Agencies should develop a strategy to inform older adults about the benefits of transit *as* they leave the workforce because this is the time when retirement options are being actively analyzed. Presentations about planning for one's transportation needs could be conducted in conjunction with information sessions about retirement, pension payments, Social Security, and Medicare.

The material presented to older adults should strongly stress the following points:

- Begin to plan now for driving retirement
- Expect to outlive your driving ability
- Evaluate your future ability to pay for transportation
- Learn to use public transit while you easily can
- Determine what other transportation services are available in your area
- Think about transit and walkability when relocating
- Consider both short and long term mobility issues

Presenting information about the benefits of transit may help future retirees contemplate the later years of retirement in addition to the early years. The secluded adult-only communities and tranquil exurban properties with limited or no transit access, which are often attractive to new retirees, usually become inappropriate for older individuals because residents commonly must continue driving in order to live independently. Mass transit is rarely available to residents of secluded retirement communities, limiting easy access to shopping or healthcare facilities. As a result, initial retirement decisions often precipitate problems at a later stage of retirement when the elderly realize they must continue driving to maintain their lifestyle.

It is suggested that presentations focus on issues that will soon become very important to seniors – principally, how utilizing mass transportation in the early stages of retirement can provide increased safety and extend one's independence. With additional information about elderly lifestyle trends and transportation, seniors may more thoroughly consider their future mobility, and decide to familiarize themselves with public transportation.

Develop a Travel Training Program; Increase Size of Existing Programs

Transit agencies and program participants have both confirmed the extraordinary benefits of travel training. Agencies around the country have developed various types of travel training programs, and commonly rate it as one of the most beneficial services offered. Programs have been successful at developing mobility skills for individuals who do not qualify for paratransit services, and on occasion, training ADA paratransit certified individuals to ride fixed route systems.

In particular, using other seniors as travel trainers has been found especially valuable when conducting travel training for the elderly. An older adult's demeanor can be very comforting for individuals attempting to transition to public transportation. Older travel trainers are beneficial because they

- Create a suitable atmosphere for talking about problems with other seniors
- Are more likely to have experienced similar mobility problems
- Can more easily converse with one another during travel training sessions
- Provide a network of individuals who need to talk to peers about driving issues
- Are often willing to volunteer their time for free or in exchange for a bus pass
- Are more likely to travel at a similar pace to trainees
- Are unlikely to appear aggravated by a slower trainee
- Instill greater confidence in trainees' abilities to plan and travel via public transportation

An elderly travel trainer, experienced with the transit system, can help to resolve misperceptions and have a positive influence on a trainee's future travel. With so many different levels of success, the overall impact of travel training programs is hard to comprehend. Although some expenses are involved with running a travel training program, the benefits derived far outweigh program costs.

Segmented Marketing for the Elderly

Different elderly individuals have different transportation needs. Some elderly are transit dependent: some drive well, others badly; some have access to a car, others do not. One marketing approach for all seniors is unlikely to be the most successful strategy. As a remedy, segmented marketing can help attract more individuals at a lesser expense.

Segmentation is about focusing on a particular group of individuals. This is accomplished by concentrating efforts on smaller population segments. Each segment should be relatively homogeneous with regard to attitudes and needs. For example, instead of marketing to everyone in the metropolitan area, transit agencies may decide

to focus on a specific age range or income range, among other variables, along with locations where public transportation use is feasible. Marketing efforts should correspond to this analysis.

Subgroup segmentation may be used to further ensure each marketing effort for a particular group is distinctive. Segmentation may be focused around any of the following groupings: lower-middle, middle, or upper-middle class households; urban, suburban, or rural households; individuals who have frequently, seldom, or never ridden transit before; individuals who would describe themselves as being in good, mediocre, or poor health.

Segmentation is particularly beneficial for marketing to seniors because they tend to lead fairly different lifestyle from the rest of the population. Even among other elderly individuals, lifestyles vary significantly. Some seniors are outgoing while others are reclusive; some remain energetic even during periods of bad health, while others are inactive, even with good health, etc. With a wide array of behaviors, several aspects of marketing are likely to be especially difficult. Reaching the target audience can be quite a challenge.

However, upon selecting a specific elderly group, agencies can more appropriately market specific services. Depending upon the audience, amenities like low-floor buses, convenient bus stops, etc. may be emphasized differently. Each advertisement or promotional message would then be built around the type of individuals in the segment. By performing the extra analyses during segmentation, agencies may more effectively utilize their advertising funds and ultimately attract more seniors to transit services.

Provide New Services to Outlying Communities

In order to reach seniors living in smaller communities, transit agencies may need to re-examine their service area and consider bringing transportation services to outlying areas. Small towns on the fringe of a major metropolitan area may already have some sort of service linking them to a transportation hub. Yet small towns in rural areas or those on the fringe of micropolitan areas may be in greater need of transportation services. In these locations, there may be an existing transit agency, but low densities make the formation of an extensive regional network impractical.

Smaller communities with high elderly populations are likely to be good candidates for weekly bus trips to larger metropolitan or micropolitan areas. In most instances only weekly services may be warranted. A small town of 10,000 residents is unlikely to support multiple daily or weekly trips, so introducing limited service (i.e., once or twice per week) may be a better option. A suggested route would run from the town center or an elderly care facility to a large, regional shopping facility. Some larger transit agencies

have been able to successfully run weekly trips from retirement centers to medical or shopping facilities. These type services expand mobility and familiarize seniors with transit, thereby increasing the likelihood of more travel via public transportation.

Develop Incentives and Disincentives

Incentives or disincentives have the capability to significantly alter travel behavior. A few transit agencies have developed incentives, by creating further ridership discounts for seniors as they continue to age. For example, one agency maintained a half-price fare for adults ages 60 to 70, but allowed anyone over the age of 70 to ride for free. An alternative option might allow individuals over 75 to ride for even less than half price, or allow them to ride free during non-peak hours. These types of policies are technically simple to adopt and create considerable motivation for elderly individuals to switch to transit or to continue riding transit as they age.

Another option is to re-examine the pricing of seasonal or monthly passes for the elderly. A monthly pass at a fixed amount, even at a reduced rate, may not be appropriate for many elderly. The elderly tend to travel less, and may be unable to use a monthly pass frequently enough for it to be worthwhile. Discounted 10 pass ride cards or 20 trip ride cards may be a better alternative for the elderly who travel by transit only a few times per month. Agencies are encouraged to experiment with this incentive in order to develop even better pricing strategies for seniors.

Allowing seniors to bring a guest or travel companion onboard for free is a suggestion with significant potential. More often, agencies permit paratransit riders to bring a travel companion or caregiver onboard paratransit services for free. It may be a much better incentive to allow the elderly to board with a travel companion for fixed or flexible route travel. This policy change may spark some paratransit riders to attempt more travel by fixed route, and may help make the elderly feel more comfortable and secure onboard mass transit.

Consider the Special Needs of Seniors

Older adults have special needs. Legibility of online and printed materials, such as schedules and maps, is one critical component that must be addressed to more effectively market transit to the elderly. A wide range of vision problems exist among the elderly population. By adopting design standards with senior citizen's in mind, those with visual impairments can still access and understand transit information. All online information should strive to be in compliance with accessibility standards recommended by the World Wide Web Consortium (W3C), an international organization working to facilitate web usage, and Section 508, an amendment to the Rehabilitation Act that requires Federal agencies to make their electronic and information technology accessible to people with disabilities.

Some aspects of transit service are extremely important to elderly individuals: priority seating, a safe and crime free travel environment, accessible bus stop facilities, and comfortable passenger waiting areas can unquestionably influence senior transit usage. Although these may be outside the control of marketers, collateral materials can be used to highlight the positive aspects of these characteristics.

Obtaining regular feedback from seniors, both driving and non-driving, can also help agencies adapt to the current and future mobility needs of the elderly. Personal interviews, focus groups and surveys are examples of effective mechanisms for understanding senior issues and concerns. With this information in hand, agencies can better respond with appropriate programs and services.

Identification of Data Sources

Because attracting the elderly to mass transportation is a complex and arduous task, factual information is often necessary to educate people about the benefits of public transportation. The final portion of this report consists of a lengthy list of data sources where transit agency personnel can access recent data, statistics, and reports concerning driving and riding transit. A variety of sources have been incorporated from over 20 organizations, such as the American Public Transportation Association (APTA), Easter Seals Project ACTION, and the National Transportation Library. This information will be beneficial for agency administrators, marketers, and planners. Summaries of documents and websites are provided so that transit agency staff members can quickly access and incorporate information into presentations or local area reports.

1.0 INTRODUCTION

1.1 Background

According to the 2000 U.S. Census, more than 70 million Americans will be age 65 or older by the year 2030 – representing double the amount of elderly individuals in 2005. Because of the impending population increase for this age segment, and the eventual decline in their driving abilities, long-term planning solutions to encourage and facilitate the use of public transportation by the elderly are needed. This group of future elderly will force significant changes in the way older individuals are transported in our society. Nationwide, there are over 6,000 public and community-based transit systems that serve seniors utilizing a variety of programs (e.g. reduced fares, travel training) and modes, including but not limited to, fixed route, paratransit, rail, flexible route and circulator services.

With an almost universal implementation of accessible facilities in compliance with the Americans with Disabilities Act (ADA), more and more seniors are freely able to walk to, bike to, and otherwise access public transportation. Low-floor vehicles and easily activated wheelchair ramps have greatly improved the ease of boarding for people with disabilities and/or the elderly.

In many ways, America's transit agencies are becoming more successful in providing effective and efficient senior-friendly services. However, there is one large disconnect: few elderly actually utilize public transportation. Large numbers of seniors continue to rely upon and prefer private transportation by car as either a passenger or as a driver. Fear of losing their independence, the absence of public transportation services, and a general lack of knowledge about available services are all reasons why seniors remain largely attached to their cars.

A recent telephone survey indicated that 25% of seniors live in areas where there is no public transportation service at all – a finding that confirms the enormous pressure put on seniors to continue driving (*1*). In these situations, when the elderly cease driving and have no transit options, they become isolated from society. Distance has also become a barrier to accessing public transit for seniors. In suburban and rural areas, home to nearly 80% of the older adult population, destinations are often not within walking distance. Vast low-density residential areas make the delivery of public transportation extremely difficult.

A lack of amenities such as bus benches, shelters and adequate lighting, along with high board step entrances on vehicles, limited route destinations, complex schedules, and a lack of information pose significant challenges to seniors, as well as the full age range of transit patrons. Meanwhile, elderly residents continue to prefer private mobility. For

seniors contemplating driving after retirement or for those who have lost the ability to effectively drive a vehicle, transit is not considered a viable option due to the unfortunately common perception that public transit is unreliable, unsafe, and inefficient.

Yet the future looks bright for public transit - 80% of older adults said they would use public transportation on a regular basis if the transit services were convenient and easily accessible (2). Each year, as public transportation agencies install user-friendly technologies and expand services, more and more elderly will gain comfortable access. Eventually public transportation will be able to provide independence to more seniors with mobility needs. In the meantime, transit agencies must re-familiarize themselves with the aging population and prepare successful strategies to attract the elderly.

1.2 Study Objectives

A major goal of the Federal Transit Administration (FTA) is to increase transit ridership by 2% annually. It is hypothesized that addressing the needs of the nation's elderly with an emphasis on marketing, services, and training will help transit agencies increase ridership. This report analyzes the impacts of such initiatives, including the impacts on senior transit ridership.

The report identifies opportunities and challenges faced by seniors and transportation providers as related to public transportation utilization. In particular, it attempts to address how to attract senior drivers to services *other* than paratransit. Although paratransit fulfills an important need of the elderly and people with disabilities, it is an expensive service, and occasionally abused by individuals who are capable of riding fixed route transit. As the public transportation industry develops quality services with consideration for the special needs of the elderly, the elderly may become more willing to give these new services a try. By learning to ride various forms of public transit, our nation's elderly will achieve greater independence at a lower cost.

The objectives of this study are to identify public issues and concerns in regards to transporting the elderly. The primary task in improving the mobility of U.S. seniors is to identify and understand their needs and concerns. Through an extensive review of the literature, this study aims to identify who the elderly are, identify their current and future needs, and advocate the importance of effective public transportation. This includes examining current transit services and programs, assessing the needs of the elderly, and analyzing the benefits of providing effective transit services for this group.

Specific study objectives include the following items:

1. Review specific information about the nation's elderly – where they live, expected growth rates, and forecasted trends;

2. Review existing literature detailing the current and future travel needs of the elderly;
3. Identify and describe sources of national data pertaining to elderly driving and mobility;
4. Determine existing technologies, operating policies, and training programs that are currently being used by transit agencies;
5. Determine what programs and policies have proven effective;
6. Recommend solutions to assist transit agencies in attracting senior drivers.

1.3 Report Organization

A great number of studies already highlight the problems facing senior drivers and the impact of senior drivers on the general public. Most discuss the increasing severity of these problems because in the next few decades there will be tens of millions of additional senior drivers on our nation's roads. However, relatively few studies offer much guidance for mitigating the problem. Consequently, the report team concluded that the most value would be derived from identifying and assessing any and all strategies targeted at attracting seniors to public transportation.

As a result, and in accordance with the proposed framework, the report has been structured into the following sections, all of which contain substantial information on getting seniors out of their cars and onto mass transit:

- Literature Review
- Transit Agency Case Studies
- Strategies Appealing to Seniors
- Recommendations
- Identification of Data Sources

1.3.1 Literature Review

This section covers the issues associated with senior drivers. The elderly, where they reside, current mobility needs, and existing transportation options are discussed. Common issues with public transportation services are presented, along with some in-depth marketing information for older individuals.

1.3.2 Case Studies

Upon inspecting a random sample of over 40 transit agency websites, five agencies were selected for case studies based largely on their noted efforts to attract elderly individuals: Sun Tran, CitiLink, Sioux Falls Transit, Broward County Transit, and Spokane Transportation Authority. In particular, agencies with distinctive website marketing efforts and special services for the elderly were selected. Agency size and

geographic location were also considered, so that the case studies would be at least somewhat representative of all agencies.

Interviews were conducted with transit agency planners, communication managers, marketers and related staff. Agency staffers were questioned on the development of these services. In particular, staff were asked whether their efforts to attract elderly individuals were successful, and to what extent. Interviewees were encouraged to quantify the amount of new riders, or benefits when possible. Any data, whether numerical or anecdotal, was examined to determine if ridership increases were attributable to a particular service, marketing effort, or other event. These procedures were conducted to determine the best approaches to attracting the elderly to public transportation.

1.3.3 Strategies Appealing to Seniors

As mentioned earlier, websites are now becoming an easy marketing tool for customers who want to find out more about transit. With a greater portion of the population able to access the Internet, an agency's website is becoming increasingly important. For elderly Americans wanting to expand their mobility, searching their local transit agency's site is a likely action.

To examine the usefulness of agency websites, approximately 40 transit agency websites were examined by researchers for objective and subjective information. Particular attention was given to examining information related to travel planning, travel training, elderly and disabled riders, paratransit riders, and route maps and schedules. Information was also gathered concerning fare structures, discounts, and rider classification. Websites were searched for additional information related to creative marketing techniques targeting seniors. Lastly, because older adults are more likely to experience vision problems, each website was reviewed for its fonts, colors, and readability.

1.3.4 Recommendations

The recommendation section pulls together a list of the most effective methods identified for attracting and maintaining ridership among elderly riders. Also noted are possible strategies for the future – techniques that have not become popular yet, but that remain a viable possibility for the coming years. Findings are focused around tasks that public transportation authorities may accomplish by themselves or with minor levels of assistance from other city or county agencies.

1.3.5 Identification of Data Sources

An increasing number of governmental and nonprofit agencies maintain large datasets that document elderly demographic trends and mobility facts. Many scholarly journal articles and governmental reports reference publicly accessible data; yet, it remains time consuming for transportation planners and transit agency staff to locate appropriate

data when necessary. Acknowledging the need for informational organization relating to the mobility of elderly adults, FTA requested a compilation of relevant materials from within the U.S.

This task consisted of finding and documenting on-line data sources. A variety of organizational websites were examined for accessible data sets and relevant reports from lesser-known organizations, as well as from the more familiar governmental agencies. This information was included throughout the report based on its pertinence, timeliness, and importance. Descriptions of relevant websites, datasets, and reports are presented at the end of the document in Appendix A. Webpage links to select documents are also provided.

2.0 LITERATURE REVIEW

Americans, in general, rely heavily on personal automobiles, and members of our elderly population are no exception. Mobility is a critical measurement of quality of life, and, in the United States, seniors are fearful that the loss of their driving ability will result in the loss of their mobility.

However, many seniors remain unaware of the risks associated with driving an automobile late in life. With age, visual acuity and sensitivity declines, information processing capabilities diminish, and the ability to maneuver in unexpected situations is impaired. Relative to the miles they drive, older drivers are more likely to be killed in a car accident. In fact for each mile driven, drivers ages 80+ have fatality ratings higher than the rates of teenagers (*3*). In response, older drivers begin curtailing their driving behavior. Most avoid driving in rush hour, at night, and in bad weather.

The need to reduce vehicular accidents and other societal costs makes public transportation a viable solution to ensure the mobility of older drivers. Despite the fact that they acknowledge that public transportation is beneficial, older drivers remain apprehensive about using public transportation. As part of a 2005 Harris Interactive telephone survey of adults 65+, three out of four respondents stated that they have never used public transportation services in their region. Also, 55% of those who have readily available public transportation say they have never used the services. The same respondents reported the following positive attributes of transit services:

- 81% agreed that, for many seniors, a good public transportation system is safer, easier, and more convenient than driving.
- 82% agreed that, for many seniors, public transportation is a better alternative to driving alone, especially at night.
- 62% agreed that senior citizens who use public transportation regularly are healthier, more active, and mobile.

Some would suggest that the sense of freedom that driving provides makes switching to alternate modes difficult. Others argue that seniors have not shifted to public transportation due to transit agencies' inability to provide adequate services tailored to this population segment. While it may not be necessary to immediately abandon driving, it is acknowledged that seniors should begin familiarizing themselves with public transportation services, if available.

It is theorized that learning to use public transportation while in the midst of early retirement (60 to 70 years old) is significantly easier than attempting to learn during later years. The same declines in physical and mental ability that make driving difficult also pose challenges to those attempting to learn how to use fixed route transit (*4*).

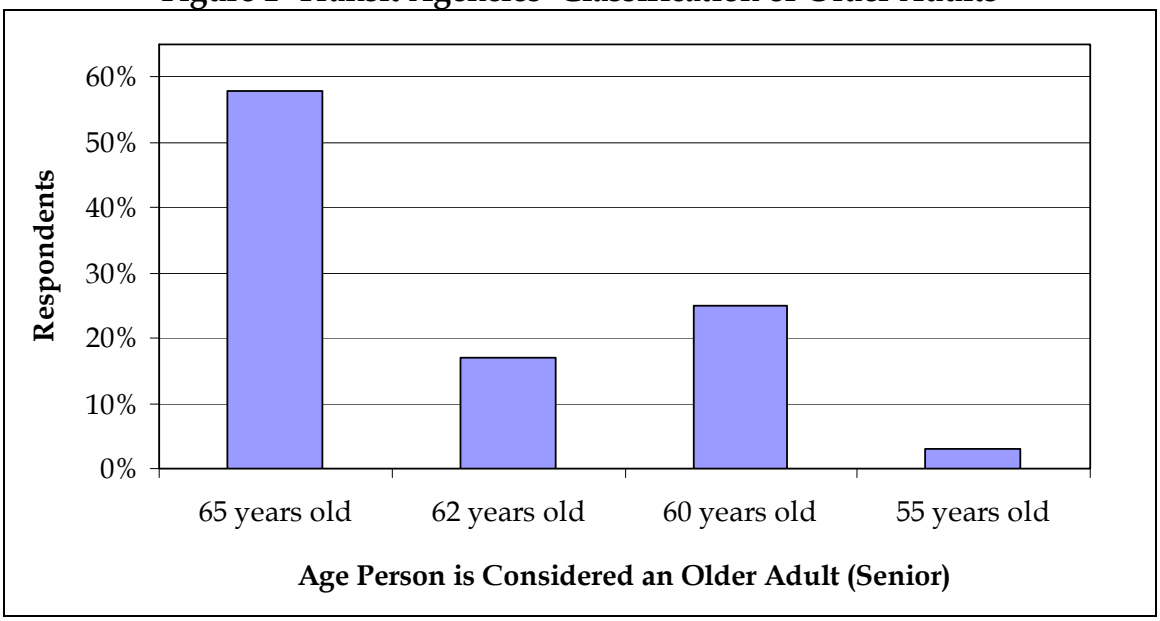
Gaining at least some familiarity with local public transportation can reduce the fear and worry commonly noticed in elderly who are forced to retire from driving. A small amount of experience using public transportation is likely to help older adults transition into the later stages of life, when driving is not an option.

Research regarding transportation services for the elderly is becoming even more pertinent because transit agencies have to be prepared to accommodate this rapidly growing segment of the population. As a result of national policy initiatives, many governmental departments have begun to respond to the urgency of our nation's elders' mobility needs. A host of agencies are challenged with the task of addressing inadequate investment in transportation options, the lack of coordinated planning and community decision-making, and the lack of familiarity with existing transportation services (*5*).

2.1 Who are the Elderly in the U.S.?

Data from the 2007 Beverly Foundation and APTA report, *Public Transportation Programs for Seniors*, indicate, that today, transit agencies no longer have a uniform classification for seniors. A survey of public transit agencies found that 42% of agencies consider a person an older adult before he or she reaches age 65 (**Figure 1**). It is also interesting that 84% of larger agencies, those serving more than 30 million riders per year, use 65 years of age for senior rider classification (*6*). Although nationally and locally, definitions of "senior citizen" and "older age" tend to differ, for the purposes of this report, the elderly demographic discussed refers to persons 65 years or older.

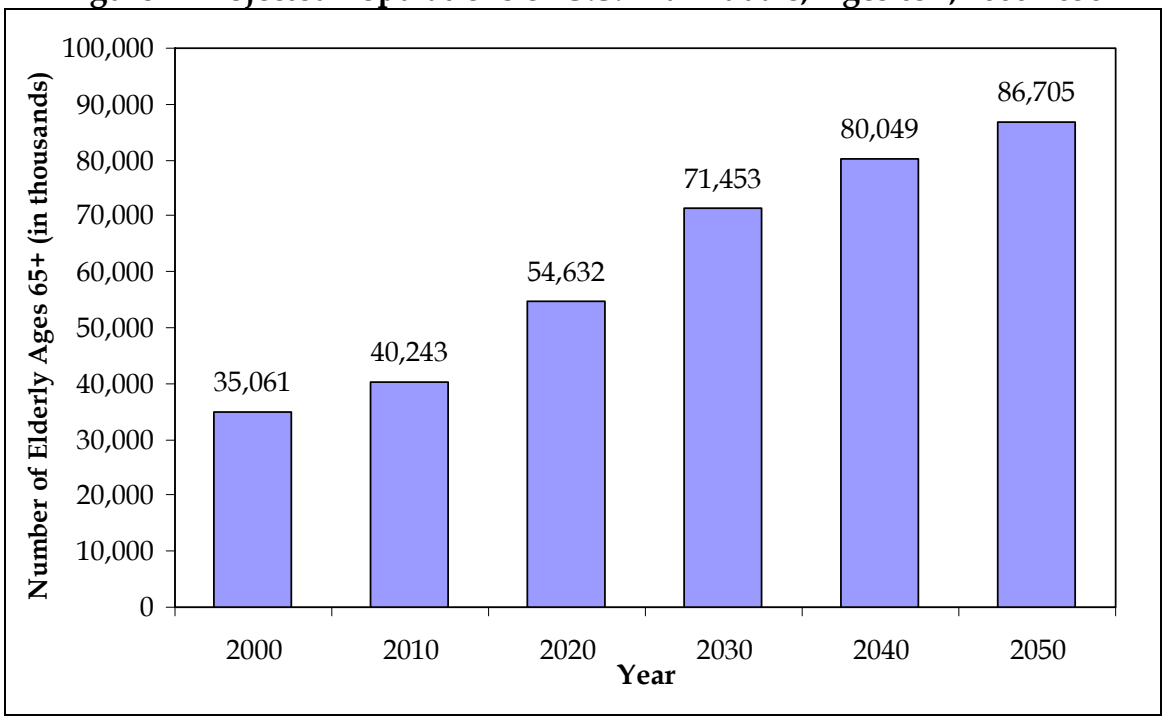
Figure 1 Transit Agencies' Classification of Older Adults



Source: Beverly Foundation & APTA, 2007.

The population of people age 65 and over is growing at an astounding rate. The national population of persons age 65 and older in 2000 was approximately 35.1 million. According to the U.S. Census Bureau's most recent projections, which are interim projections consistent with Census 2000, totals for this group are expected to reach 40.2 million in the year 2010 and 71.5 million in 2030 (**Figure 2**). These projections are attributable, in part, to the fact that Americans are living longer than ever. In particular, the number of persons 85 and older continues to increase rapidly. The number of people in this segment is expected to quintuple between 1995 and 2050 (*7*).

Figure 2 Projected Populations of U.S. Individuals, Ages 65+, 2000-2050



Source: U.S. Census Bureau, 2004.

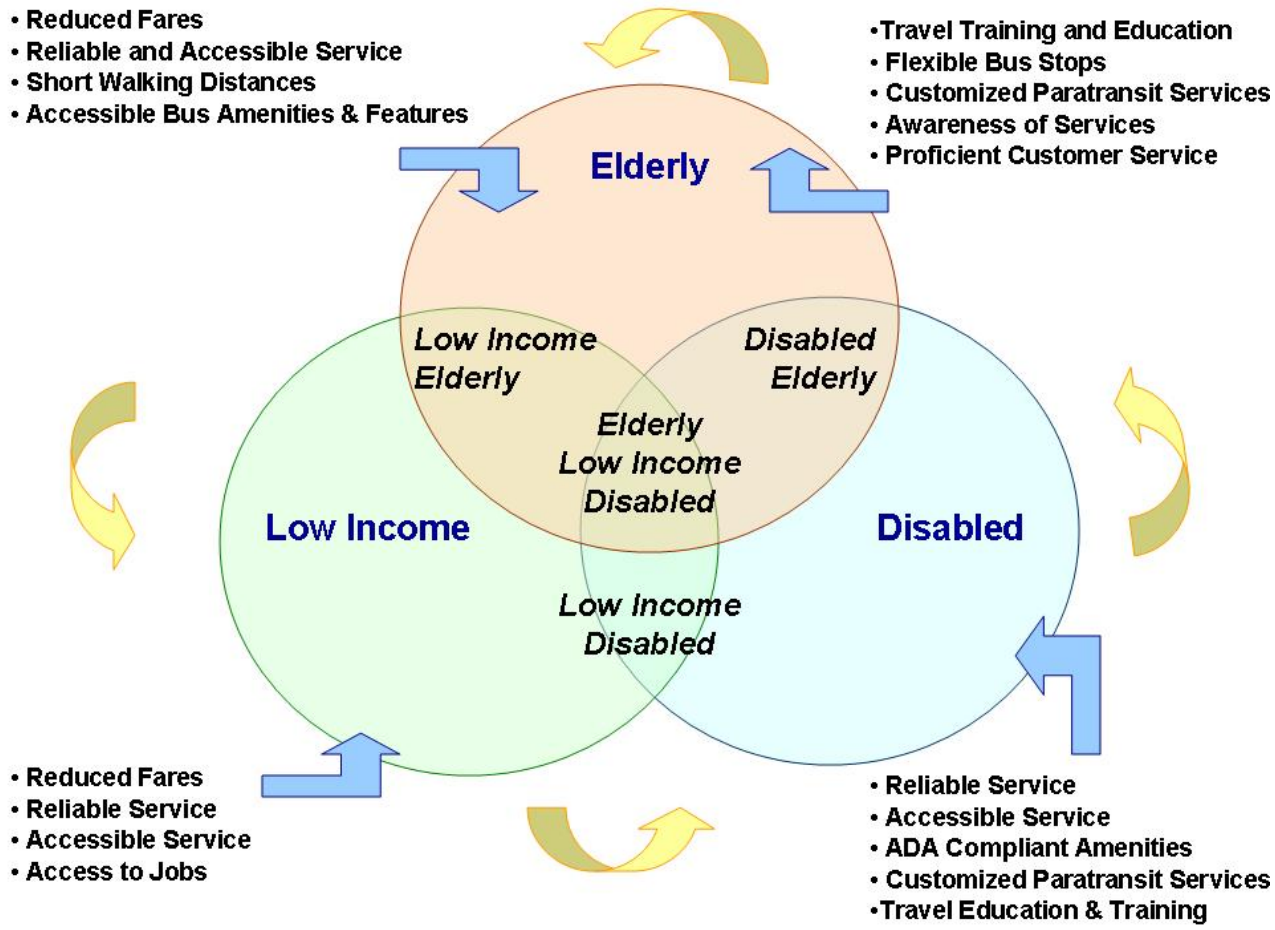
Census projections show that there will be more women than men in 2030, with women making up about 60% of the population 65 and older. According to the Old Age and Survivors Board 2008 report, by the year 2050, women are expected to live 83.4 years, while men are expected to live an average of 80.0 years. With a greater life expectancy, more women will become widows and will live alone, which may further limit their mobility options.

According to the 2006 American Community Survey, on the national level, 41.0% of citizens age 65 and older are disabled. A disability, as defined by U.S. Census, is the "existence of a long-lasting physical, mental or emotional condition that makes it difficult for a person to perform activities such as walking, climbing stairs, getting dressed, bathing, learning or remembering." These disabilities are likely to impede a person from traveling outside the home, but may not be substantial enough to qualify

him or her as having a disability under the Americans with Disabilities Act. Without this qualification, individuals may not be able to utilize paratransit services, and instead must use other forms of public transportation services.

Demographic research shows that elderly individuals commonly fall into one or two (or both) subgroups – low income and disabled. An assessment report in Richmond, Virginia determined that of the region's approximately 86,000 adults ages 65+, 43.8% were disabled, 7.8% were low income, and 4.8% were both disabled and low income (*8*). Those individuals who are both disabled and low income are likely to need alternative mobility options (**Figure 3**). They may be dependent upon others such as friends and family members or public transportation to meet their mobility needs. In some situations, financial assistance may be necessary for low income seniors to help them access transportation. This transportation is necessary for meeting basic health and welfare needs, and for reducing isolation from society.

Figure 3 Elderly Needs Diagram



Source: Richmond Regional Planning District Commission, 2006.

2.2 Where Do the U.S. Elderly Reside?

2.2.1 Geographical Distribution

The geographic distribution of seniors is an important component in addressing mobility needs. Simply put, they live everywhere; but, for the most part, seniors are concentrated in states with already large residential populations. In 2006, 54% of persons age 65 and older lived in ten states: California - 3.9 million; Florida – 3.0 million, New York and Texas - over 2 million each; Pennsylvania, Ohio, Illinois, Michigan, New Jersey, and North Carolina – each with more than 1 million (U.S. Census 2007).

While California has the largest number of elderly residents, Florida has the highest concentration of seniors; 16.8% of its residents are 65 years of age or older. In most states senior residents comprise between 10% and 15% of the total population. Only Texas, Georgia, Utah, and Alaska have concentrations lower than 10% (See **Table 1**). Although these numbers may provide an idea of elderly concentrations, data from the local level or even neighborhood level will be more useful to transit agencies attempting to address senior mobility.

Another popular trend is "aging in place," a term for growing old where you live - essentially remaining in the same community in which individuals resided during their middle-aged years. Individuals aging in place commonly are able to live independently longer in their existing homes as a result of social networks that have been developed over the years. In densely populated areas, aging in place is beneficial because these areas are more likely to have public transportation services available.

However, many, if not most, of the expected future retirees will reside in very suburban or exurban locations – on the fringe of cities like Phoenix, Austin, Raleigh-Durham, and Atlanta. These areas, which boomed during the 1980s and 1990s, have been able to retain many of their Baby Boomers, who are expected to enjoy retirement in place (*9*). The inherent problem is that these suburban locations were not developed with transit in mind. The land use and road networks make providing public transportation extremely difficult and often unrealistic.

Table 1 July 2006 Population Estimates for Individuals Age 65 and Older, by State

Alphabetically	Number of People	Percent	Ranked by Percentage	Percent
UNITED STATES	37,260,352	12.4		
ALABAMA	615,597	13.4	FLORIDA	16.8
ALASKA	45,630	6.8	WEST VIRGINIA	15.3
ARIZONA	790,286	12.8	PENNSYLVANIA	15.2
ARKANSAS	390,421	13.9	IOWA	14.6
CALIFORNIA	3,931,514	10.8	NORTH DAKOTA	14.6
COLORADO	477,186	10.0	MAINE	14.6
CONNECTICUT	470,443	13.4	SOUTH DAKOTA	14.2
DELAWARE	114,574	13.4	HAWAII	14.0
DISTRICT OF COLUMBIA	71,331	12.3	ARKANSAS	13.9
FLORIDA	3,037,704	16.8	RHODE ISLAND	13.9
GEORGIA	912,874	9.7	MONTANA	13.8
HAWAII	179,370	14.0	DELAWARE	13.4
IDAHO	169,173	11.5	CONNECTICUT	13.4
ILLINOIS	1,534,476	12.0	ALABAMA	13.4
INDIANA	784,219	12.4	OHIO	13.3
IOWA	435,657	14.6	MISSOURI	13.3
KANSAS	357,709	12.9	VERMONT	13.3
KENTUCKY	537,294	12.8	MASSACHUSETTS	13.3
LOUISIANA	523,346	12.2	NEBRASKA	13.3
MAINE	192,639	14.6	OKLAHOMA	13.2
MARYLAND	650,568	11.6	NEW YORK	13.1
MASSACHUSETTS	855,962	13.3	WISCONSIN	13.0
MICHIGAN	1,260,864	12.5	KANSAS	12.9
MINNESOTA	627,394	12.1	NEW JERSEY	12.9
MISSISSIPPI	362,172	12.4	OREGON	12.9
MISSOURI	778,891	13.3	ARIZONA	12.8
MONTANA	130,592	13.8	SOUTH CAROLINA	12.8
NEBRASKA	234,655	13.3	KENTUCKY	12.8
NEVADA	276,943	11.1	TENNESSEE	12.7
NEW HAMPSHIRE	162,629	12.4	MICHIGAN	12.5
NEW JERSEY	1,127,742	12.9	MISSISSIPPI	12.4
NEW MEXICO	242,600	12.4	INDIANA	12.4
NEW YORK	2,522,686	13.1	NEW MEXICO	12.4
NORTH CAROLINA	1,076,951	12.2	NEW HAMPSHIRE	12.4
NORTH DAKOTA	92,874	14.6	DISTRICT OF COLUMBIA	12.3
OHIO	1,531,994	13.3	LOUISIANA	12.2
OKLAHOMA	473,545	13.2	WYOMING	12.2
OREGON	478,180	12.9	NORTH CAROLINA	12.2
PENNSYLVANIA	1,885,323	15.2	MINNESOTA	12.1
RHODE ISLAND	147,966	13.9	ILLINOIS	12.0
SOUTH CAROLINA	553,396	12.8	VIRGINIA	11.6
SOUTH DAKOTA	111,183	14.2	MARYLAND	11.6
TENNESSEE	769,222	12.7	WASHINGTON	11.5
TEXAS	2,334,459	9.9	IDAHO	11.5
UTAH	225,539	8.8	NEVADA	11.1
VERMONT	82,966	13.3	CALIFORNIA	10.8
VIRGINIA	887,768	11.6	COLORADO	10.0
WASHINGTON	738,369	11.5	TEXAS	9.9
WEST VIRGINIA	278,692	15.3	GEORGIA	9.7
WISCONSIN	724,034	13.0	UTAH	8.8
WYOMING	62,750	12.2	ALASKA	6.8

Source: Population Division, U.S. Census Bureau, 2007.

2.2.2 Trends in Retirement

The vast majority of older adults are not likely to migrate during retirement. In fact, in any year, only about 1% of persons aged 65+, and 1.9% of persons aged 55-64 will move to another state – a small number compared to the 6% of 20-year-olds who will move across state lines (*9*).

Many Americans with financial resources may enjoy the ability to retire earlier and move to a different geographical location, often in-state, typically with a warmer and milder climate. This health and financially enabled move, common in the 55 to 65 age range, is sometimes termed an early retirement move, or amenity retirement. This retirement phase is often followed later in life by a second move, to be near family, after health problems or the loss of a spouse. Finally, a third retirement phase might occur due to chronic disabilities or the need to be in an institutionalized setting (*10*).

In one study primarily examining the "amenity move," researchers found that the presence of friends or relatives in a potential retirement location was a large factor that led to contemplation of a retirement move, or an actual move during retirement (*11*). Surprisingly, retirees did not heavily consider community walkability, or available options for transportation. Little consideration is given to transportation, even when retirees are reaching a point where their driving skills will diminish. Instead, plans regarding a retirement based move can change due to a variety of factors. The health and financial status of both younger and older family relatives, along with close friends or family in warm-climate areas tended to greatly impact moving decisions for retirement.

Recent data show that Americans are preoccupied with the early stages of retirement and not yet thinking about their future transportation needs. In a web-based survey of 238 agencies that serve older adults, 70% indicated that they "seldom" or "never" get asked "what are my options if I must stop driving?" (*12*). In another survey of 1,285 individuals, ages 40 to 65 years old, only 44.3% rated public transportation as a very important or somewhat important retirement location characteristic. With less than one-half of this population acknowledging the importance of public transportation, the data may reflect the misconception that transportation services will never need to be utilized during retirement (*13*).

To an extent, the rise in gas prices during 2008 has caused some seniors to make adjustments to their travel habits. In a survey among adults age 50 and older, 85% of respondents were either "extremely concerned" or "very concerned" about the recent rise in the price of gasoline, and 40% of respondents had actually made travel behavior changes, such as walking, riding a bicycle, or using public transportation more frequently (*14*). While the elderly do appear sensitive to costs, they are not necessarily quick to make significant lifestyle changes.

2.3 The Current and Future Mobility Needs of the Elderly

2.3.1 Current Driving Abilities

Most adults 65 years of age or older are still driving – 79% to be exact (*3*). In fact, most drivers at age 65 drive exceptionally well. Senior drivers have even been found to perform better than their younger counterparts during rainy and snowy road conditions (*15*). Usually, driving behavior does not markedly deteriorate for several more years. Those in the 70-74 year old age bracket are commonly the first population group where driving fatality rates and crash involvement rates show a noticeable increase.

In response to the general decline of driving abilities, states have instituted an assortment of testing procedures and laws focused on ensuring that only safe drivers remain licensed. For the most part, these additional procedures have been beneficial; drivers with certain health conditions and restricted driving licenses have been found to have fewer crashes than similarly affected drivers without restrictions (*16*).

Some disabilities do not negatively affect driving. One controlled study of crashes and dementia showed no significant increase in crash rates for drivers with dementia (*16*). Older drivers are often capable of recovering from serious health incidents so that they can drive once again. With proper physical therapy and retraining, a majority of stroke survivors, for instance, are able to return to independent driving (*17*). However, with the possibility of such a wide variety of physical and mental abilities, determining one's driving ability can be very difficult. Functional assessments, like a comprehensive visual processing test, a falls history, or a review of current medications, may be of greater importance than specific medical conditions at identifying older at-risk drivers.

Those drivers worried about their abilities behind the wheel can often qualify for a remediation of driving skills. Driving improvement courses are offered through several organizations, including the American Automobile Association (AAA) and the American Association of Retired Persons (AARP). To truly improve, participants must have some insight into their deficits and be able to learn new strategies and techniques. At a minimum, cognitive and sensory problems must be no worse than mild or moderate. It is also important that course enrollees show some level of emotional preparedness; they must realize their ability to drive will at some point cease (*18*).

2.3.2 Future Driving Abilities

Although men and women are expected to continue driving longer and longer, both sexes ultimately retire from driving and will need to rely on alternative sources of transportation. Among a study of driving individuals aged 70 to 74 years, the average

male is expected to outlive his driving ability by 6 years, and the average female will outlive her ability by 10 years (*19*). At some point in time, elderly individuals must make a conscious decision to stop driving. If not, the individual may continue to drive until he or she fails the licensing test. Alternatively, failure to submit a medical or vision report to the DMV, results in license revocation and effectively terminates one's driving ability. This scenario was found to occur more commonly once drivers reached age 75 and above (*4*). In only extreme cases will a family member or physician need to request that a license be revoked.

In one study, senior drivers were classified into three categories: proactives, reluctant accepters, and resisters (*20*). Proactives are people who plan to quit on their own - they are likely to be the same people who have planned financially for retirement. These individuals understand there may be difficulties with driving cessation, but they are not willing to risk their safety or the safety of others. Reluctant accepters are people who realistically understand their driving skills, but usually have a slow process of resignation - often prompted by a physician or driving test. For this group, driving cessation can also be associated with a particular event. Car accidents, health procedures or surgery, car problems, and gas prices have all been found to precipitate driving cessation (*21*).

Most worrisome to themselves and the general population are resisters - individuals who are unrealistic about their driving abilities and continue to drive even with rapidly deteriorating health and cognitive problems. It is not easy convincing a resister to stop driving - it might take failing a driving test, or a major automobile accident. Even senior citizens are uncomfortable with confronting their peers who resist driving retirement. As a way to influence seniors with an inflexible mind-set about driving, strategies include making the topic of driving cessation part of the general retirement planning process, not just a response to an unfortunate event (*20*). Such an education strategy could be conducted on a local or state level, and may simultaneously be combined with informing aging adults of alternative transportations within their geographic area.

Somehow, the elderly must be encouraged to ask for help in analyzing their current and future driving situations. As of now, few people take advantage of technical assistance at transit agencies. Roughly 80% of agencies rarely or never hear inquiries such as "how can I determine if I or a family member needs to stop driving?" (*12*).

Research shows that even significant educational efforts will not lead to safer elderly driving. One pilot program involving 40,000 high risk California drivers, ages 70 and above, attempted to determine if information dissemination could effectively help reduce crash rates for the elderly. Unfortunately, no amount of traffic safety driving materials was able to decrease the likelihood of traffic accidents. Subsequent automobile accidents and traffic convictions were not affected by either the type nor the amount of informational material distributed (*22*).

Efforts to ease the transition to alternate forms of transportation are important. Procedures to compel driving cessation have been found to be associated with an increase in depressive symptoms - even after socio-demographic and health related factors have been taken into consideration (*23*). These depressive symptoms are known to be associated with disability and mortality. Results indicate the importance of ensuring fair testing of driving competency and providing readily available alternatives to driving.

2.3.3 When Driving is No Longer an Option

Upon driving cessation, public transportation does not always become a necessity. Some seniors may be able to get places by riding with friends and relatives who are still able to drive. The literature consistently shows that older persons, both drivers and non-drivers, overwhelmingly prefer to be driven places by a family or friend as opposed to riding public transportation (*4, 24, 25*). However, many seniors are reluctant to ask for rides. They commonly worry about becoming a burden to family members or friends. For seniors, it can be difficult to distinguish between a sincere offer and a casual suggestion. Other individuals can afford to take trips by taxi or hire help, but most elderly are unable to pay for such services. Public or community provided transportation commonly becomes the answer.

Seniors who retire from driving have high expectations for public transportation services provided; they often expect the same freedom and flexibility associated with car ownership (*8*). Any new transportation mode will often be directly, and perhaps negatively, compared to the automobile.

The current and future mobility needs of the elderly are reliable and improved transit service. Seniors who currently depend on public transportation need enhanced customer service, reliable mobility options, well maintained routes or paths to accessible stops, assistance with riding public transit, and a safe travel environment. This population will continue to benefit from such things as low-floor buses and driver assistance.

There must also be a good relationship between the senior community and the transit providers. Seniors have to be aware of the services that are developed for them. Many seniors feel that they are being overlooked when it comes to transportation planning. There are many programs, services, and senior-friendly vehicles specifically designed for them, but they are often unaware of many of these options. This miscommunication can be solved by increased marketing efforts directly targeted to seniors, senior organizations, senior service providers, and senior gathering places.

Other mobility options for seniors include volunteer organizations and other nonprofits that provide transportation services to the elderly. These services can be financed with

the help of local transit agencies to provide additional services to this group that will not interfere with the service to other groups of transit riders. The promotion of better community design, such as mixed-use developments that support public transit, is a key component in addressing senior mobility. If there were more areas designed for the pedestrian, mobility options for seniors residing within those areas would be only a minor concern. Walking, bicycling, and public transit would all be used much more often.

2.4 Existing Transit Options

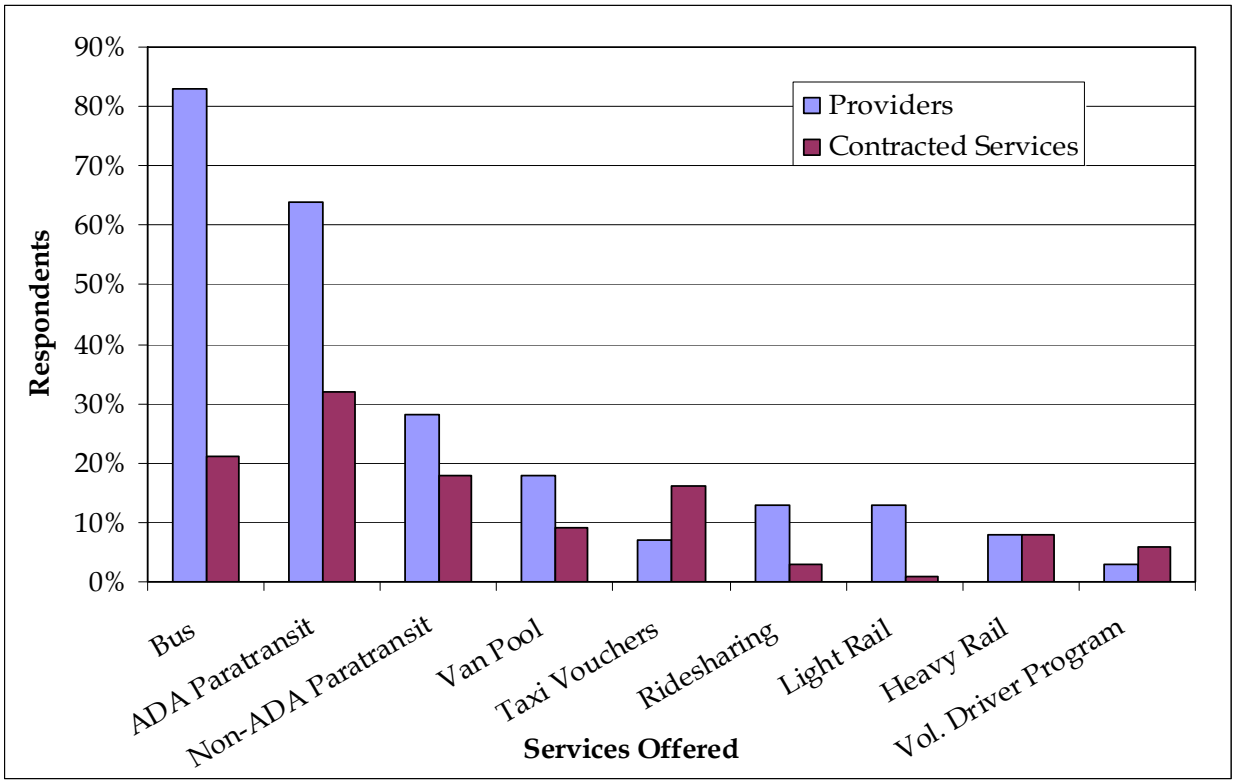
Nearly 6,000 public and community centers nationwide provide transportation services for older riders (*2*). Most agencies offer a mix of services for riders, with some being provided by the transit agencies themselves, and others provided through contracted service. The 2007 Beverly Foundation and American Public Transportation Association (APTA) report, *Public Transportation Programs for Seniors,* provides new information about commonly offered transportation services, and those tailored especially to senior citizens (*6*).

As part of the report, 88 transit agencies around the country, of various sizes, were surveyed in order to learn more about experiences and efforts to serve older adults. The survey results showed that bus service is by far the most commonly offered service, with about ¼ of all services being contracted. The next most popular services were ADA paratransit, and non-ADA paratransit services (see **Figure 4**). Non-ADA services are those that go beyond ADA mandated requirements – things like door-to-door service or dial-a-ride service that is available 24 hours a day, even when fixed routes are not running. Also, these services are frequently offered to all riders, not just people with disabilities (*6*).

The report also showed that most of the responding transit agencies offered one or more special programs that were provided specifically for older adults (non ADA related). Of the 70 percent who answered yes to providing a particular service, most offer travel training (43%). Other common services include demand response, curb-to-curb, door-to-door, and flex route services (**Figure 5**) (*6*).

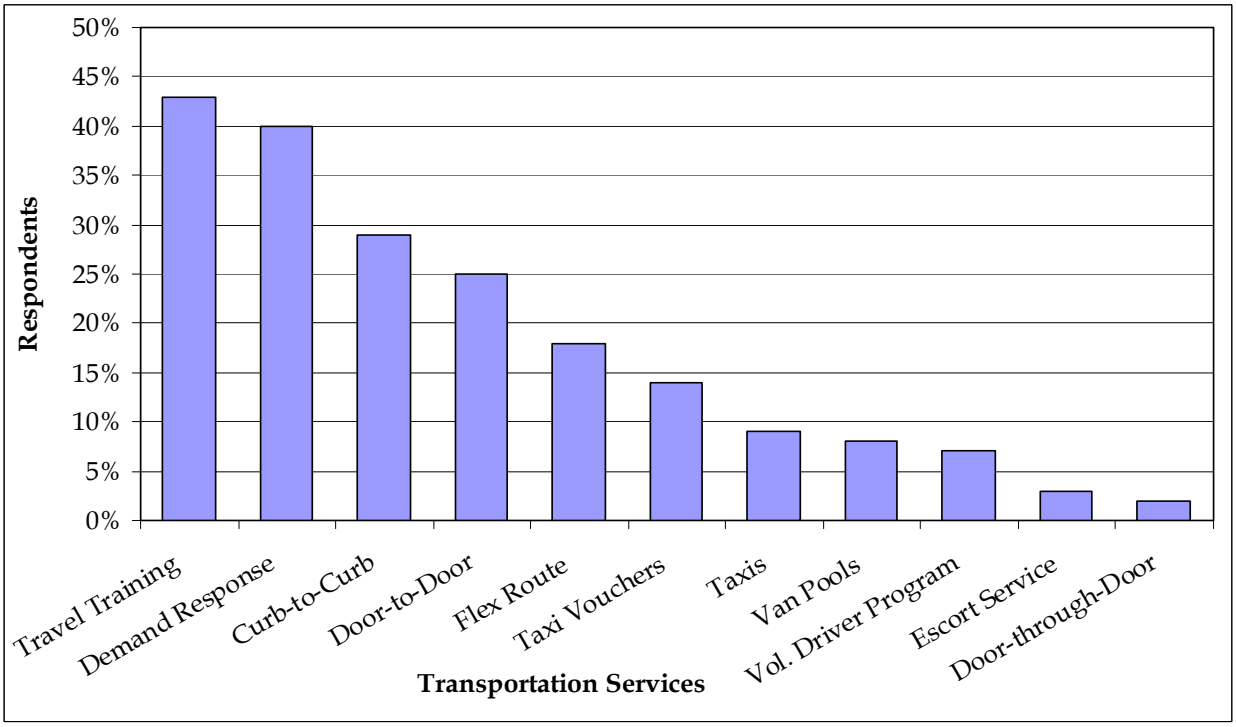
Transit agencies must have the resources in place for planning, implementing, and executing new services or programs. For example, flex-route and demand response services require coordination, multi-loading, advanced scheduling, and eligibility; they are often very beneficial, but difficult to operate. Alternatively, some simple ideas require significant financial resources - modernizing facilities and implementing design techniques are very helpful to the elderly, but can be very expensive. These are just some of the reasons why transit agencies develop different strategies for expanding services.

Figure 4 Services Offered by Transit Agencies and their Contractors



Source: Beverly Foundation & APTA, 2007.

Figure 5 Transportation Services Provided Specifically for Older Adults



Source: Beverly Foundation & APTA, 2007.

Although many types of services are offered, of most interest are services other than paratransit that provide seniors with greater independence at a lower cost. Several types of transit services are mentioned in the following sections, each with a discussion of issues relating to their use and function for elderly individuals.

2.4.1 Fixed Route

For fixed route travel, agencies have slowly been able to increase the amount of low-floor and low-platform buses in their bus fleet. These newer vehicles usually have ramps and lifts that quickly extend to help people board and alight. These vehicle improvements provide for easier and more comfortable travel for all passengers, but especially for older riders who have trouble with stairs.

Nevertheless, there was some agreement among senior riders, in three west coast cities, that drivers, reliable equipment, and on-time performance are the most important system attributes (*26*). Bus stop information, telephone information, and vehicle cleanliness were rated toward the bottom of importance. These results may indicate that driver training, routine lift-system testing, and on-time performance checking would improve seniors' satisfaction with public transit. However, it is important to note that, among prospective improvements to transit service, more frequent services were judged most likely to increase ridership – including direct service to destinations.

2.4.2 Paratransit

To comply with the ADA, transit agencies that provide fixed route services are required to provide complementary paratransit services to individuals living within ¾ of a mile from a fixed route and during concurrent hours of operation. Paratransit is usually available only to those individuals who are unable to ride fixed route transit. People with the following disabilities often require paratransit instead of fixed route services: visual impairments, cognitive disorders, a need for dialysis, neurological disorders, stroke and other motor disorders, arthritis, cardiac and pulmonary problems, and cancer patients undergoing chemotherapy or radiation.

Paratransit in most communities may be furnished by a number of independent providers, or supplied by the public transit agency itself. Coordination of services through a single agency often permits more effective and economical use of available resources (*27*). Even when charging users double the fare of fixed services, the maximum allowable under ADA, total expenses per trip are quite large. Providing quality, responsive transit services generally requires substantial subsidization by local and state agencies.

The ability to provide demand-responsive travel at even somewhat affordable prices requires consumers to share rides. While clients can go where and when they want,

they travel with other users, who are picked up and dropped off along the way. Transporting clients from different locations to different destinations, while minimizing travel time and distance, involves complicated scheduling and routing. Most systems require that requests for rides be made well in advance, between 24 and 48 hours is the standard minimum. However, agencies often prefer two weeks notice. Cancellations must also be made well ahead of time to save resources.

This aspect of paratransit might be thought of as a deterrent to travel, since additional stops increase total travel time, and the reservations process can be tedious. Older clientele are likely to appreciate faster and easier transport services, yet many are unable, or believe themselves to be unable, to travel by another mode. In response to overuse by individuals capable of using fixed route services, many communities are beginning to rely on paratransit eligibility review boards. By testing physical and mental abilities, review boards are able to ensure that only the most impaired people are using paratransit services.

2.4.3 Circulator Services

Circulator services are similar to fixed routes, but have a much shorter route distance. These services are sometimes referred to as service routes or community buses because they use a smaller vehicle and are able to navigate through smaller streets without being intrusive to the community. Circulators commonly prove beneficial to the elderly because they are designed to travel very close to residences and trip destinations.

Essentially, the route design for these services attempts to minimize walking distances. Planning can also consider location patterns of travel requests coming from paratransit services (*28*). Circulators connect with fixed route transit as well. This may allow more people to access regular fixed route services. Additionally, circulator and fixed route services typically have a lower fare than paratransit services; paratransit often costs twice as much per ride.

Circulators can be beneficial in all types of places. Recently, many cities have been experimenting with downtown circulator services created to serve tourists and downtown business and government employees. Often, the business community may provide some support for such services, especially if parking is an ongoing problem. In other situations, circulator routes can replace underperforming fixed route services and attract trips from paratransit services (*29*).

2.4.4 Flexible Routes

Flexible route transit services have been around for over 20 years, but still remain relatively uncommon. These services provide some type of demand response pickup, but still run on a set schedule. The ability to deviate service to a particular location has

essentially allowed flexible services to cater to people with disabilities and the elderly. These services have been implemented in a variety of locations, mostly suburban areas and rural corridors where low densities and poor street connectivity preclude the operation of fixed route services. In some places, flexible services are just a local preference, or the only realistic option for steep or narrow streets. In many locations, flexible services are used as a test phase to determine how much demand exists and how many paratransit trips can be reduced. If ridership on flexible services climbs significantly, it can be interpreted as an indication that fixed-route service may be sustainable.

Another reason flexible route services are relatively uncommon is that almost no standard practice exists when designing such services. Each agency creates its own unique service. Flexible transit services can be classified into six categories: request stops, flexible-route segments, route deviation, point deviation, zone routes, and demand-responsive connector service. It is common for two or more of these categories to be used in combination to cater to a specially targeted population. Of the roughly 50 agencies in North America operating these services, most agencies do not provide frequent services - more than half have headways greater than 1 hour (*30*). Additionally, the procedures for pickup requests vary tremendously – agencies ask for anywhere from 10 or 15 minutes to 24 hours advance notice.

In a study that looked at flexible routes in eight different Texas cities, flexible routes functioned similarly in both large urban areas and small cities (*31*). In most locations, flex routes were designed for areas where not enough demand or financial resources existed to warrant fixed route services. In several of the cities studied, within 5-10 years, enough demand existed to transition the flexible routes into fixed routes. In other locations, flexible routes with low ridership were eventually cut to save money. Although most systems witnessed a positive customer response, agencies requiring one-day-advance reservations received negative reactions. Also, in San Antonio, routes that changed status from fixed service peak hours to flex-route midday service caused confusion and upset many passengers.

Flexible services are routinely operated by contracted service providers, especially if an agency does not operate its own paratransit service (*30*). Because many aspects of flexible routes overlap with aspects of paratransit, a joint operation is usually much more efficient. Because service is typically targeted for a small segment of the population, marketing efforts are not likely to be large-scale. Often only residents of a particular area or former paratransit users will need to learn how to ride. Any media used for promotion will need to clearly explain sometimes complex rules pertaining to what areas are serviced, what ages are allowed to request flexible services, and at what times of day the services are available. For the most part, it seems that actual riding experience is necessary in order to understand flexible services.

2.4.5 Community-Based Supplemental Transportation Programs

Any type of transportation service that is neither entirely public nor entirely private can be referred to as a Supplemental Transportation Program (STP). In areas that lack alternatives to driving, STPs are a necessity for transporting seniors. Outside of urban and dense suburban areas, public transit and paratransit services are frequently unable to provide the independence desired by seniors, especially among current drivers. In these locations, taxes or community support may not be substantial enough to support a permanent transportation agency, or a particular service, capable of solving transport problems. Rural locations are often forced to develop transportation solutions on their own; usually an area's social service agencies help devise a plan.

Nonprofit agencies such as churches or councils on aging often craft unique programs aimed at reducing the pressure on older drivers to continue driving. Examples may include daily volunteer drivers for a veteran's hospital or a council on aging's community bus route that runs two days per week. STPs have the potential to be very effective because they recognize the diversity of places and transportation needs of the elderly. Any uniform plan is unlikely to work in all places given the variations in demographics and transport trends in rural, suburban, and urban areas (*32*).

For community developed services, a key to success and longevity is to keep costs extremely low. Because capital expenditures and maintenance costs usually lead to high program costs, STPs are encouraged to utilize volunteer vehicles and volunteer workers. By limiting paid staff and vehicle maintenance and insurance costs, programs can function on a small budget, but will likely need to restrict services to a select segment of the population (*33*).

To start up and maintain low-cost and low-maintenance programs, organizations must be willing to cooperate and plan with several agencies. A recent publication by the Administration on Aging, *Seniors Benefit from Transportation Coordination Partnerships – a Toolbox*, provides insight for establishing and maintaining coordinated transportation services. Of the five agencies that offer some type of fixed or flexible route service, coordination strategies were identified and noted for their improvements in overall service. Of the approaches listed below, all demonstrate replicable coordination techniques with significant measurable benefits (*27*).

- Conduct regular meetings with current and potential partners - usually developing agreements with them.
- Conduct monthly review with dispatchers to avoid duplicating services.
- Automate monthly billing procedures.
- Decentralize dispatch sites.

- Collaborate with larger neighboring transit agencies for the development of long-distance work trips.
- Develop a "hospitality culture" focusing on customer satisfaction.
- Create more respected and quality employees through responsibilities, uniforms, incentives, and rewards.
- Encourage the state DOT or public transit association to provide support for smaller agencies that do not have the resources to manage advertising, marketing, and grant writing, as well as driver training.
- Establish transfer points with the major urban center's transit system.
- Simplify transfers and passes between the rural and urban transit system networks.
- Store transportation related data for use in future planning or quality of life studies
- Conduct focus groups and surveys of older adults.
- Utilize centralized and computer-assisted dispatching.

Some rural and small communities developed additional, unique strategies to improve ridership and expand services. Some of these methods include the following strategies (*27*):

- Providing ad space on their buses to local radio stations in exchange for radio advertisements.
- Allowing customers to wave down the bus at any street corner for flexible route buses.
- Consulting with hospitals so that ride sharing can be utilized for dialysis treatments and joint scheduling opportunities for rural clients.
- Garnering unanimous support for funding commitments, from all involved parties, through the use of need assessments and quality of life surveys.
- Initiating a peer education planning project to teach older adults about the fixed route system.

2.4.7 Travel Training

Travel training is a strategy commonly used to train people with physical and mental disabilities on how to travel using the fixed route system. Each travel training program varies significantly from one agency to another. Some agencies provide bus demos, or lift training at schools and retirement centers, while other agencies invest in full-time instructors available for one-on-one training. Depending on the circumstances, programs might be offered by the agency, a service provider, or a local nonprofit.

In Eugene, Oregon, one travel training program focused on utilizing senior volunteers to teach other seniors still driving how to use the transit system. Participants took part in “bus excursions” to restaurants or attractions near bus stops. Researchers studied the

participants and found that of the seniors who voluntarily gave up their driver's licenses, 64% did so after the travel training program (*34*).

Travel training works best in an environment that is already accessible. Before developing a program, it is important that inaccessible facilities be identified. Inaccessible bus stops essentially create an inability to traverse large parts of the urban area among those would-be riders with limited mobility (*35*). If many locations are not accessible, travel training may not be appropriate because people frequently may be unable to reach their desired destination.

Although some might balk at paying individual trainers to help people learn about their local transit system, travel training has proven its effectiveness – especially for paratransit users. Hypothetically, if the average subsidy for a paratransit trip is $20.00, then the savings by diverting just 10 paratransit trips amounts to $200.00. Depending upon estimated paratransit trips over a passenger's lifetime, agencies are likely to benefit, even if training costs amount to hundreds of dollars.

Programs have seen high success rates through the use of "travel buddies" who take trips together, and by "peer training," where persons of a similar age and ability teach potential riders (*5, 7, 36*). Both types of programs greatly increase rider comfort levels and ensure that new riders arrive at their desired destination. If possible, travel training by volunteers is preferred because costs are minimized.

In a survey conducted in 1995, 135 out of 309 responding agencies indicated that there was some type of travel training program in their area (*28*). Additionally, a high percentage of these agencies indicated that the travel training system is very effective. By providing a discount for fixed route travel, and pricing paratransit at the maximum rate (double regular fares), there is a significant incentive for individuals to utilize fixed route travel.

2.5 Issues and Concerns with Public Transportation

As mentioned previously, there are numerous services that have been implemented to assist in seniors' usage of public transportation; however, the numbers with regard to patronage have only marginally increased. Efforts have been made to improve the services rendered to existing patrons, but not much has been done to attract new riders, in part because of the complexity of the issue. Many senior passengers are transit dependent and must ride the bus, regardless of improvements to service delivery. However, addressing concerns of the seniors that do not currently use public transit will increase the utilization of public transit by seniors, thereby improving the level of service delivery for senior transit dependents.

Specific requirements that are conducive to elderly patronage are summarized in elements know as the five A's: Availability, Accessibility, Affordability, Acceptability, and Adaptability (*6, 21, 33, 37*). Availability is the determinate factor of whether or not people have the option to use public transit. Accessibility is important in that many seniors suffer physical and cognitive constraints; they require a simple way to access, board, and ride vehicles. Affordability is a criterion that promotes reduced fares for individuals aged 65 and older. Acceptability measures the service level, safety standards, and vehicle comfort. Adaptability standards identify the presence and ease of efficient transfers to connecting services and special needs accommodations (*7*). These elements are often the very factors that keep seniors away from public transportation. If improved upon, these same elements are likely to attract and sustain elderly transit ridership.

2.5.1 Availability – Are there services nearby?

Thousands of seniors are excluded from services because transit is not available or accessible to them. This is commonly the case in rural areas, where organized public transit systems do not exist, and in suburban areas, where transit is often inaccessible to many seniors. Approximately 75% of seniors live in low-density, suburban locations. For retired drivers living in these locations, there are few opportunities to access public transportation.

With each relevant study, findings indicate that lack of availability is a central issue for scores of elderly. A 2005 APTA-sponsored poll among 404 U.S. adults age 65 and over found that three out of five seniors said that if more transit options were readily available within their neighborhoods they would utilize services. Eighty percent (80%) of those surveyed felt that a good transit system was better than driving, and 82% felt that public transit was better and safer than driving alone, especially at night. Older persons want public transit that addresses their needs. Of those surveyed, 66% believed that their community needs to provide more transportation options for older adults (*1*). Responses indicate that the lack of availability needs to be overcome so that more elderly can utilize transit services.

Other research has found that elderly who lack public transportation services are negatively impacted by the lack of availability. The study showed that persons 65 and older, particularly in rural and small towns, must stay home due to limited transit options. These seniors run fewer errands and have fewer options for social and recreational trips. As a result of limited options, seniors fear being stranded in their homes.

2.5.2 Accessibility – Is it easy to use?

Another reason that seniors do not use public transportation, even when it is available, is that it is often difficult to use. In many places transit is inaccessible or hard to understand. Signage and wayfinding that are confusing or have not been updated can make transit difficult to use.

Transit requires that people navigate the walking environment – sidewalks, crosswalks, streets, and sometimes parking lots. In some places, even a friendly pedestrian environment is unfriendly for the elderly. Research has established that older pedestrians have more difficulty traversing street networks compared to younger individuals - attributable in part to pedestrian crossing signals that assume relatively fast walking speeds. National Highway Traffic Safety Administration (NHTSA) data recording pedestrian deaths shows similar results; within the U.S., 4,881 pedestrians died as a result of motor vehicle crashes during 2005. Out of this number 981 pedestrians were age 65 or older. Out of these 981 deaths, approximately 78.5% were age 70 or older (*38*). By observing walking speeds in six different urban areas, it was determined that a significant number of mature individuals were unable to safely cross street intersections within the allotted time (*39*).

Street crossing safety is expected to eventually improve. Already, as a result of the previously mentioned study, recommendations for decreasing the proscribed walking speed for pedestrian signals have been made to the Manual on Uniform Traffic Control Devices (MUTCD). Furthermore, guidelines being developed by the U.S. Access Board call for accessible pedestrian signals at newly signalized or altered street intersections (*40*). Although these guidelines have not been adopted into ADA regulations as of now, their inclusion will eventually provide benefits to the elderly and others who have difficulty crossing intersections.

Accessibility can also be influenced by the type of neighborhoods in which seniors live. High local density and residing close to a bus stop are two variables that have been identified as leading to transit use, both for the elderly as well as the general population (*41*). In contrast, neighborhoods, whether urban or suburban, without basic infrastructure components such as sidewalks or curb cuts pose significant problems to the elderly. In these circumstances, even accessing a bus stop will be a challenge.

Encouraging the elderly to relocate to more accessible residences seems like a logical solution. Compact towns or urban areas with mixed use developments would be likely to at least have the basic infrastructure for public transportation. However, with the tendency of seniors to age in place, it is unlikely that many individuals would move. In fact, less than 5% of older adults make an interstate move in any five-year time period (*42*). One must also consider whether a minor increase in travel opportunities is worth

the loss of moving away from friends and a comfortable, well-established neighborhood (*41*).

The best solution for enhanced accessibility will be one where local jurisdictions and transit agencies improve the design of the built environment so that walking and the use of public transportation are facilitated. Attention must be given to ensure that details such as accessible amenities and readily legible information, which have the potential to increase senior ridership, are provided. It is also important to realize that different transit amenities will appeal to different patrons. Past research has shown that more frequent transit riders prefer on-board information and courteous drivers, while women riders prefer bus stop lighting and security cameras (*43*). Choice transit riders and higher income riders prefer different amenities too. Therefore, an agency may want to examine the preferences of local seniors before launching large-scale amenity improvements.

Conducting a bus stop inventory of existing accessibility conditions should be the first step in improvements to be implemented (*44*). Without an accurate database of existing bus stop amenities, amenity improvements may be inequitable and disorganized. With a developed database, improvements can be made in geographical areas where people with disabilities will derive the most benefit. Additionally, planners can more readily assess which individuals must continue to rely on paratransit.

Improving the accessibility of transit will not only make it more appealing to elderly passengers, it will also attract patrons from other populations. Studies show that the needs and concerns of the elderly are also valid for other passengers. Therefore, by addressing these issues, transit usage is likely to increase in other segments of the population as well (*45*).

2.5.3 Affordability – Are there proper incentives to travel?

In one study, it was reported that medical transportation seems to be the first mode of transit offered to the elderly. Federal programs such as Medicare cover the cost of an emergency trip to the hospital, but do not provide non-emergency transit. Medicare provides health care to over 35 million people age 65 and older. As a result of this policy, millions of seniors who have to seek medical non-emergency treatment have no way of getting there (*45*). In fact, in one survey of public transportation providers from across the country, 64% of respondents reported that the most common question they received from the elderly was where to get financial assistance for transportation (*12*).

Yet some elderly have found a way around these rules. It has been reported that many seniors use expensive ambulance services for non-emergency trips because they have no other options. Research has determined that Medicare could save $265 million a year in transportation costs to hospitals and $37 million a year in medical services provided

in other than emergency department facilities if current procedures that reimburse only ambulance transportation were altered (*46*).

It is clear that the primary mode (medical emergency) offered is expensive, burdensome, and only addresses emergency situations. Solutions must also attract seniors to fixed-route public transit and specialized transportation services (*45*).

2.5.4 Acceptability – Are service standards of a high enough quality?

When public transportation is available, many seniors do not utilize the services because they deem the services unacceptable. Older adults' perception of safety is a major concern; as is the belief that services are unreliable and uncomfortable.

Safety fears are commonly significant enough to discourage elderly ridership. Seniors are fearful of being threatened, robbed, or attacked while waiting for or riding transit. During focus group sessions involving elderly Boston residents, participants described using transit as worrisome – especially at night - due to fear of gangs and intimidating youths. In crowded locations, especially during peak hour periods, the likelihood of pickpocket crime can be fairly high. Furthermore, pickpockets often target elderly riders since they tend to be less alert and less aware of the surrounding environment (*47*).

Transit riders actually are more fearful of crime at bus stops than crime while riding transit vehicles. In a survey of 212 transit patrons at some of Los Angeles's most dangerous bus stops, 50% of riders felt unsafe at the bus stop, while only 25% felt unsafe on-board the bus (*48*). While things like in vehicle cameras and automatic vehicle location (AVL) systems have helped agencies improve on-board crime by monitoring the activity on vehicles and responding to problems, improving bus stop crime is likely to be a long-term process.

Improving security at bus stops is a more complex problem since bus stop safety is often tied to factors of which the transit agency has little control, like land use and pedestrian circulation. Liquor stores, strip clubs, check cashing stores, bars, vacant lots, and abandoned buildings are viewed as negative influences since they are often associated with crime. Garbage, graffiti, and untidy landscaping add to the perception of a dangerous environment. In the above mentioned survey of Los Angeles bus patrons, most individuals believed more policing and better lighting would help improve safety. Indeed these developments would likely improve safety, but can be very expensive. Limited installation of bus stop cameras, better lighting equipment, and additional police presence at the most dangerous locations may be the only affordable option for transit agencies.

Other problems cited by elderly respondents affecting reliability and comfort include poor scheduling coordination, low travel speeds, poor on-time performance, a lack of

seat availability, and poor vehicle maintenance. These issues lead to a frustrating and uncomfortable travel experience. Poor on-time performance can result in riders having to wait in the hot sun or in cold conditions for lengthy amounts of time. Out of all potential passengers, the elderly are least able to physically tolerate such temperature extremes and wait times. Also, the elderly are often annoyed by the reduced frequency of mid-day service during the span from 9 a.m. to 3 p.m. Any reduction of service during these hours disproportionately affects the elderly, because this is a time period when older people are most likely to leave home (*25*).

Aside from crime concerns, the elderly are often concerned about rapid braking and acceleration aboard buses - issues annoying to all transit riders but that could potentially cause older persons to fall or otherwise lead to injury. The ability to withstand quick turns and braking is associated with youthful, strong individuals.

Insufficient lighting is another concern not often discussed, but it is relevant because declining visual acuity is widespread among the elderly. Dark window tinting and wrap around advertisements can create apprehension if the rider is unable to see who is on the bus before boarding. Additionally, transitions from dark areas into bright light can create significant vision problems for the elderly (*17*). When possible, lighting should be balanced between inside and outside areas so that eye adjustments can occur more quickly. Poor visibility for passengers at any time of the day is a safety concern.

In part for the above mentioned reasons, public transportation systems, especially bus systems, suffer from a poor public image. Many people are under the impression that public transit is only for poor people unable to afford a car. Senior drivers who have never used transportation services are fearful of riding and being compared with low-income groups.

Nonetheless, there are plenty of reasons why senior drivers may be concerned about riding public transportation. Former drivers who have never used mass transit are likely to have high expectations and be skeptical about a publicly provided service. In most cases, these perceptions need to be dismissed before the elderly will willingly trade in their cars for transit.

2.5.5 Adaptability – Do services remain appropriate as riders grow older?

Elderly individuals with cognitive disabilities are likely to require additional accommodations in order to become fixed route passengers. Resolution of this issue is likely to require collaboration between cities and transit agencies. Simply put, a person with a cognitive disability must be able to safely navigate the pedestrian network. Crosswalk infrastructures are essential because a person with a disability must master street crossing on all occasions. By modifying signalized intersections for individuals with cognitive impairments, agencies can potentially save thousands of dollars per year

as regular paratransit riders are able to shift some trips to fixed route services (*49*). Signals showing the hand and man are preferred, since these figures are not easily confused with written words. Installing pedestrian countdown signals may not be necessary because elapsed time is not readily understood by many people with cognitive disabilities.

Systems with significant elderly ridership should be observant of passengers, because aging is often accompanied with a decline in mental ability. Drivers might need to be trained to watch for cognitively impaired individuals. Some characteristics seen in transit situations include impulsiveness, clumsy or awkward movement, confusion, losing possessions, and inability to follow directions (*50*). Some characteristics may be unnoticed or hidden; either the individual or a family member should alert the agency. Often, additional training, preferably one-on-one, can permit the individual to continue to travel independently.

Improved technologies are likely to aid people with cognitive disabilities. Real time information is very helpful; so are the use of symbols and pictographs. Electronic fare collection systems with automatic debits or a monthly billing process can speed and facilitate the boarding and connection process for all types of passengers. Although these improvements may need to be accompanied with some re-training, riders are certainly likely to benefit.

The use of universal design, also called intergenerational design, can certainly help public transportation accommodate elderly individuals. Universal design refers to facilities that have improved design for every type of individual – elderly, young, blind, deaf, etc. Universal design goes beyond requirements imposed by the ADA in order to assure the highest levels of accessibility. Experience has established that the weakest link of a trip chain usually results from inaccessible pedestrian and intermodal facilities and way-finding devices (*51*). By improving the transfer process, mobility impaired individuals have more mode and travel destination choices.

Adapting universal design principles into the transportation system can sometimes be a challenge. It requires coordination between transit agencies, public works departments, and private property holders. Problems can arise in maintaining accessible equipment; elevators, escalators, and bus lifts all occasionally break down. Nevertheless, the benefits far outweigh the drawbacks. These principles unquestionably help accommodate people of all abilities by providing more seamless travel connections.

Figure 6 shows several examples of universal design. Two sets of handrails have been affixed to the wall, for use by people of different heights and ages. The contrast between the orange-colored wall and grey flooring helps the elderly eye distinguish different surfaces. Yellow tactile guiding floor blocks assist people with visual impairments in finding their way between important locations.

Figure 6 Different Height Handrails and Tactile Flooring, Haneda Airport Tokyo

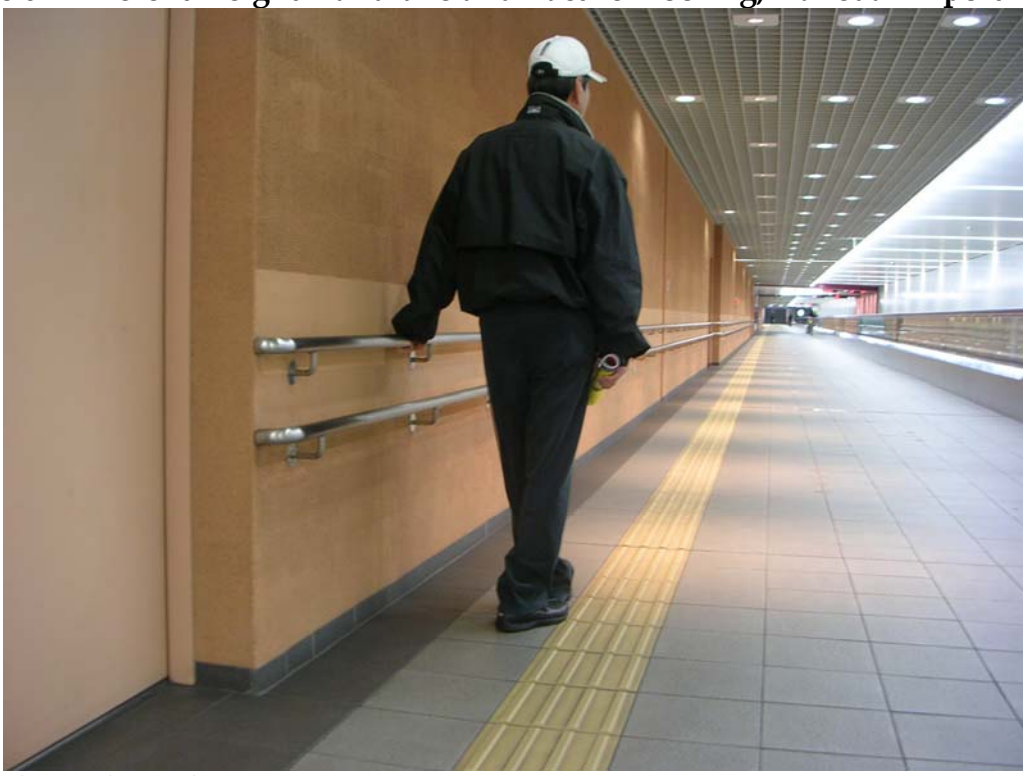


Photo Credit: Jon Skinner, 2007.

Design principles are an important consideration for any future renovation, but are believed to have more of an indirect effect on transit ridership. Within the transit industry, design improvements often advance slowly over a long period of time when particular infrastructure attributes require renovation; hence, universal design is not a quick way to gain more elderly riders. This report focuses more on tools that are believed to impact transit ridership more directly: advertising and marketing, travel training, and the provision of better services.

2.6 Promoting Public Transportation to the Elderly

In past decades, transit agencies typically viewed the elderly as an unlikely rider segment and devoted little time to attracting this population group. The older adults still able to ride mass transit had to cope with transportation vehicles and facilities designed specifically for the young, able-bodied rider. Now things are different. In today's cities, the vast number of healthy senior citizens can no longer be ignored.

Although many service options exist for attracting older drivers to public transportation, without proper promotion of these services, awareness may be extremely limited. Even the best transit services will have few riders if no one knows about them. In order to increase the utilization of public transit, agencies must look at alternative ways to inform the elderly about their service. Survey results from the 2007

Beverly Foundation and APTA report, *Public Transportation Programs for Seniors,* found that now most transit agencies specifically devote time marketing services to older adults. Of the 97% of respondents indicating that they do promote their services to older adults, most make presentations at senior facilities. A variety of other methods are used to encourage elderly ridership (**Table 2**).

Table 2 Promotional Activities Developed for Older Adults

Programs	Respondent %	Programs	Respondent %
Presentations at senior facilities	90%	Website information for seniors	41%
Special outings to familiarize seniors	43%	News releases and publications	34%
Advertising to seniors	41%	Special marketing campaign	28%
Brochures for seniors	41%	Other	8%

Source: Beverly Foundation and APTA, 2007.

Other than the recently released survey, little information exists about specifically marketing public transportation to older adults. Select information has been published that details *either* marketing public transportation in general *or* generic marketing to older adults. Information on these two topics has been compiled and reviewed separately, so that the reader can craft his or her own ideas in regards to attracting older drivers to public transportation.

2.6.1 Marketing Strategies for Public Transportation

Informing the Public

Every bit of information about public transportation is part of a greater marketing strategy. Every route map, timetable, and fare pricing explanation comprises educational material that can be used to teach current and future riders about the system. The Internet, real-time information, and transportation congestion warnings are now popular marketing tools and are almost essential in attracting discretionary riders.

The Internet is an important and technically free marketing tool that can alert passengers about happenings. New route information, fare explanations, and service specials can easily be posted and revised on an agency's website. An agency's website can field hundreds of questions at any time of the day. Bus stop locators, travel alerts, and online ticket stores are some tools beginning to be offered on agency sites.

Not all marketing investments need to involve technology. Holding orientation classes and teaching travel training are relatively easy and effective strategies for introducing people to transit. Travel training is becoming one of the most promising techniques, especially for older people. Training helps introduce first time riders and educates

people with disabilities on how to travel by fixed route. Guides explain the transit system, timetables, fare information, and how to board and alight the bus or transit vehicle. Guides may also take the first one or two trips with individuals so they can become comfortable and feel safe riding fixed route transportation.

More traditional advertisements are still important: newspaper and radio ads, mailings, and posters can be very effective in luring riders. As long as they address the appropriate audience, such media can build ridership by reiterating the importance of transit and new services available. Mailings can be even more effective if an incentive is included, such as a coupon or free travel tickets. This type of informational package with free ride tickets has been noted to be very effective - especially when designed for visitors and new residents (*52*). These individuals are actively considering their travel options and most are willing to try different modes available.

Pricing Strategies

In most cases the elderly already receive reduced fares, but further fare discounts or simplifications are capable of attracting even more riders. Although pricing strategies must be based in part on economics and financial budgeting, they are likely to have a large effect on marketing. In plain terms, transit patrons find two things most attractive: simple fare structures and an easy way to pay fares.

Fare simplification is likely to make a larger impact for agencies who have attempted to develop complex zonal pricing or variable rate fares. Customers prefer flat fares and no special charges (*53*). Removing the charges for transfers is one example of fare simplification. To reduce transfer fraud and confrontation, the Orange County Transportation Authority (OCTA) eliminated paid transfers and started selling day passes – a strategy that resulted in significant ridership and revenue increases (*54*).

If financially feasible, agencies can experiment with fare-free transit. Free transit days and free transit zones have both been found to lure additional riders. Free rides can alternatively be offered to select age segments, or at certain times of the day. Removing the fare eliminates one more concern of prospective transit passengers. Because the costs of acquiring and maintaining fare boxes and technology systems can be incredibly expensive, often the money generated by the fare boxes barely covers their costs and maintenance. This is especially the case for smaller transit agencies. Chapel Hill Transit implemented this technique in 2002 and witnessed over a 50% ridership increase by the following year (*54*).

Fare payment systems are becoming much more diverse than in the past. New payment options are preferred over the old technique requiring passengers to board and pay their fares with exact change. Smart cards and stored fare cards are two ideal payment mechanisms. Agencies around the country have implemented these technologies and witnessed higher ridership and increased efficiencies. Use of this technology is likely to

spread to more medium-and smaller-sized agencies in the future, as the benefits become more widely understood and the associated costs decrease. In addition to smart cards, seasonal, monthly, weekly, and daily passes are strategies that appeal to passengers. Offering these types of products in multiple locations, including an online-ride store, is ideal.

Market Segmentation

Marketing efforts should focus on a particular group of individuals. This is accomplished by segmenting the population into smaller subgroups based on similar characteristics. Each segment should be relatively uniform with regard to attitudes and needs. Examples might include men ages 35-50 commuting to the central business district, or college-enrolled women living in a particular part of town.

Without proper segmentation, funds may essentially be wasted on advertising to people who would never consider using the marketed promotion. Therefore, it is critical to develop an idea of the proper segment. By studying the targeted segment, further information can be learned about their lifestyles. Using focus groups or survey instruments is a valuable practice. It is also beneficial to study individuals' perceptions, since they are likely to shape behavior even if large misperceptions exist.

Providing ridership discounts to the elderly and youth are common tools used selectively for each of these segments. These strategies acknowledge that there are different groups of people who need different services. Often, coordinating with a school system, university, or social welfare organization is necessary; however, efforts at reaching particular groups of people are likely to be worthwhile.

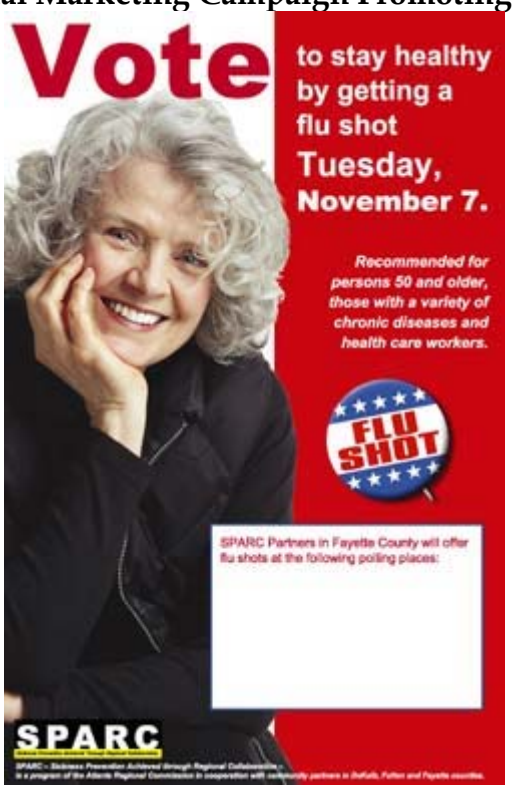
If attempting to attract *drivers* to transit, marketing staff must understand that society is extremely consumer-oriented now. Discretionary transit riders must be convinced about the ease of travel. Customer-friendly methods of ticket purchase and simple fare structures are now very common necessities (52). The general public is repeatedly assaulted by automobile marketing campaigns that convey the auto's necessity and glamour. Drivers contemplating the switch to transit have high expectations. Instead of broadly marketing to this group, agencies should further refine their targeted segment of drivers to a particular age group, geographic area, or expected travel route.

Social Marketing Approach

The previously mentioned strategies already have well-established track records for success. Another marketing technique, referred to as social marketing, has been around for a long time, but is beginning to show positive results when used for marketing transit. Social marketing is used for improving public health; things like prevention techniques, protecting the environment, and stimulating community involvement. Campaigns calling for the prevention of forest fires, littering, and HIV transmission are

all examples. **Figure 7** shows an example of a social marketing campaign promoting flu shots for persons 50 years and older.

Figure 7 Social Marketing Campaign Promoting Flu Vaccines



Source: www.cdc.gov

Social marketing is quite a different concept because the product being sold is a *desired behavior* and the *benefits* associated with that behavior (*55*). The goal of a social marketing approach is essentially motivating the most people to change their behavior with the least amount of effort. This practice differs from commercial marketing in that its focus is on improving public health and preventing harmful occurrences. From this report's standpoint, the desired behavior is for elderly to reduce the frequency of driving or stop driving altogether and start utilizing public transportation.

The benefits are threefold: as the elderly learn to ride public transportation, they are likely to extend their ability to live independently, maintain increased social interaction, and reduce premature deaths resulting from automobile accidents. However, social marketing requires the same knowledge that commercial marketers already have – particularly differences between younger and older individuals' physical fitness, cognitive processes, and lifestyles. Several of these differences are described in the next section.

Whatever the methods agencies use to market transit to older drivers, there are two requisites the audience must believe before they are likely to change their behaviors

(*55*). First, the benefits of performing the new behavior must outweigh the costs – that is, transit must be advantageous over the automobile in some aspects. Second, the individual must believe that he/she has the skills and abilities necessary for performing the behavior. An elderly person must believe him or herself to be a physically capable individual for whom public transit can fit into his or her lifestyle.

Social marketing approaches for public transportation have been tested abroad and repeatedly met with success. A recently developed program, IndiMark, focuses on informing people about available transportation modes and their environmental impact. The program distributed generic brochures, personalized documents, information on alternative modes of travel, token rewards, and test tickets for the public transport system as promotional advertisements. The program resulted in a 4-14% reduction of car trips over the entire target population (*56*).

Although the program tests occurred in various parts of Australia, re-creations are likely to be met with similar success. Similar approaches, both pilot-testing and large-scale, have already been undertaken in Germany, Sweden, the United Kingdom, and the United States. One of the few negative aspects is that tracking program results can be tedious and difficult. Also regrettable is the fact that programs promoting voluntary travel based change are only recommended in cities with extra transit capacity and where the environment is conducive to walking and bicycling. This requirement may preclude several urban areas.

2.6.2 Marketing Considerations for the Elderly

Physical Body Changes

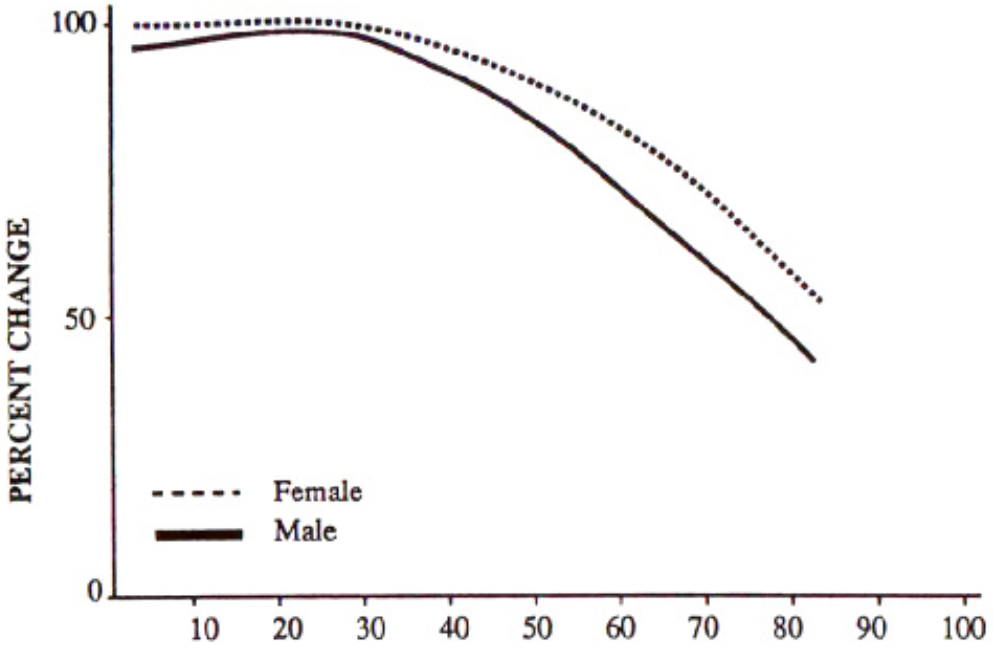
Adults age at different rates and in different ways. For market researchers and advertisers, it is important to understand the human body changes that affect their potential customers. As older adults age, the nervous system functions more slowly, muscles shrink, flexibility decreases, and maintaining one's balance becomes more challenging. For the eye alone, it becomes increasingly difficult to adjust to changes in illuminated and dark environments. A normal eye requires 3-5 minutes adjusting to a different level of light, but similar adjustments could take an elderly person up to 40 minutes (*57*). Slow deterioration of eyesight is a significant reason why elderly individuals are less likely to travel during evening hours. Numerous reports show that the elderly prefer to run errands during the mid portions of the day and tend to complete travel before the commencement of evening rush hour (*25, 24, 58*).

As muscles shrink and functioning slows, the elderly are likely to experience problems with physical movement. This translates to increased problems with boarding transit vehicles. A large number of seniors have arthritis, which can negatively impact things like inserting transit fares and holding onto handrails. Priority seating for elderly

patrons is likely to reduce the need for them to utilize their grip strength - a muscle strength that decreases roughly 50% by age 75 (**Figure 8**).

Older adults are more likely to have bladder problems. Frequent urination and incontinence are common issues affecting older individuals. Construction of transit facility bathrooms may disproportionately benefit older adults. When marketing to the elderly, these are important considerations that are seemingly trivial to younger passengers.

Figure 8 Loss in Grip Strength with Age



Source: Baker, Griffith, Carmone and Krauser, 1982 (as cited in Moschis, 1992).

Cognitive Changes and Understanding Information

It is important that the elderly be able to properly see and hear advertisements because with increasing age comes deteriorating sight and auditory abilities. Small changes can make a world of difference. For example, bright colors such as reds, oranges, and yellows should be utilized because the elderly eye has a more difficult time distinguishing between darker colors (*57*). Larger sized serif fonts can help with reading. Sans-serif fonts like Arial and Franklin should be avoided because their uniform letter-widths make reading more difficult. Hearing high pitched noises and voices becomes increasingly difficult with age, so male spokespersons or actors are encouraged for advertisements (*57*). Also, using close-up shots can help older audiences see faces and connect with a given advertisement.

Older age is associated with a decrease in short-term memory abilities. The elderly are much more likely to learn by 'doing' as opposed to reading or learning by memory. This reflects the enhanced benefits of travel training because it requires that individuals go through the actual steps of traveling using public transportation. Comprehending the process needed to obtain an elderly riders pass, utilizing bus schedules, planning a route, and remembering boarding information are sure to be daunting for first-time users. By incorporating learning into actual travel, the elderly are more likely to feel comfortable about navigating through a series of steps.

Although certain techniques can help overcome an older individual's decline in short-term memory, it theoretically would be easier to familiarize individuals with transit before old age makes learning difficult. Hence, all the more reason exists why senior drivers should be acquainted with transit services during earlier retirement years, as opposed to ages 70-80.

Lifestyles

Once individuals retire, they tend to lead a different type of lifestyle than the rest of the population. Older adults are more likely to have the time needed to be involved with a civic or community organization. There are also likely to be very different lifestyles among older individuals. Some have poor health, but are still outgoing. Others have developed reclusive tendencies, but still must travel for basic services. Because a wide variety of elderly individuals exists, developing a marketing strategy for one or two select groups is preferred over a universal technique. This segmentation of the elderly population is likely to have increased effectiveness and efficiency (*55*).

Some information on reaching older citizens is included in APTA's *Easy Rider Guide*. In addition to public service announcements on local television or radio stations, brochures and fliers are a recommended technique. They work well in specific locations with large elderly clientele: motor vehicle departments, retirement communities, pharmacies and healthcare facilities, churches and religious organizations, governmental agencies, and select restaurants and retail establishments (*59*). Personal testimonials, elderly mobility facts, and quotes from gerontologists are also likely to spur substantial interest in transport services for older citizens.

Stereotypical words or images should certainly be avoided. Self-descriptions of older adults are likely to work best. Seniors routinely refer to themselves as cost-conscious, careful, likely to plan ahead, logical, and practical. In regards to self-perception, older adults typically avoid describing themselves as "senior citizens" or "older persons" (*57*). The term "mature" was greatly preferred in one study. Like younger adults ages 30-40, older adults are inclined to think they look younger and act younger than their actual age.

3.0 CASE STUDIES

Almost all transit agencies around the country offer one or more special programs developed directly for older adults, the most popular being reduced fares and operator sensitivity training (**Table 3**). Many of these types of programs are integral to attracting and sustaining elderly ridership. Some programs are related to financial support, but others are focused on maintaining friendly, high-quality service.

Table 3 Special Programs Developed for Older Adults

Programs	Respondent %	Programs	Respondent %
Reduced Fares*	84%	Stops and Special Destinations	35%
Operator Sensitivity Training	67%	Free Fares	27%
Discount Pass Programs	57%	Mobility Management	23%
Ambassador Programs	40%	Other	23%

Source: Beverly Foundation & APTA, 2007. ** Beyond the minimum federal requirement*

While the above information above conveys an idea of typical programs around the country, it cannot describe what methods are working best. Following interviews with several agency employees, the report authors were able to establish which techniques had the best results.

As described below, five agencies were selected for interviews based on their innovative techniques to attract elderly citizens to their services. Many of these techniques involved the use of technology or the Internet - strategies that can attract both older and younger generations. In other instances, the transit agencies were selected because of their focus on direct marketing to the public about services and travel training, but doing so with unique methods.

3.1 Sun Tran – Tucson, Arizona

3.1.1 Conventional Strategies for Attracting the Elderly

Sun Tran's travel training process was recently brought in-house. In 2007, the agency ended a contract with a nonprofit partner that had been conducting the agency's travel training program. According to the communications manager at Sun Tran, "We basically felt that we could do a better job recruiting people to take part in this process. I think our former partner was doing a competent job with the training portion, but we really wanted to increase the number of people who go through the training program."

With more graduates of the system, Sun Tran can hope to further increase elderly ridership and hold paratransit numbers down.

The agency has also developed a reasonably priced monthly pass for seniors. Many of the seniors obtain the $12.00 monthly pass, especially during the snowbird season (October through March or April). Whereas the regular monthly pass costs $28.00, anyone age 65+ qualifies automatically for the discounted monthly pass. The passes are available at over 15 locations and can be ordered by mail for the elderly and people with disabilities.

Sun Tran participates in two other events that help spur senior ridership. Agency staffers take part in an annual event hosted for seniors. This is used as an opportunity to distribute information and promote the travel training program. The second event is an annual "Seniors Ride Free Day." Sun Tran encourages the senior community to come out and try transit, preferably in the middle of the day. "We seem to always have a really good turnout with that event."

3.1.2 Technology Related Strategies

Sun Tran recently re-launched a new website a little over a year ago. Momentum had finally picked up for a new site, after the old site's usefulness had deteriorated after time. The previous website was out of date – approximately 10 years old - and finding even basic information was very difficult.

The old site did have some information related to accessibility, so the agency decided to build on that when adding additional information. Although the senior community in Tucson is not necessarily web savvy, there are a number of people with disabilities who very much appreciate the changes that have been made. Pictures of boarding and alighting buses in wheelchairs and walkers help educate readers that fixed route transit is for everyone.

The communications manager notes that the new website turned out so well because of the time and effort that went into its creation. "Before the website re-launch we really did our homework. We had three focus groups look at the preliminary website and give us feedback regarding content, style, user friendliness, etc. At the focus groups, we obtained information from potential riders, employees, and seniors. They gave us significant feedback which we incorporated into the website before re-launching."

Additional effort was made to preview the preliminary website version to a local school for the blind. Individuals reviewing the website filled out questionnaires, which were then sent back to Sun Tran, and user comments were incorporated into the website. The new website was launched in January of 2007.

Feedback from website users has been extremely positive. Most people who contact the agency report that they are very happy with the website as a tool. Ridership at Sun Tran has increased for the last 5 years, so it would be tough to attribute an increase in ridership to the new website. However, website usage has increased significantly. As of August 2007, about 8 months after the new site was launched, the number of unique visitors had doubled, and website traffic had increased 145%.

As a result of the positive feedback, the area's paratransit system (managed separately from Sun Tran) is looking to redo their website. The area's demand for paratransit is still growing despite Sun Tran's improved website and increased promotion of user friendliness. Improvements to the paratransit website will help the agency explain all aspects of service to its riders.

3.1.3 Challenges and Opportunities

Despite the progress, some elderly people still remain unaware of improvements to the transit system. Often people with walkers or canes are firmly convinced they cannot use the bus. Sun Tran continually works to inform Tucson residents that all buses are equipped with ramps or lifts, and that many people in wheelchairs and walkers use fixed route bus service. Staff report that once seniors do get on buses, most are surprised at the ease with which they did so.

One opportunity arises from Tucson's popularity with snowbirds. There is a specific segment of the elderly population who live in Tucson only during the fall and winter. Such a large, homogeneous group of people can make marketing easier. Sun Tran already has a specific brochure and a training program in place for this group of the elderly.

Another opportunity comes from the elderly transplants from New York City or other large metropolitan areas. These individuals are already familiar with buses, and are not as intimidated by public transportation or exploring the area by bus. When these seniors become familiar and confident about Sun Tran, they unknowingly help publicize this service to their friends – often elderly who are unfamiliar with buses and very skeptical of public transit.

3.2 Citilink – Fort Wayne, Indiana

3.2.1 Conventional Strategies for Attracting the Elderly

Over the past six to eight years, Citilink has had the resources to develop and air several commercials, some of which were marketed especially for seniors. The advertisement messages vary by each commercial, but in general always promote the benefits of travel

by bus. Commercials were run continuously over the years, so Citilink was unable to track increases in ridership stemming from the commercials. Only one particular commercial, for the summer bus pass, is continually run at the beginning of summer.

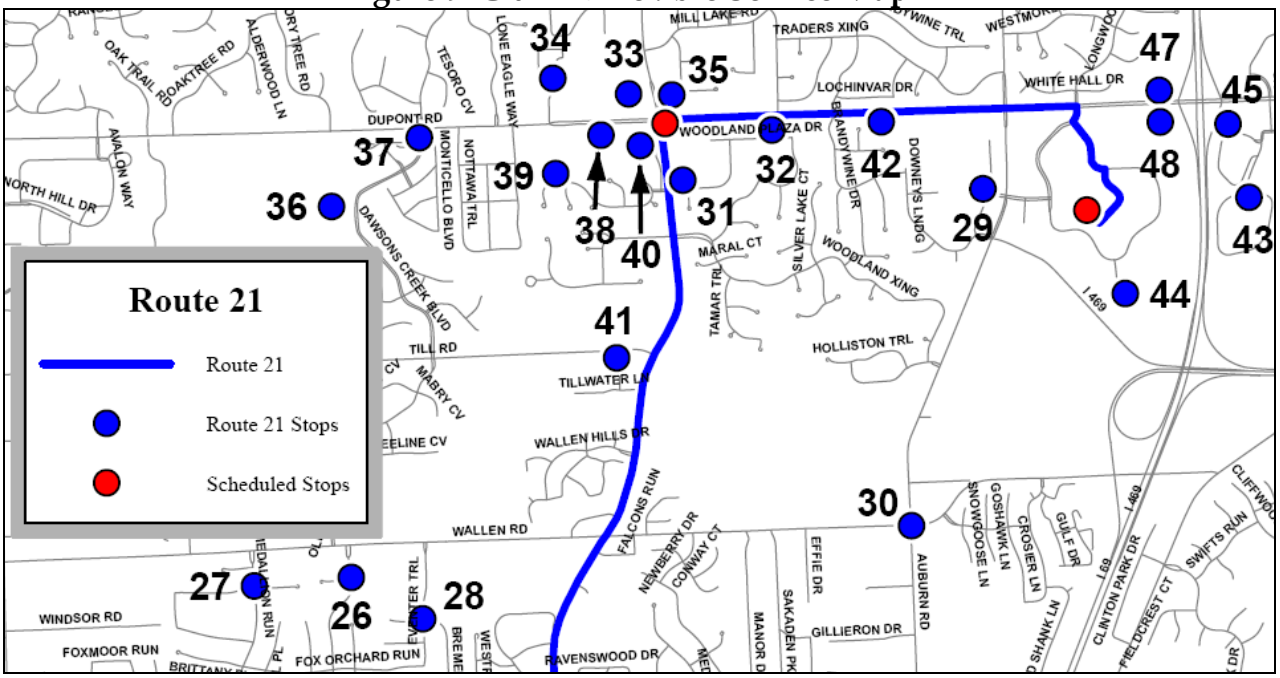
The assistant director at Citilink notes that in the past the commercials received fairly good feedback. "In particular the TV ads done in conjunction with the Clean Air Force Campaign have been fun, and received a lot of coverage. We've had several great partners in that campaign, so the other organizations have been helpful. Also the commercial showing our bus drivers was well received and at least morale boosting and fun for our bus drivers." At the same time, showcasing the drivers as friendly and helpful provides further comfort to elderly riders.

In respect to other marketing campaigns for the elderly, Citilink has a PowerPoint Presentation that they take to certain groups for outreach. This presentation was created based on Project Action information and recycled from another transit agency – Bloomington Transit. Citilink reported the ease with which commercials created by APTA or other regional transit agencies can be recycled – a free and easy technique. "We do outreach for people with disabilities, seniors, and also high school kids. We have a guide sheet for how to ride transit and get them ready to try their first ride." Additionally Citilink provides a driver training class for adults ages 55+, which sometimes refers individuals to transit if agency staff feel that a given individual can no longer drive safely.

Citilink's two flexible routes were also of interest. The agency has two routes, 21 (northern) and 22 (southern). Agency staff reported that the elderly tend to appreciate these routes - especially the elderly who live within the route areas but are unable to use the regular fixed route service. If the person is eligible for paratransit, they have the option to use flexible or fixed routes for free.

Citilink has recently put its flexible service maps online (**Figure 9**). These color-coded maps were created several years ago, and were used for training drivers and dispatching staff. As of now, the maps are mainly used as a tool for explaining the system over the phone. If a caller has access to the Internet, Citilink's support staff can direct the caller to the maps and explain the service easier and quicker over the phone. The agency's support staff has appreciated this help. Presumably, website viewers find the online maps convenient as well. The flexible service maps are described in greater detail in Section 4.0.

Figure 9 Citilink Flexible Service Map



3.2.2 Technology Related Strategies

At Citilink, in Fort Wayne, Indiana, smart technology has been in place for some time now. The stored value card was actually started about 6 or 8 years ago, a fairly new technology at the time. Around 2000, Citilink needed to replace most of its buses; the agency decided to order fareboxes with the capability to read stored value cards. A few other buses were then retrofitted with the same farebox technology. Ease of fare payment afforded by stored value cards also appeals to elderly riders.

"The feedback from this system has been pretty good," explains the Assistant Director. "We are actually having a difficult time reminding people that they can use the stored value cards. A significant portion of our riders use a monthly pass, and another portion uses cash, but it seems like many people don't understand how to use or how convenient the stored value card can be to them." Coincidentally, the regular fare price is $1.00, and discounted fares are $.75 and $.50, so the usefulness of a stored value card may actually be minimized, as opposed to fare prices that require dimes or nickels.

"Anyhow we probably could market the stored value card better. For the most part our drivers help tell passengers about the system, and explain how to use the stored value card, etc. Of course, some drivers do a better job than others. However, as these fareboxes get older, we have started to see some problems. Either the technology is getting old, or else the card reading system is wearing out. "This example at Citilink serves as an important reminder – with new technologies come new costs for maintenance and upkeep.

The assistant director notes that Citilink has benefited by collaborating with a first-class webmaster. The agency has been able to maintain the same website format for the last 5 years, largely because of the webmaster's technology and design skills." I would like to state that we have an excellent webmaster. It's important to have someone who can update the site quickly and professionally." With consumers demanding immediate knowledge, the convenience of someone on call is very valuable. Artistic skills certainly are helpful as well.

3.2.3 Challenges and Opportunities

One exciting project, currently pending on a grant proposal, is the Community Transportation Network (CTN). CTN provides mainly medical transportation for older people unable to travel independently. Under the proposed program, the elderly who can no longer safely drive would be encouraged to donate their car to CTN, and in exchange receive a certain number of free rides. CTN would then use the car to provide rides to seniors, or else sell it to pay for transportation expenses. If the donor requests, the free rides may be offered by Citilink instead.

In the near future, Citilink hopes to sell bus passes from its website. Currently, the technology exists, but some minor issues require modification. Once in place, this added option will be handy for both elderly and younger riders alike.

Dealing with continued suburbanization is still a tough issue for Citilink. Within the last few years two major hospitals, previously located within the city limits, have moved further out of town, into exurban locations. Agency staff report that a third hospital has plans to move further out from the central portion of Fort Wayne as well. Although two flexible routes were created to serve the new hospitals locations, fixed route services are no longer provided. Getting people to the new hospital locations has unquestionably been a significant challenge.

Often high demand poses problems for the flex routes. While Route 22 runs pretty smoothly, Route 21, the other flexible route, has become so popular with riders of all ages, that it has almost become a victim of its own success. As a result, it often runs late while trying to pick up all of the passengers who have requested a stop. Many complaints come in because of schedule adherence. As flexible routes become more popular, it seems they require an increasing amount of work and coordination to run properly.

3.3 Sioux Falls Transit – Sioux Falls, South Dakota

3.3.1 Conventional Strategies for Attracting the Elderly

Currently, the agency is working on its coordinated plan for SAFETEA-LU. According to the transportation bill, all human service agencies that provide transportation for elderly, low income, and people with disabilities must work together to boost efficiencies. Efforts must be made to determine service gaps, as well as overlapping service.

Part of the plan includes examining all alternatives for coordinating transportation throughout the region. A new look at the current system provides an opportunity to eliminate ineffective transportation and redistribute services to new locations. This is an extremely important task because Sioux Falls is the major medical hub for the eastern half of South Dakota. On a daily basis smaller agencies and nonprofits transport people to Sioux Falls from over a hundred miles away. By coordinating transportation services the agency has the chance to improve regional services and grow more efficient by eliminating redundancies.

Sioux Falls transit also developed a small photo gallery containing pictures of individuals boarding with wheelchairs. The gallery was created sometime in late 2004 as a means to familiarize riders with the boarding process. Agency staffers have noted little feedback on the photo gallery.

3.3.2 Technology Related Developments

In addition to having an extensive website, Sioux Falls Transit (SFT) recently developed an email notification system for regular transit patrons under the city's mysiouxfalls.org service. Participants in the program sign up to receive email notifications regarding route changes, detours, or system-wide disruptions like a major snowstorm. This type of system gives transit riders instant notification when service is changed.

According to the City of Sioux Falls Media Services, the system was used little until the recent 2008 snowstorms. The service only started in late 2006, but as of January 2008 there were over 400 people signed up. Although 400 seems like a small number for a system with roughly 850,000 passenger trips per year, it is actually a sizeable amount. Given that Sioux Falls's average daily ridership is around 3,000 people, 400 program users equates to approximately 15% of daily riders.

At the time of this report, no analyses had been done to determine the demographics of people subscribing to mysiouxfalls.org. What has been noted is that website traffic is increasing. In year 2006 there were only 14,800 hits to the homepage and 15,100 hits to

the routes section. In 2007 there were roughly 30,500 hits to the homepage and 20,500 hits to the routes section. Still undetermined is whether website traffic is increasing due to the popularity of the email system, or whether more of the area's population has access to the Internet and is considering the use of public transit.

One key benefit that has worked out for SFT is its ability to share resources with the city of Sioux Falls. In some cities the transit agency staff is completely independent from other city services and departments. SFT has been able to rely on help from city staff in the Geographic Information System (GIS) and information technology departments. As a webmaster within the city's media services department notes, "I don't think that there would be a full time need for a transit webmaster. In that respect, the transit agency benefits by sharing resources with the city. Sioux Falls Transit would need to be substantially larger to require a full time webmaster."

3.3.3 Challenges and Opportunities

As one Sioux Falls transit planner notes, "the general atmosphere here, for older people, is still is that I want to keep my car as long as possible, and drive as long as I can. I want to maintain my independence as long as possible." Changing this type of attitude can be extremely challenging. Most of the area's transit riders are low-income people, and this can further cause elderly with higher incomes to view transit as a low-status, unbefitting service.

In the future, Sioux Falls Transit is considering pairing up with a nonprofit organization to help increase the size of the travel training program. Program goals would remain the same - teaching travel training for elderly people trying to retire from driving. However, by partnering with a local nonprofit, more elderly may take advantage of this service.

3.4 Spokane Transit Authority – Spokane, Washington

3.4.1 Conventional Strategies for Attracting the Elderly

Spokane Transit Authority (STA) is very proud of the development of their sleek travel training video (described in detail in Section 4.0). This project was developed with money won from a federal grant. The travel training video that was ultimately produced has been an extremely useful tool for attracting the elderly. The agency has mainly marketed it towards mobility impaired individuals – both current paratransit riders and those who have never ridden public transit.

The video is very professional. It provides really strong visuals to help wean people from paratransit and attract them to public transit. The video is a little over a year old

and was filmed, for the most part, with real mobility participants aboard Spokane Transit Authority buses. Staffers have reported very positive feedback from the video. Both online viewers and the individuals who view it at certain locations and community events are impressed.

Since the video has been online, there has been a significant increase in program enrollees. STA recently had to hire another travel trainer to accommodate demand. Previously, there was no travel training program in place. The grant award has definitely helped develop momentum.

Another strategy taken by STA is to focus on the youth market. As the communications manager explains, "Youth riders have a long ways to go before they will be elderly individuals, but we're hoping that by familiarizing them with the system now, that this will carry through to later life." The focus on youth has certainly boosted their ridership numbers. Sales of the youth pass are up 35.5% from November 2006 to November 2007. Year-to-date the number is up 22%. Sales of the student college pass are up 28.3% from November 2006 to November 2007, and up 47.3% for the year-to-date. Although this strategy does not specifically address pre-retirement or retirement ages, it may go a long way. "If we can carry these riders from youth through adulthood an on to elderly age that would be terrific."

3.4.2 Technology Related Developments

Spokane Transit Authority is a medium-sized agency that has grown considerably over the past few years. The monthly pass program for adults 65+ - the VIP Pass - has been in existence for a long time. However, within the last year, a new fare instrument has been implemented for this pass. Now riders use a smart card that can be touched or swiped. This card acts like a gift card from which the fare is deducted each time someone boards, or is deducted each month for the monthly pass.

The integration of smart cards has been wonderful, but some issues should be expected. Such was the case at STA where younger riders were attempting to take advantage of the reduced fare. According to the communications manager at Spokane Transit, "With the VIP pass – previously riders did not have to show an ID when boarding. Now we've changed the rules so riders using the reduced elderly pass must show an ID – something such as a Driver's License, a Medicare Card, etc. that indicates they are 65 years or older. Now that riders must show proof of age, the purchase of monthly VIP passes has gone down – at least for the last 6 months."

In part, the popularity of the monthly passes and smart card technology has helped boost ridership. STA's overall ridership is up 12.2% over the last year – double the national average. Over the past two years, ridership is up 22.2%. Despite these increases, elderly ridership has remained relatively flat. The ridership had increased

sharply, but really it was just due to younger riders using the elderly pass illegally. One reason might be the area's very active paratransit program. Agency staffers speculate that once people become door-to-door paratransit users, they generally like the service and are reluctant to switch to other modes.

As the communications manager notes, "I used to be out in the community more, talking with transit customers. There are some elderly that don't ride enough per month to purchase a monthly pass, and then there are some who still feel uncomfortable about riding in general. I really don't know. We do have a very vocal elderly group, but they aren't telling us much at all about our transit system. There still is a hesitation on their part to use public transit, but I'm not sure why."

Nevertheless online sales of passes are increasing dramatically – for riders of all ages. Some passes are still being sold at stores or transit locations, but online sales are growing very rapidly. "We have sold passes over the Internet for a little over a year now. This may partially explain why the number of visitors to the website is up 100%." STA is strongly encouraging website usage because it provides the most up-to-date and accurate information. The agency continually receives positive feedback from online users.

3.4.3 Challenges and Opportunities

In Spokane, riding the bus is still not a popular choice for the elderly, but they are really starting to look at alternatives. Some may ride transit a few times per week, but are not ready to give up their car. Agency staff observed that even as gas prices significantly increased then later started to decline, STA's ridership kept increasing. People who were switching to public transit were not looking back at their car, even once gas prices declined. This analysis proved to be positive information for agency personnel.

STA is about to launch an advertising campaign specifically targeting senior drivers. Officials are looking forward to this marketing plan and hoping it will convince more of the hesitant crowd to give transit a try. As staff describe, "We are going to have a bunch of photos placed in bus shelters, advertisements, and perhaps mailings. Basically, the pictures will be of elderly people having fun aboard a bus. We'll have a big focus on leaving all the responsibility to the bus driver."

More opportunities have arisen as the transit system continues to attract a larger variety of income levels and ages. The average system rider is now 34.2 years old. Members of the 55-64 age group comprise 9% of all riders, and the 65+ group comprises 3%. The average household income of STA's transit rider is $28,100, and the average household income for the representative driver in Spokane is $39,600. The transit rider income level is still on the lower end of the scale, but it is increasing. With a wider variety of incomes and people aboard the bus, it becomes increasingly difficult for non users to

view public transportation as a service for only the poor or lower class. In Spokane, the high increases in ridership indicate that mass transit is clearly a service for everyone.

3.5 Broward County Transit – Fort Lauderdale, Florida

3.5.1 Conventional Strategies for Attracting the Elderly

Broward County Transit (BCT) has found that one of the best strategies for attracting the elderly to public transportation has been the community bus program. Broward County is very large – bigger than Rhode Island - and most of its routes have a regional focus as opposed to one at the neighborhood level. A plan was developed to encourage Broward's many municipalities to design and implement their own neighborhood bus routes.

As one principle planner for service development explains, "We provide the cities $20.00 per operating hour for the buses, where in reality it probably costs them $40.00 to operate the buses. We help the cities design the routes and schedules – sometimes we can coordinate arrival times at transfer centers." The partnership allows cities to operate their own routes with more discretion, at a subsidized cost. The program has been so popular that at one point there were 47 different community bus routes in the county.

Planning staff add that the partnership is cheap to operate and ends up largely benefiting the elderly population. "The seniors comprise the bulk of riders in most locations. Discussions with seniors have indicated that they feel more comfortable getting on a small bus and one that has a higher proportion of elderly people." Apparently the elderly – at least those in Broward County – prefer to travel among smaller groups of similar people as opposed to in a large vehicle with many types of transit riders.

BCT also has developed a functional assessment system for evaluating ADA paratransit service applicants. Functional assessments are performed at a rehabilitation center. Most applicants do not go in for an assessment – it is only for people who might be able to use fixed route transit. A physical evaluation helps determine the applicant's ability to travel using fixed route vehicles; things like walking, stair-climbing, and grip strength are examined. The cognitive evaluation then measures skills such as memory, attention span, and route-finding ability.

The evaluation system works well for everyone. Many individuals immediately qualify for paratransit and are entered into the system. Riders who do not qualify for paratransit are referred to a travel training program where they learn the basic techniques for travel. Ultimately, these individuals are able to travel more freely and at a lower cost than paratransit.

BCT has had success in the past with mailing promotional material to seniors. In particular, agency officials have used incentives to spark interest and increase feedback from its customers and service area residents. BCT will send out a packet of information and offer a free bus pass or passes if the respondent completes a short survey instrument. Recently, the transit agency offered a similar promotion, but asked recipients to log onto the Internet and complete a short survey online. Upon completion of the survey, free bus passes were sent by mail to the respondents. The Marketing Director for BCT notes, "We were really surprised to find out how many of our seniors were using the Internet. This allowed us to create a database of older residents which can be used for marketing or focus groups. I can't stress how well this worked."

3.5.2 Technology Related Developments

The agency has had a monthly pass program in place for almost 10 years. At the end of 1999, BCT changed its transfer policy. Instead of distributing and accepting transfers from bus to bus, they heavily promoted passes. On October 1, 2007 the regular one way fare increased from $1.00 to $1.25. An all day pass was priced at $3.00, and a 31 day pass was priced at $40.00. For seniors or people with disabilities, the one way fare was $.60, and the day pass and 31 days pass were $2.00 and $20.00, respectively.

The agency has been expecting a decrease in ridership due to the higher fares, and has been tracking figures to monitor ridership and to better predict revenue changes. **Table 4** shows some of the ridership category totals and provides a rough estimate of total elderly and regular riders. The elderly ridership was slightly more sensitive to increased prices than regular riders.

Table 4 Fare Price Change Effects upon Seniors and Disabled Ridership

Method of Fare Payment	Dec. 2006	Dec. 2007	% Change
Senior & Disabled Regular Fare	45,400	51,208	12.8%
Reduced Fare Day Passes Sold	125,792	80,532	-36.0%
Reduced Fare Day Passes Received	295,627	215,964	-26.9%
31 Day Disabled Pass	134,498	150,870	12.2%
31 Day Senior Pass	76,063	87,828	15.5%
Estimate of Elderly/Disabled Riders	**677,380**	**586,402**	**-13.4%**

Source: BCT Ridership Report, December 2007.

The agency recently invested some money into technology that helps market their reduced pass ID card. Seniors are allowed to board with different proof-of-age documents, but the reduced pass card contains a photo ID, which is very convenient. The agency bought a smaller camera and card creation device that can easily be taken on the road. Now when personnel travel to a large senior facility, they bring the equipment, set up the camera, and create IDs on site. The new technology saved seniors a trip downtown to obtain the senior ID cards.

3.5.3 Challenges and Opportunities

Unfortunately for Broward County, a decrease in expected property tax revenues has the entire county looking for ways to cut costs. Some county commissioners have suggested getting rid of the community bus program. Many people are alarmed about such a potential move because it would disproportionately affect seniors. As of now, seniors make up the bulk of community bus riders, and without the service they would have to find new transportation options.

The potential service cuts are particularly frustrating. The program is fairly new, and significant revenues were needed to develop the system. Now it runs well on its own. As transit planning staff note, "If the county support for these programs gets cut, then the cities will probably just drop all of their community routes. I think as of now 22 of the 32 cities in Broward County have community bus routes. This program has been so successful I'd hate to see it cut."

In Broward County, the perception of public transit is still a challenge in attracting seniors. The heat, humidity, and frequent rain in South Florida make travel by transit unappealing – especially at bus stops without shelters. In many places bus stop amenities are lacking, and riders can have a long wait before the air conditioned bus arrives. As BCT's marketing director remarks, "There is still the wait we say! When we do outreach, we encourage seniors to be prepared – they should bring their umbrella and certainly a hat as well."

With many large senior facilities in the area, BCT has the opportunity to reach significant portions of the elderly population by visiting retirement facilities. The agency works hard to keep all of its elderly riders informed well ahead of time about service changes. Recently, staff spent time explaining small changes at a mall to affected seniors. Changes may be for the better or worse, but maintaining contact with older patrons sends the message that they are an important and appreciated group of riders.

The marketing director comments that there are always opportunities to build off of external changes. "Three or four years ago we started a 'Savvy Seniors Program.' This was implemented at the same time that the state passed a law mandating that seniors over age 85 must have an eye test. We partnered with the Florida Department of Motor Vehicles to let people know they have options if they cannot pass or do not take an eye test. It actually worked quite well."

4.0 STRATEGIES APPEALING TO SENIORS

4.1 Introduction

To learn more about programs and marketing strategies, project investigators decided to research several agency websites. An analysis was performed in order to highlight the best practices for attracting seniors. A transit agency's website is becoming an increasingly important tool for luring individuals of all types to transit. Today websites are an essential part of advertising, and may be reflective of other marketing efforts undertaken by an organization. Websites allow a potential user to access more information than can be presented elsewhere.

The popularity of the Internet has grown immeasurably over the last decade; it now rivals television and newspaper outlets for audiences. Websites serve as a free place for information, communication, and advertising. Information can provide easy answers to common questions, 24 hours a day. Over the past few years, public organizations, such as transit agencies, have improved website capabilities as a method of convincing more riders to try public transportation.

In the near future, senior drivers will be increasingly familiar with the Internet and readily available research. A large amount of the workforce currently uses e-mail and Internet research on a daily basis. Other individuals are gaining familiarity through Internet shopping. Therefore, an agency's website capabilities will play a significant role in attracting and maintaining riders.

Though older individuals are generally less technology savvy, more and more seniors can be expected to have access to the Internet. As part a California test project of 200 senior drivers, it was found that roughly 40% had Internet access. Data from a 2005 survey shows that approximately 68% of people ages 55-59, 55% of people ages 60-64, and 57% of people ages 65-69 use the Internet. However, usage drops to less than 26% for individuals over 70 years of age (*60*). Nevertheless, future generations of elderly will be familiar with Internet and, therefore, will be more likely to have access and be more comfortable finding information online.

Although a few of today's elderly individuals remain unlikely to use the Internet, many of their supporting friends and family have the ability to research and help educate older adults through the use of a website. In turn, a larger pool of individuals may be knowledgeable about transportation services and be comfortable suggesting public transit to an aging loved one.

After reviewing over 40 agency websites, some aspects were found to be essential for understanding even the most basic information. These elements are detailed in the

following section. All of the strategies listed below are presented on a transit agency website. However, many have also been promoted through other media such as radio, television, brochures, and newspaper advertisements. The below information applies to the content and design of all media aids, not just the Internet.

Several unique strategies were also noted that have significant potential to encourage additional riders and reinforce the assertion that public transit is available to everyone – especially older citizens. These approaches may be reproduced at other agencies, or spark new ideas deemed worthy of pursuit. Executing such a distinctive plan may take an extra amount of cooperation and coordination, but is likely to be worth the effort.

4.2 General, but Essential Website Information

4.2.1 Fare Information

Fare information is something essential for any individual learning how to ride public transportation. Most transit agencies offer multiple fare prices and multiple payment methods. No longer is boarding a vehicle as simple as depositing 50 cents into a farebox. With so many options available, the boarding process can become intimidating for new riders. Transit agencies must be able to easily describe fare and payment information so that new passengers can select the best value for needed travel and confidently board the vehicle. While much of this information is very basic, its clear explanation is too frequently overlooked.

Researchers noted that the variations of fare descriptions truly are significant. Directions for boarding and paying fares ranged from well explained to no direction at all. Some agencies still only accept cash for payment, but most others now offer different types of fare media. Daily, weekly, monthly, and seasonal passes are becoming quite popular. Also available are stored value cards and proximity smart cards.

In regards to seniors, most agencies offered a discounted fare for adults beginning at various ages. Surprisingly, fare discounts for the elderly vary greatly between agencies. The rules and conditions for discounts are commonly not well noted or explained. In some places, discounts are only available at select times of the day or on select services. **Table 5** lists some of the elderly discounts available at different agencies.

Table 5 Discounted Fares Available at Transit Agencies around the Country

Descriptions of fares as stated on agency websites	
60+ receive 1/2 price discount	Ages 65+ ride for half price
65+ receive 1/2 off subway & bus	62+ receive a 65% discount
Seniors (65+) receive 1/2 price fare	Half price discount for all ages 65+
65+ receive 1/2 price discount	Ages 55 and older receive a 1/3 price discount
65+ ride for free at all times	Ages 60+ qualify for 1/2 fare price
Ages 62-69 ride for 1/2 price, ages 70+ ride for free. Ages 62+ ride free on Tuesdays	Ages 65 and older ride for half price. Discount does not apply to express buses.
Riders ages 62-69 receive 60% discount, riders 70+ ride for free.	Elderly receive 50% discount. No ages given to define elderly.
Half price for persons 60+, persons with disabilities, or Medicare card holders	Ages 62-74 receive 1/2 off; 75+ ride for free
Ages 62+ receive half fare	Ages 65+ receive 1/2 price discount
Low income persons with a disability or age 65 and above may ride free of charge with a No Fare ID Pass. All other persons age 65 and above pay full fare during peak hours of service (7am-9am and 3pm-6pm) on weekdays and pay 1/2 fare all other times	65+ pay half fare Monday-Friday from 9:00 a.m. - 3:00 p.m. and after 6:30 p.m. and all day Sat., Sun., and Holidays.

Citilink, the transit authority in Fort Wayne, IN, is one agency that manages to clearly explain fare structures for all rider types. Specifically, individuals 60 years of age and older are eligible for reduced fares. This allows for essentially 50% off of regular fares, monthly passes, 10-ride cards, and ticket-to-ride cards (**Figure 10**).

Citilink's exact change card system is also neatly explained on its website. By mentioning this information, riders are able to understand that multiple options exist for boarding. Fareboxes do not return change in the form of cash; however, they can return change in the form of a stored value card. This card can be used over and over again and does not expire (**Figure 11**).

Figure 10 A Portion of Fort Wayne Citilink Reduced Fare Information

Reduced Fares
Senior Citizens (60 and over) and persons with disabilities

Special fares are offered to children ages 5 - 18, persons with disabilities, senior citizens and Medicare card holders. Payment by special fare requires presentation of a Citilink issued picture or student ID card to the bus driver. Any person not presenting an ID card will be required to pay the regular fare. No refunds will be given.

Regular Fare	$.50
Monthly Pass	$22.00
10-Ride Card	$5.00
Ticket-to-Ride	$.50

Regular Adult Fares
Ages 19 - 59

Regular Fare	$1.00
Monthly Pass	$45.00
Ticket-to-Ride	$1.00

Figure 11 Fort Wayne Citilink Exact Change Information

Riding Citilink : Fares

Fort Wayne Citilink offers a wide variety of fares and passes. **Exact change** is preferred. If exact change is not available, you will be issued a "Change Card" by the farebox. This Change Card does not expire. Note that operators do not carry cash, nor can the farebox give change. For any additional questions in regards to this matter, you can call Citilink at 432-4546 between the hours of 5:30am - 7:00pm.

Follow the links on the menu directly below, to find out which one will work for you.

Springfield City Area Transit (SCAT), in Ohio, is a small transit agency, but manages to clearly explain fare and ticket information (**Figure 12**). Riders have the option of purchasing Single-Ride Fares or SCAT Ticket Booklets. Discounts for elderly and disabled individuals are available as long as half-fare SCAT ID cards are shown. Larger-sized text is used and ample space is provided to display fare information. Although this information may seem like common knowledge, it is astonishing how difficult it is to find and read fare information at other agencies.

Figure 12 Fare Information for Springfield City Area Transit

Single-Ride Fares

Regular.....$.75
Seniors (with SCAT ID).....$.35
Disabled (with SCAT ID).....$.35

SCAT Ticket Booklets

$2.00 Book = **6** Tickets
$6.00 Book = **20** Tickets
$12.00 Book = **44** Tickets

Elderly & Disabled Ticket Booklets (with SCAT ID)

$1.00 Book = **6** Tickets
$3.00 Book = **20** Tickets
$6.00 Book = **44** Tickets

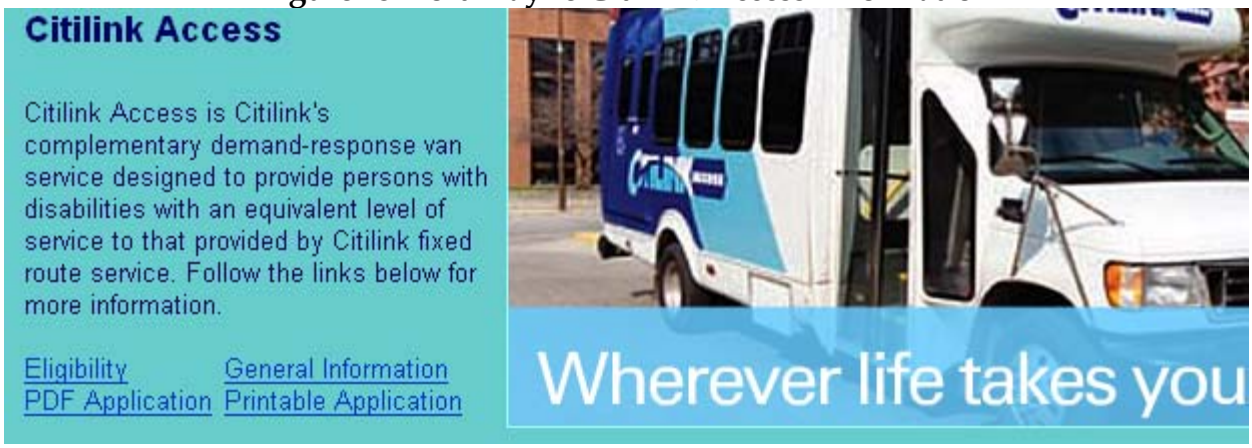
*Tickets can be purchased from any bus operator or can be purchased at the SCAT administration office at 100 West Jefferson Street.

*All eligible half-fare passengers presenting a valid SCAT ID card will pay half of the booklet list price. Half-fare ID cards MUST also be presented when using half-fare tickets.

Although agencies focus on promoting fixed route transit for elderly individuals, they must also provide information about paratransit service. With easy to understand explanations, potential riders can determine if fixed route or paratransit service is right for them. This can easily allow relatives or caregivers research what method of travel is appropriate for their family members or clients.

Citilink provides four links to help website visitors better understand paratransit service (**Figure 13**). Information under the Eligibility and General Information sections are summarized into a few hundred words each. If an individual believes they may qualify for such service, one can easily download and print the paratransit application, and begin completing the document. Additional information covers travel companions, service times, trip scheduling and cancellations, and reservation policies.

Figure 13 Fort Wayne Citilink Access Information



4.2.2. Rider Identification – Is it necessary? How to get one?

The variations concerning rider identification are truly significant. Although many transit agencies will honor a Medicare Card as proof of age, other agencies have their own procedures in place for determining proof of age. Some organizations had particular rules for presenting an ID, insurance, or discount card, while others had no instructions or requirements for seniors. **Table 6** displays a sample of agency policies.

Table 6 Sample of Identification Requirements for Elderly Passengers

Requirements as stated on transit agency websites	
Medicare Card, agency issued low-fare or half-fare card	Medicare Card will qualify rider for discount; no other information given
Red, white & blue Medicare Card or ID required	Must present a state-issued Senior ID Card or a Medicare Card
Agency issued senior ID is required	Medicare Card or picture ID is required
Medicare Card, or "Proof of identity" is required; for ages 75+, an agency-issued ID is required.	For 70+ a special bus pass ID is required. "Proof of ID" may be required for ages 62-69
Agency issued senior ID is required	No information given
No information given for ages 62-69; ages 70+ require agency-issued ID card	Must show agency issued ID card or Medicare ID Card
Yes. Eligibility card required, however Medicare Card is accepted	Valid Medicare Card or "proper ID" is required
"Valid ID" with proof of age is required	"Must show picture identification"
No information given	Agency issued senior ID is required
"Proof of eligibility" must be provided when boarding. Medicare Cards and agency-issued ID cards will be accepted.	For free rides: agency issued NO FARE ID PASS; For 1/2 price rides: agency issued Senior/Disabled ID Pass or a Medicare ID Card

This is another area where information should be visibly outlined for riders. If an agency issued ID card is mandatory to obtain a discount, the procedures for obtaining such an ID card should be clearly presented and straightforward. If a rider ID application form must be completed, then it should be accessible from the Web. If other forms of ID are acceptable, then those should be listed. At many agency websites, this information was either not presented or difficult to access.

However, Massachusetts Bay Transportation Authority (MBTA) and Metropolitan Transit System (MTS) in San Diego were two agencies noted for their clear and concise policy regarding proof of age (**Figure 14** and **Figure 15**). MBTA's policy requires all persons 65 and older to obtain an agency-issued ID at one of two locations. In contrast, MTS is one of the larger transit agencies that do not require one standard ID. Instead, individuals of 60 years of age and older are permitted a discount as long as one of six forms of ID is shown.

Figure 14 MBTA Procedures for Obtaining a Senior Ridership Discount

Seniors

Seniors (65+) ride the T for 50% or more off the price of standard T fares and are also eligible for a $20/month Senior Pass good for unlimited travel on Local Bus and Subway. No discounts apply to Express Bus passes, Commuter Rail passes or Boat passes.

Discounted rides and passes require a Senior ID available at the Senior & Access Pass Office located at Back Bay Station or at the Senior/T.A.P. ID Center at Downtown Crossing Station (located on the Summer Street Subway Concourse between Washington and Chauncy Streets). Office hours for both locations are Monday through Friday, 8:30a.m. - 5:00p.m. (closed on holidays). Call 617-222-5976, 617-222-5854 (TTY), 1-800-543-8287.

Customers with existing MBTA Senior IDs issued prior to May/June 2005, must obtain a new Senior ID, available at the two locations noted above.

To learn more about replacing your existing Senior ID, please read the Senior/T.A.P. brochure: Download the brochure»

Figure 15 MTS San Diego Procedures for Obtaining a Ridership Discount

Seniors (60+) the Disabled and Medicare recipients ride for a reduced fare, here's how:

To ride for reduced fare on Buses show the driver proper ID, pay your cash fare or show your monthly pass. On Rail vehicles purchase your ticket from the vending machine in advance of boarding and show it or your monthly pass and proper ID to the fare inspector or conductor upon request. We accept the following forms of identification:

Drivers License
Medicare Card
MTS Senior/Disabled I.D. Card
NCTD Senior/Disabled I.D. Card
State of California DMV Placard I.D. (the white placard **receipt** from the DMV)
State of California Senior I.D. Card

For information on reduced fares and monthly passes for Senior, Disabled and Medicare recipient riders, click here

For information about San Diego County's public and private specialized transportation providers for the elderly and disabled, visit www.stridesd.org.

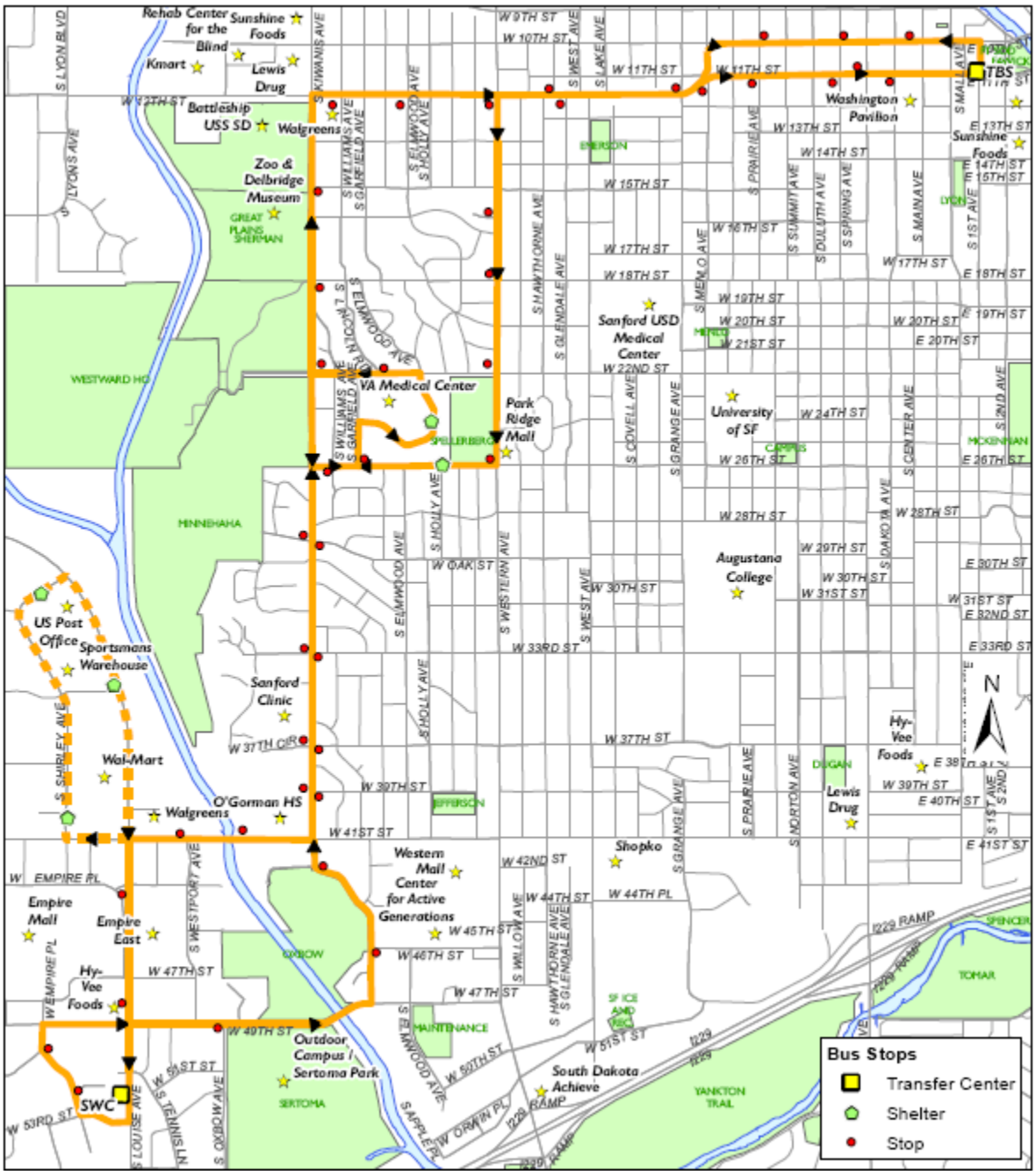
4.2.3. Clear Map Information

Another essential tool is clear and legible map information. Map or service information is of little use to readers if they are unable to decipher where the service goes. Cross streets, landmarks, and physical geography are all helpful for someone attempting to locate the right bus route.

Many transit agencies now copy their transit maps into a PDF file and link this document to the website. The zoom function within the Adobe Acrobat Reader program allows viewers to zoom in over 1,000%. This tool also helps the user easily scroll across large geographic areas and determine landmarks that may be difficult to see on other maps.

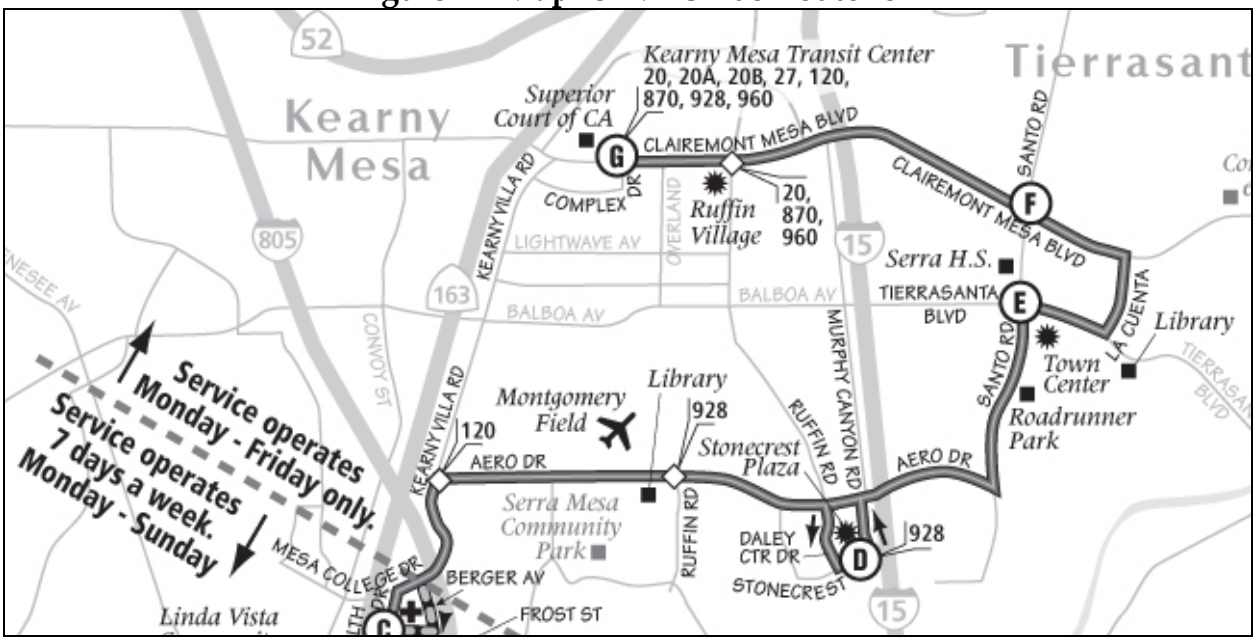
Sioux Falls Transit has created very detailed maps that are viewable through Adobe Reader. The **Figure 16** map depicts the bus's path, along with all streets, parks, rivers, and commercial locations. Additionally, the map shows bus stops, bus stops with shelters, and the agency's transfer centers. Multiple colors are used to denote all features. Detailed information can greatly benefit anyone attempting to ride transit for the first time. By noting the location of shelters, passengers are aware of locations that may be more suitable for waiting in bad weather conditions. This type of tool is especially valuable to elderly individuals.

Figure 16 Sioux Falls Transit Route Map



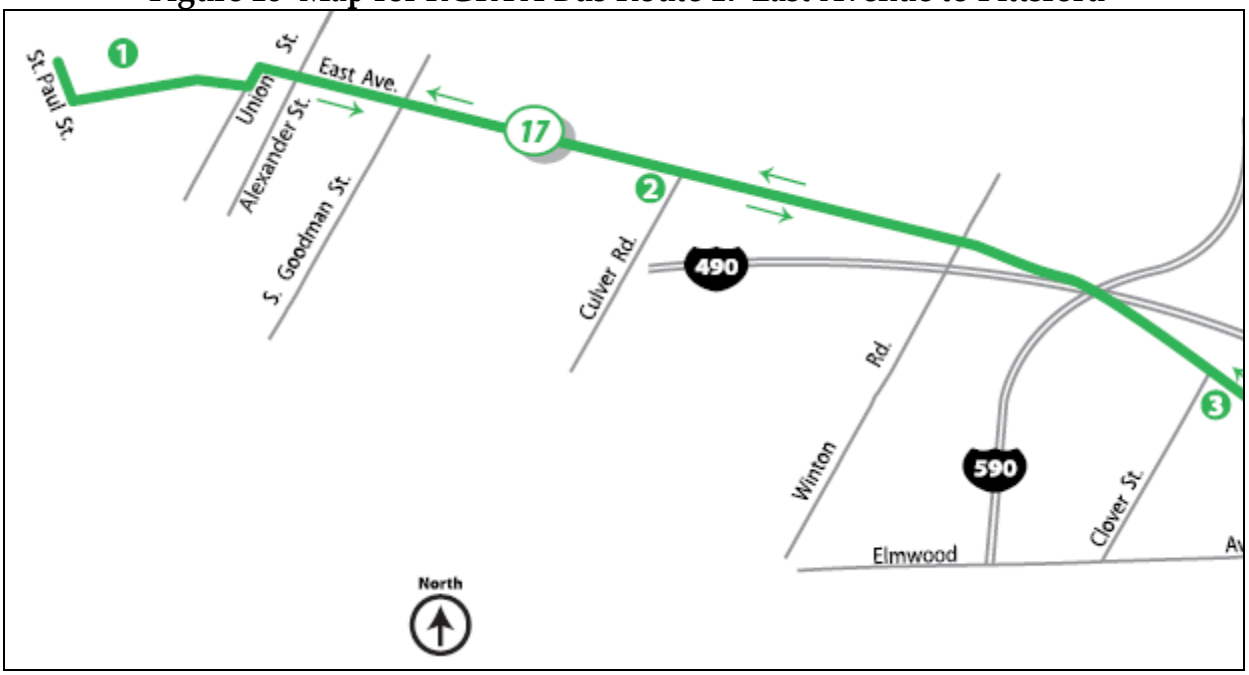
The MTS, in San Diego, also provides well-designed maps, one of which is shown in **Figure 17** below. MTS uses a black and white scale for route maps; non-pertinent information is scaled into light grey. Landmarks, government centers, transfer route numbers, and timepoints are shown (note the letters G, F, E, D, and C). For longer routes, or those that run at odd intervals, timepoints should be shown so that riders can plan to arrive aptly at bus stops.

Figure 17 Map for MTS Bus Route 25



Rochester Genesee Regional Transportation Authority (RGRTA) provides route information in a simple but effective manner. In **Figure 18**, the bus route is shown in green, with all other information in grayscale. Cross streets, major highways, and timepoints are all clearly depicted. Little additional information is given, but the map can still be easily understood.

Figure 18 Map for RGRTA Bus Route 17 East Avenue to Pittsford



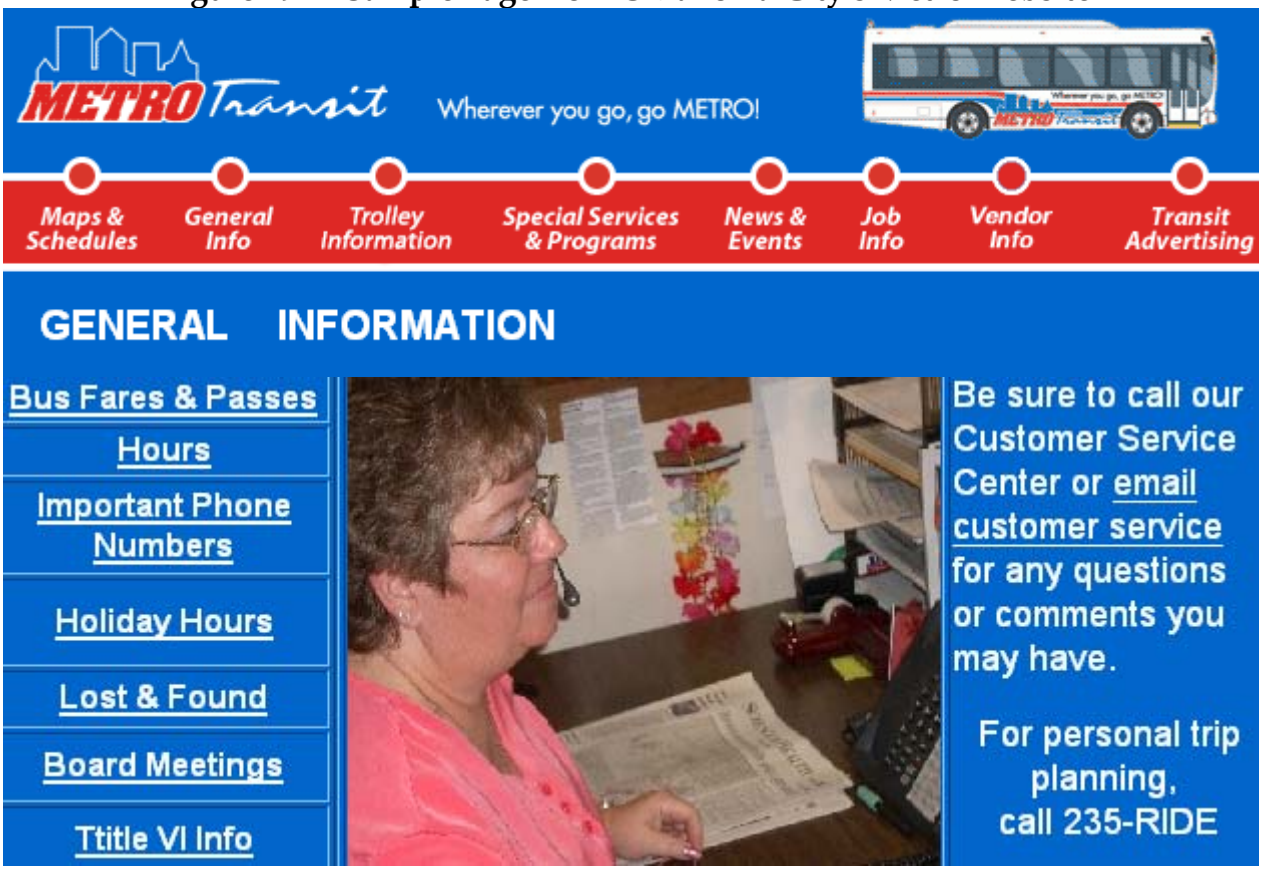
4.2.4. Design and Readability

In addition to the information contained on a website, brochure, or flier, design and readability are important components. If the layout is messy or confusing it will likely be difficult for a reader. An abundance of information, if poorly organized, may overwhelm the viewer and ultimately cause confusion or hinder the access to important information.

The use of color is also important. Sharp contrasts in color and graphics may cause a reader to become distracted, while dull colors may cause the viewer to become impatient and bored with the website. Design and readability are likely to become more important as increasing numbers of elderly must find access to transportation. In the examples on the next page, transit agencies have been able to create website pages that are visually pleasing, interesting, and informative.

Metro Transit, in Oklahoma City, has a new website, shown in **Figure 19**, which uses three main colors: red, white, and blue. These colors coincide with colors on Metro Transit's buses. The white font contrasts well with the blue background for easy readability. The font size is legible and spaced well enough to provide balance on the page and allow for easy understanding. This type of site is relatively easy to read for individuals of any age.

Figure 19 A Sample Page from Oklahoma City's Metro Website

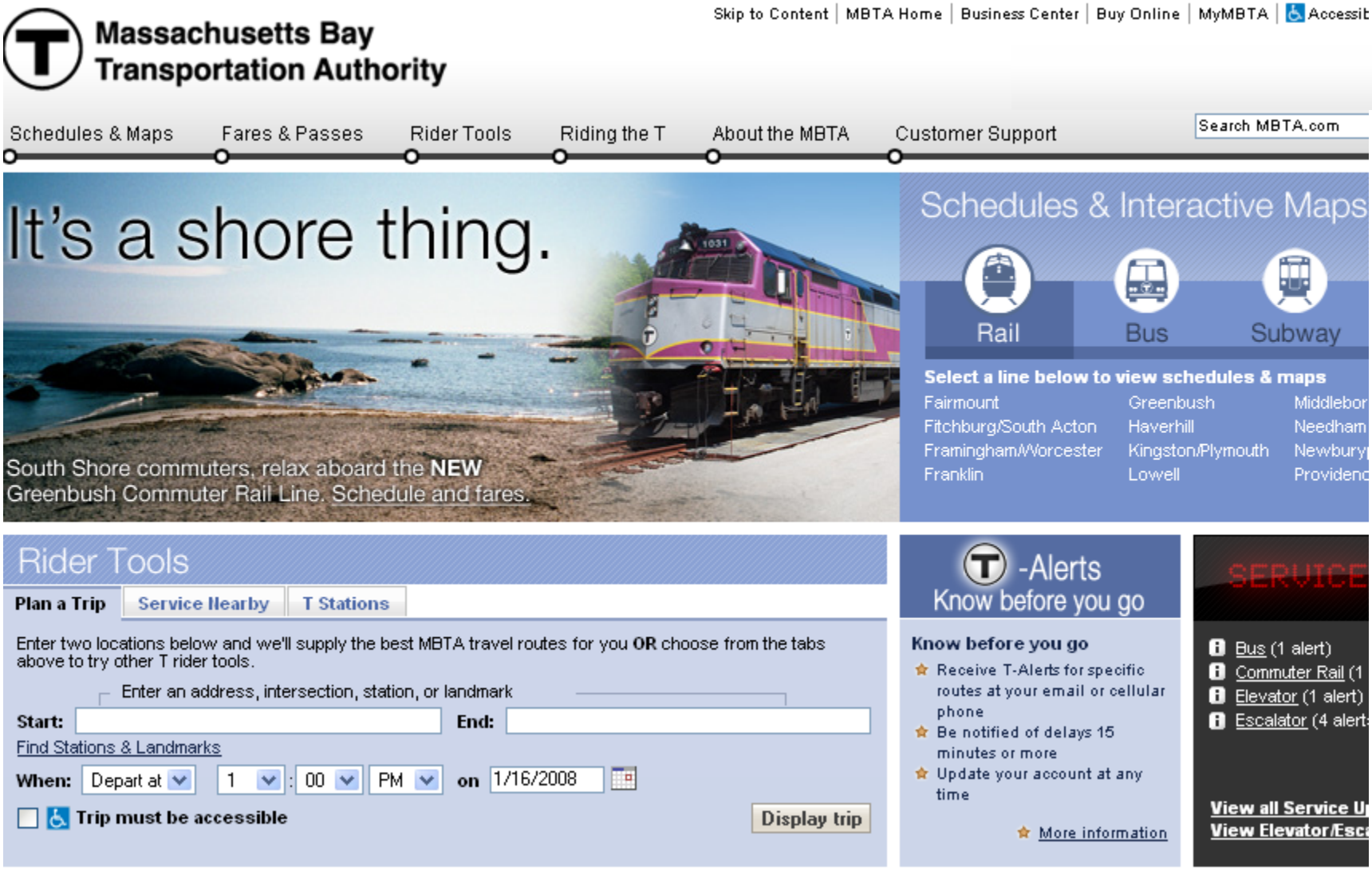


The Massachusetts Bay Transit Authority, MBTA, is an exception to the rule in terms of "information overload." MBTA's introduction page (**Figure 20**) has several sections and menus, all with separate yet equally important information. This page has a lot going on, but it is not confusing or overwhelming. It is a good example of a transit agency web site that provides patrons with all of the necessary information to use the system.

Most of the material is in black and white, along with various shades of blue. A variety of fonts, along with good layout design, keeps the page well organized. Other web pages use different color patterns, but still maintain the same design and layout themes. To help the web user, popup menus appear when the mouse rolls over a particular heading or graphic. These rollover tools can further help a person with poor vision navigate to the appropriate page.

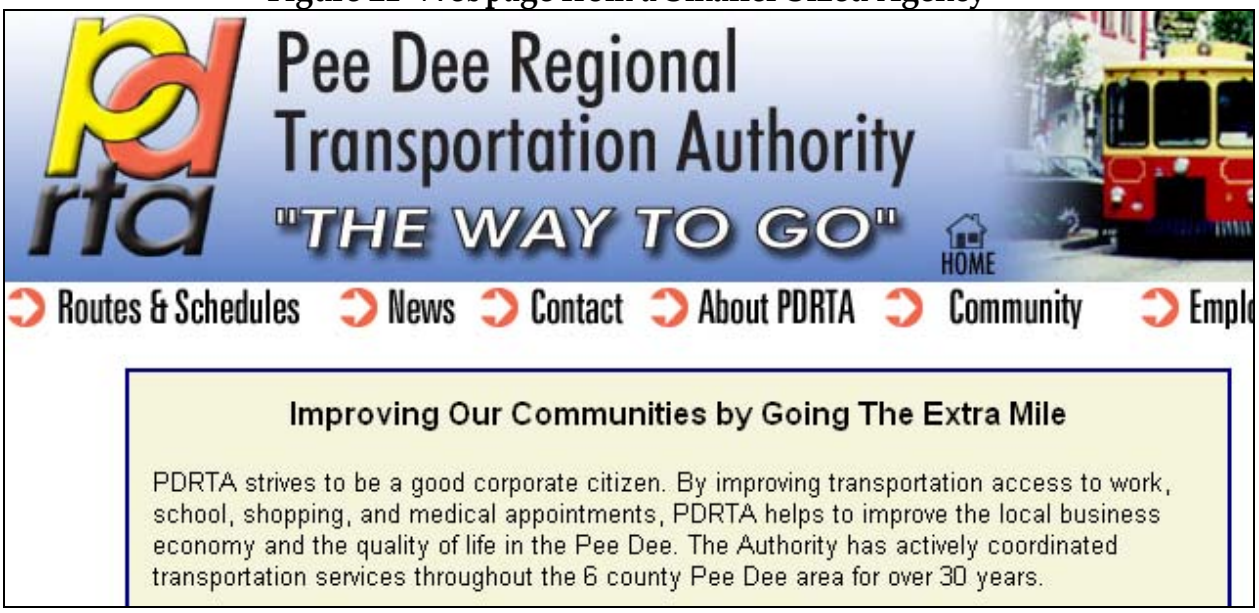
Of course, MBTA is one of the largest transit agencies in the country and likely employs at least one, if not several web and graphic designers. A well-planned website is generally more achievable at a larger agency with access to more resources. Making all information clearly and easily available reduces the demand for individualized help. Without such a sophisticated site, transit riders seeking information might overwhelm MBTA customer service personnel.

Figure 20 A Sample Page from Boston's MBTA Website



Even a smaller sized transit agency can develop an appealing and efficient website. Although its website only has a few pages, the Pee Dee Regional Transportation Authority (PDRTA), of Florence, South Carolina, has created a simple and smart design. Because this agency's service area covers a large area of rural counties, the website design comes in handy for its widely dispersed transit patrons. In terms of passenger miles traveled, PDRTA is among the top five largest demand response programs within the U.S. On the Route & Schedules page, two easy to follow links are provided: one that provides information on complimentary paratransit service, and another that allows the reader to download the paratransit application.

Figure 21 Webpage from a Smaller Sized Agency



4.3 Marketing Strategies for Seniors

4.3.1 Reassurance That Everyone Can Ride Transit

No website provided more reassurance that people of all different abilities can easily ride public transportation than Sun Tran's Website (Tucson, AZ). Sun Tran has devoted significant efforts into creating an Accessibility Section that thoroughly discusses any concerns that an older driver might possibly have. Repeated assertions, like the one in **Figure 22**, may be necessary to convince older drivers that mass transit is a realistic alternative to driving.

Figure 22 Sun Tran Accessibility Graphic

A section on buses explains bus features, along with measurement standards for wheelchairs and scooters, procedures for boarding the bus, securing mobility devices, and exiting the bus. High-definition pictures are used to visually show the process of using accessible ramps. The use of ramps on low-floor buses are exhibited, as well as lifts for older buses (**Figure 23, Figure 24,** and **Figure 25**). These graphics serve as useful ways to inform the adult population that boarding and alighting bus vehicles are very easy. Pictures of deployed ramps and lifts are beneficial because most automobile passengers rarely witness the usage of these devices.

Figure 23 Sun Tran Low-Floor Bus with Front and Rear Ramps Deployed

Figure 24 Use of an Accessible Lift for an Older Bus

Figure 25 Ramp Usage on a Sun Tran Low-Floor Bus

As part of the Sun Tran Accessibility section, a Tools and Resources subsection contains additional information that further explains how people with disabilities and seniors commonly utilize public transportation. This subsection lists information on telecommunication devices for the deaf (TDD), securement loops, bus hailing guides, Braille and large print media aids, and free travel training. These resources not only benefit riders who may be deaf, blind, or physically impaired, but also help dispel the myth that fixed route transit is rarely used by the elderly or people with disabilities.

Sioux Falls Transit also does a good job of showing how its system is accessible for people of different abilities. This agency relies on images instead of words to convey accessibility. In the transit photo gallery section, example boardings are shown for individuals who use wheelchairs on city buses equipped with lifts and ramps. Over 25 photographs are presented to help potential bus passengers visualize the following: bus exterior and interior views, accessible aisles, interior maneuverability, wheelchair space provisions, ramp accessibility, and wheelchair loading by ramps and lifts. Note **Figure 26, Figure 27**, and **Figure 28.**

In addition to wheelchair boardings, ramps or lifts may be deployed for people with walkers, canes, and others who have difficulties stepping upwards. Images of these situations could be provided so that all individuals understand that fixed route service can cater to the specialized needs of elderly riders.

Figure 26 Website Image Showing Wheelchair Loading by Ramp

Figure 27 Image of Onboard Maneuverability at Sioux Falls Transit

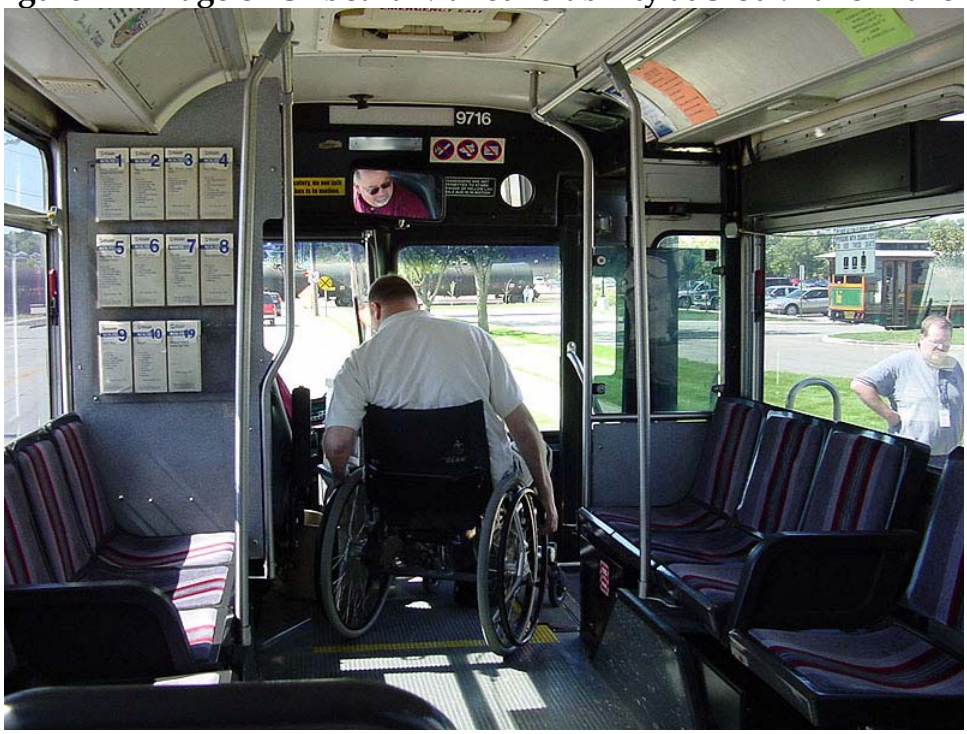


Figure 28 Website Image Showing a Wheelchair Accessible Passenger Shelter

4.3.2 Online Mobility Training Video

Workers involved with the transit industry have probably heard of mobility or travel training, but the general population is unlikely to be familiar with these terms. Many agencies now offer mobility training, but do not provide much explanation about programs, especially on the Internet. The review of websites confirmed this, revealing that most agencies provide little information about such programs. This came as a surprise given the fact that agencies and participants report a high level of benefit to be gained from travel training programs.

Expenses associated with running a program, or the anticipated demand, may be a reason why little promotion exists. However, for agencies committed to travel training program courses, additional knowledge should be made readily available to anyone interested. Detailed program information may provide enough assurance for an elderly driver to finally retire from driving and utilize other transportation options. Simultaneously, additional knowledge may lessen the need to field candidates for the training process.

Figure 29 A Former Trainee Discusses Her Improved Mobility

As mentioned previously, Spokane's mobility training video does an excellent job of educating the public about these types of programs. The Spokane video, approximately six minutes in length, introduces mobility training and gives a breakdown of the four steps involved in the process: initial visit, training preparation, one-on-one training, and the follow through (**Figure 30**). A variety of former program participants are portrayed: young, elderly, cognitively impaired, and physically impaired individuals are all shown. This helps the Internet audience understand that Spokane's mobility training program is available for everyone.

Agencies contemplating developing training video are likely to gain possible ideas for creating their own recording by viewing the Spokane video. The complete mobility training video is available at the Spokane's web site: http://www.spokanetransit.com/ridesta/mobilitytraining.asp

Not all transit agencies have mobility training programs. However, those agencies that do would benefit from increasing the visibility and understanding of programs. Filming a video can be expensive and time consuming, but there are simple alternatives that may be just as effective. Depending upon the type of mobility training program offered, information should be given stating which individuals may participate. Some restrict programs only to those qualified for paratransit, while others focus on elderly adults or people with disabilities.

Figure 30 Four Steps of the Mobility Training Process

Step 1: Initial visit

Step 2: Training Preparation

Step 3: One-on-one training

Step 4: Follow through

4.3.3 Personal Travel Training Stories

Personal stories can be another tool for attracting people to travel training and public transportation in general. Potential candidates may be unsure of their needs and abilities, and, therefore, reluctant to enroll in a program teaching them how to use public transportation. Even brief information regarding people with disabilities or elderly individuals who now use transit provides confirmation that public transit can satisfy mobility needs.

Although the Regional Transportation District (RTD) in Denver, Colorado, does not provide travel training services on its own, the agency is able to promote the educational service through its website. A link is available (**Figure 31**) to a nonprofit agency, *Special Transit* (www.specialtransit.org). Within the Special Transit website, information regarding mobility training is provided, along with some very encouraging personal stories. With information available on a wide variety of people with regard to ages and abilities, potential candidates can see that no specific impairments are needed to participate in training. Personal stories accentuate the fact that individuals able to use public transportation maintain their independence and continue to have a high quality of life as they age (**Figure 32** and **Figure 33)**.

Figure 31 External Link to Special Transit, a Mobility Website

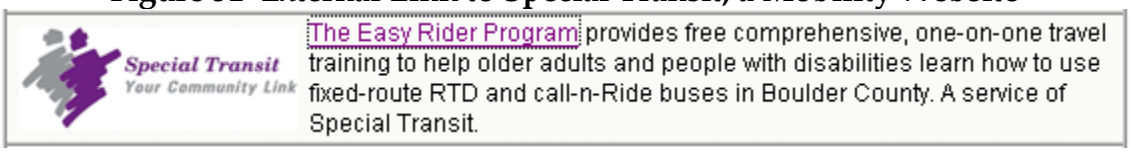
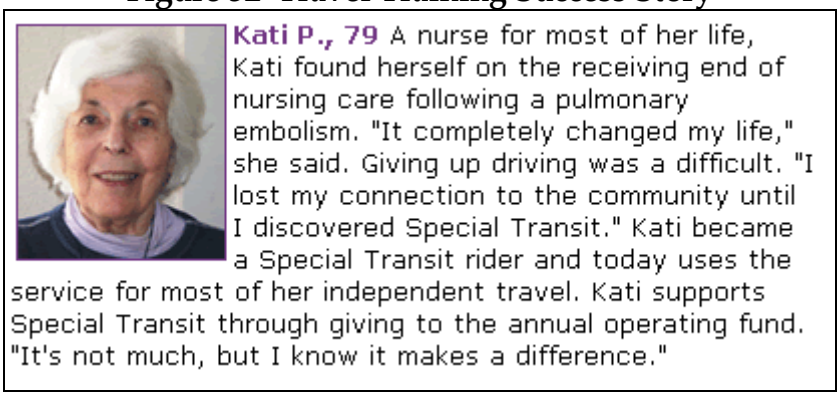


Figure 32 Travel Training Success Story



The Duluth Transit Agency also provides similar information - comments from individuals who have participated in an outreach program with regard to riding public transportation. The narratives are briefer, but still serve as a good promotional tool to market public transportation to selected audiences. Comments like those listed below in **Figure 34** simultaneously help further the idea that transit is a convenient service and provides comfort to individuals contemplating driving retirement.

Figure 33 Additional Travel Training Success Stories

Alan G., 57. Six years ago, Alan moved from his life-long home in Pittsburgh to Boulder. Although he enjoyed walking to appointments, he wanted more transportation options when the weather was cold or wet. He successfully completed the travel training program in December 2005 and has been taking the bus to his weekly yoga class at the Boulder Recreation Center. He always takes a book with him when he travels and enjoys reading while he waits for the bus.

Lynda S., 69. After completing the travel training program, Lynda is able to travel independently in her community and go to her favorite places. She loves to go to thrift shops looking for bargains and to McDonalds for coffee. She uses public transit almost everyday from her host's home in Longmont. Being able to use buses confidently and safely offers her a way to do those things that make her happy and improves the quality of her life.

Michael W., 50. The day that Michael had to use both hands to lift his leg onto the brake pedal was the day he knew it was time to park his van for good. The progression of his multiple sclerosis (MS) brought his driving career to an end. He knew Special Transit was an option, but he told himself he would not use it until he had to. "I can do a lot and will do a lot," he asserted. He was elected Building Council President in his residence complex and then appointed to the Boulder Housing Authority in 2002. Michael uses Special Transit for doctors' appointments, grocery shopping, city meetings and dinners out.

Figure 34 Comments from Outreach Program Participants

Josephine Shultz (pictured left)

"I just gave up my car and will be using DTA from now on - and I can't wait for this. I rode buses years ago and it was just great. Now I know it is even greater. You have done a great job in helping us seniors, thank you."

Dorothy Johansen

"The bus is my only means of getting around - Mall - West Duluth - Bethany Baptist Church. I am very appreciative of our bus."

4.3.4. Well Explained Flexible Route Transit Information

Flexible route services are a great way to provide transportation services to members of the population who might not be able to ride fixed route transit. However, flexible services can be very difficult to understand - especially for someone unfamiliar with regular transit services. It is essential that a solid effort be made to familiarize the public with flexible services. Clear, concise website information is an easy way to promote services and ensure they are easily understood.

Of the 40 agency websites examined, it was noted that Rhode Island Public Transit Authority (RIPTA), and Citilink in Fort Wayne, Indiana, both provide quality information concerning flexible route services.

The Schedules and Fares section of the RIPTA website contains a link to FlexService information. Within this subcategory are links to separate PDF files containing instructional and map information for the agency's flexible services located in different communities. For each flex route, RIPTA has a one or two page PDF file available with instructions. Simple directions and explanations help to familiarize riders with the unique timetables and boarding/request information.

Each PDF file, which can be easily printed to make a brochure, has information about making and canceling reservations, traveling outside of flex zones, paying fares, and cancellations due to bad weather. Instructions for riders are given in brief terms. Map information is also shown to help explain different procedures for flexible routes (Figure 35). Some of RIPTA's services are flexible route segments, and other portions are request stop areas (**Figure 36**).

Figure 35 Flexible Route Segments Shown in a Slightly Darker Grey

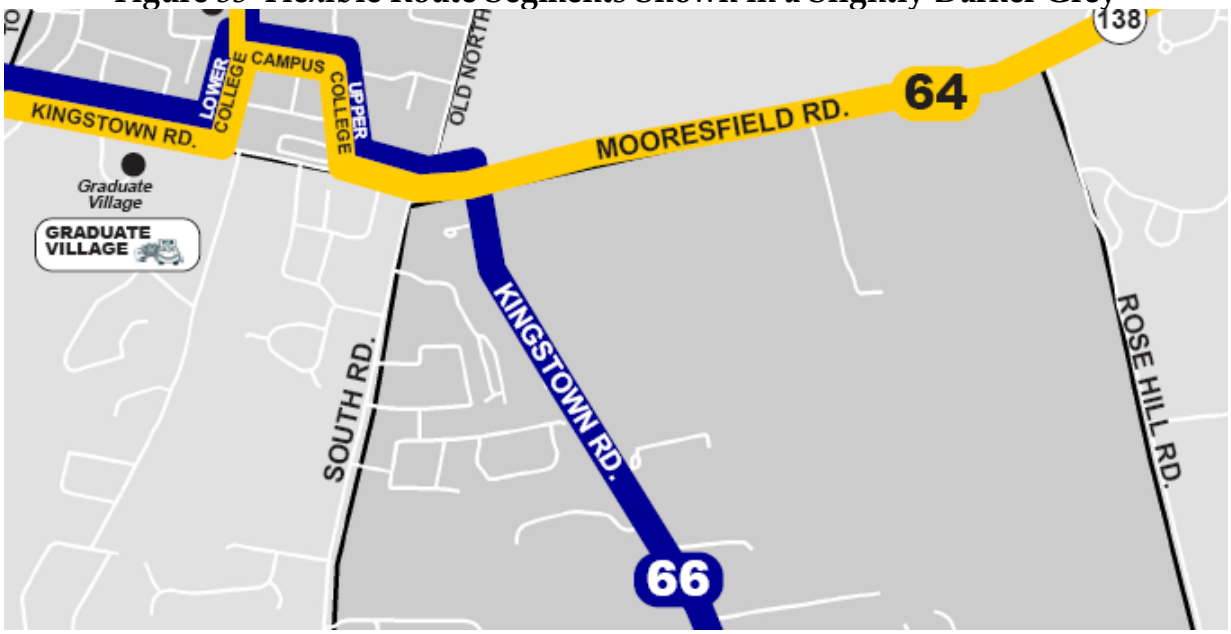
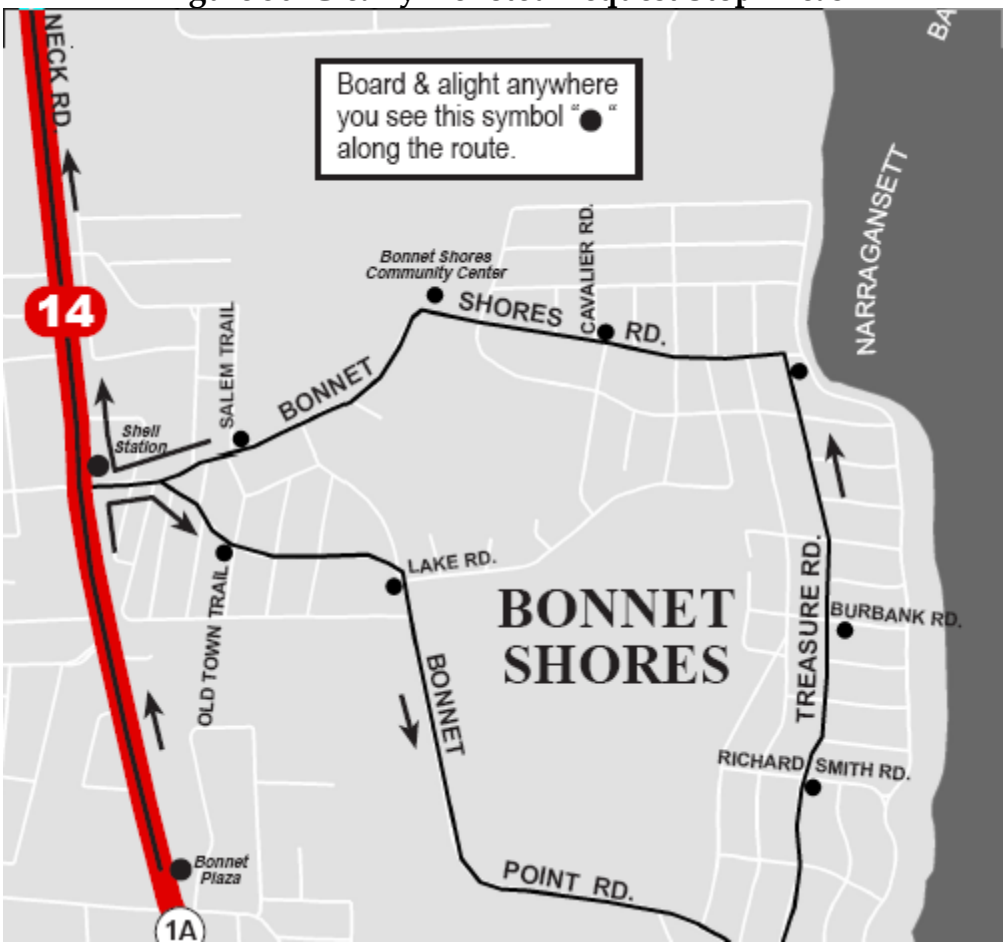


Figure 36 Clearly Denoted Request Stop Areas



Citilink, in Fort Wayne IN, also maintains well-explained flexible service information. Citilink's flexible services have scheduled stops at specific times and a large list of stops that are available by request. The use of color helps differentiate between these two types of bus stops (**Figure 37**). Stops available by request are numbered so that riders and schedulers can refer to a specific location more easily. A listing of all requested stops and their location descriptions is provided as well (**Figure 38**). Like RIPTA, Citilink's flexible service guides are also in PDF format so that they can be printed and referenced at a later time.

Figure 37 Scheduled Stops and Request Stops Shown in Different Colors

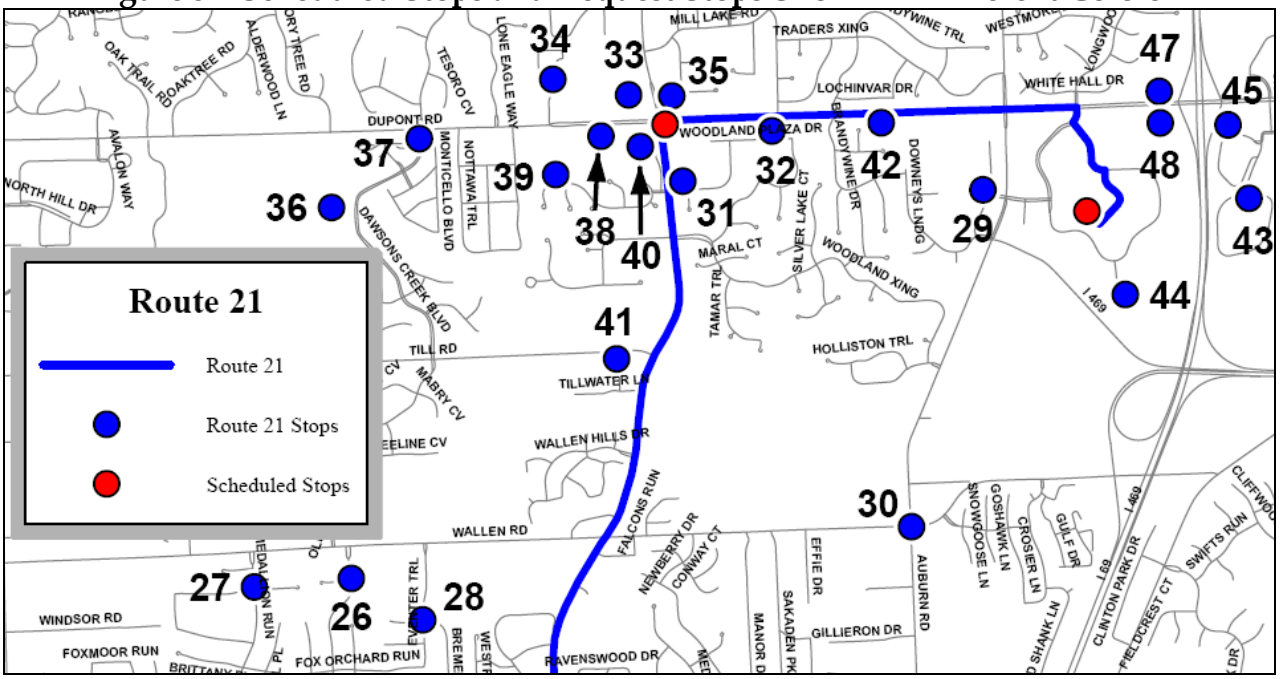


Figure 38 Timepoints of Scheduled Stops and a Listing of Alternate Stops

Route 21 Glenbrook/Coldwater/Dupont Rd. *(Read Across)*

Flexlink Bus Service:

At the listed scheduled stop timepoints passengers may board or exit buses serving this route.
Tell the driver if you want to exit at an alternate stop listed below.

Scheduled Stops:

Northbound	***Glenbrook Mall (Bus meets Route 8)***	6:25 AM	7:25 AM	8:25 AM	9:25 AM	10:25 AM	11
:	***Coldwater/Cook Rd.***	6:35 AM	7:35 AM	8:35 AM	9:35 AM	10:35 AM	11
:	***Coldwater/Dupont Rd.***	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11
Southbound	***Dupont Medical Center***	6:55 AM	7:55 AM	8:55 AM	9:55 AM	10:55 AM	11
	Dupont/Coldwater Rd.	7:05 AM	8:05 AM	9:05 AM	10:05 AM	11:05 AM	12
:	***Coldwater/Cook Rd.***	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12
:	***Glenbrook Mall (Bus meets Route 8)***	7:25 AM	8:25 AM	9:25 AM	10:25 AM	11:25 AM	12

Passengers must call for a bus serving this route to pickup at the alternate stops listed below.
Pickup requests can be made by calling 432-4546 approximately 30 minutes before you wish to travel.

Alternate Stops:

1. *Scott's, North Clinton Street*
2. *Fairington Apartments*
3. *Salem Manor Apartments*

16. *Kingston Care Nursing Home, 1010 W.*
17. *Richard's Restaurant, 717 W. Washingto*
17.5. *Social Security Appeals Office, 6511 Br*
18. *Stone Pointe Village, Leasing Office*
19. *ARC Industries, 4919 Project Dr.*

4.3.5 Regional Access Collaboration

Agencies within large metropolitan areas are beginning to collaborate on making transit easier to use. The report team learned that transit agencies within the San Francisco Bay area have worked collaboratively on the provision of senior ID cards, trip planning, and other informational resources. Working together with nearby transit agencies is beneficial to both riders and agencies. Riders appreciate the ability to travel more easily within the region, and agencies save money by sharing costs.

The Regional Transit Connection Discount Card Program allows cardholders to obtain an elderly discount on some 20+ bay area transit systems. This program simplifies the efforts needed to obtain discounted access to regional transit agencies. Simple promotional information, taken from the AC Transit website, is shown below in **Figure 39**. One can imagine the effort that would be necessary to obtain separate elderly discount ID cards at all agencies. Filling out dozens of forms, mailing items, visiting various offices to be photographed and obtain the actual ID cards – such efforts are tedious and time consuming for the elderly and likewise redundant for agencies as well.

Figure 39 Bay Area Regional Transit Connection Discount Card Program

Regional Transit Connection Discount Card Program
This program has been designed to make access to the RTC Discount ID Card as convenient as possible to eligible individuals. This information is intended to tell you about the program whether you currently have an RTC Discount ID Card or are interested in obtaining one for the first time.

The Regional Transit Connection (RTC) Discount Card is available to qualified persons with disabilities and senior citizens 65 years of age or older. The card makes it easier for you to demonstrate your eligibility for reduced fares on fixed-route transit, bus, rail and ferry systems throughout the San Francisco Bay Area.

Another product that has resulted from regional collaboration is the Bay Area's 511 information website (**Figure 40**). The site provides access to all regional transportation information. A transit trip planning tool allows riders to plan their travel routes across the entire metropolitan area. Results indicate which method(s) of mass transit should be used to arrive at one's destination quickest or by the fewest transfers. Also available within the 511 transit section is fare information, agency route maps and schedules, transit provider information, destination attractions, and some real-time transit information. Other transportation information pertaining to drivers, carpoolers, and bicyclists is also listed.

The state of Pennsylvania and its transit agencies have developed a statewide system for issuing transit ID cards for senior citizens. Each Pennsylvania agency is permitted to issue the ID cards (see Pittsburgh's example, **Figure 41)**. Statewide ID collaboration is likely appealing for older drivers who want to remain driving within their immediate community, but who may be reluctant to drive in bigger cities like Pittsburgh and

Philadelphia. Also, the ID eliminates the need for seniors to re-register following a move within the state. A statewide pass, coupled with free rides, is a very enticing opportunity for adults entering retirement.

Figure 40 SF Bay Area's 511 Comprehensive Transportation Information Site

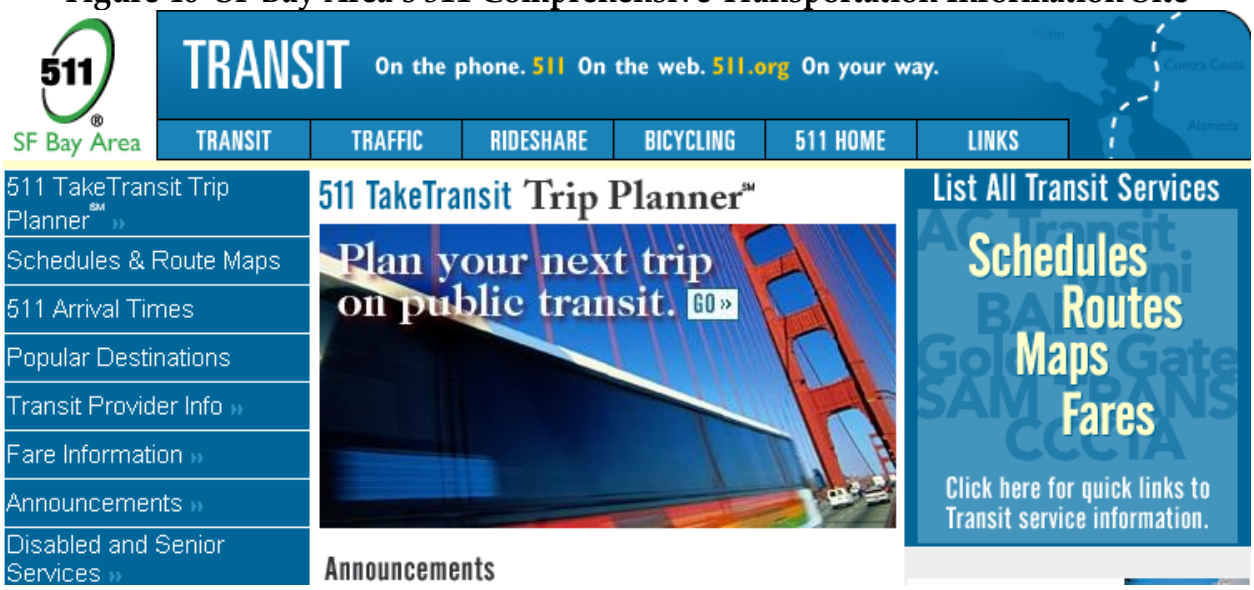


Figure 41 Senior ID Card Information from the Port Authority Website

Senior Citizens

Senior citizens age 65 or over, presenting a Commonwealth of Pennsylvania Senior Citizen Identification card (blue for men and yellow for women) or a Medicare card at the time of fare payment, can ride Port Authority service for free at all times. Pennsylvania Department of Transportation's Free Transit Program for Senior Citizens (paid for by proceeds from the Pennsylvania Lottery) sponsors this program and reimburses Port Authority for all senior rides.

Application for the Pennsylvania Senior Citizen Identification Card must be made in person at Port Authority's Downtown Service Center, 534 Smithfield Street at Mellon Square, Pittsburgh, or at selected Senior Citizen Centers throughout Allegheny County. Call (412) 442-2000 for the location nearest to you. When applying, you must present one of the following as proof of age:

- *photo driver's license*
- *birth certificate*
- *armed forces discharge/separation papers*
- *baptismal certificate*
- *PACE ID card*
- *passport/naturalization papers*
- *Pennsylvania ID Card*
- *a statement of age from the U.S. Social Security Administration.*

There is a simple form to complete. The identification card will be mailed directly to your home.

This system was put into place in concert with the state lottery, and would likely be difficult to duplicate elsewhere. The Pennsylvania Lottery, established in 1971, is the

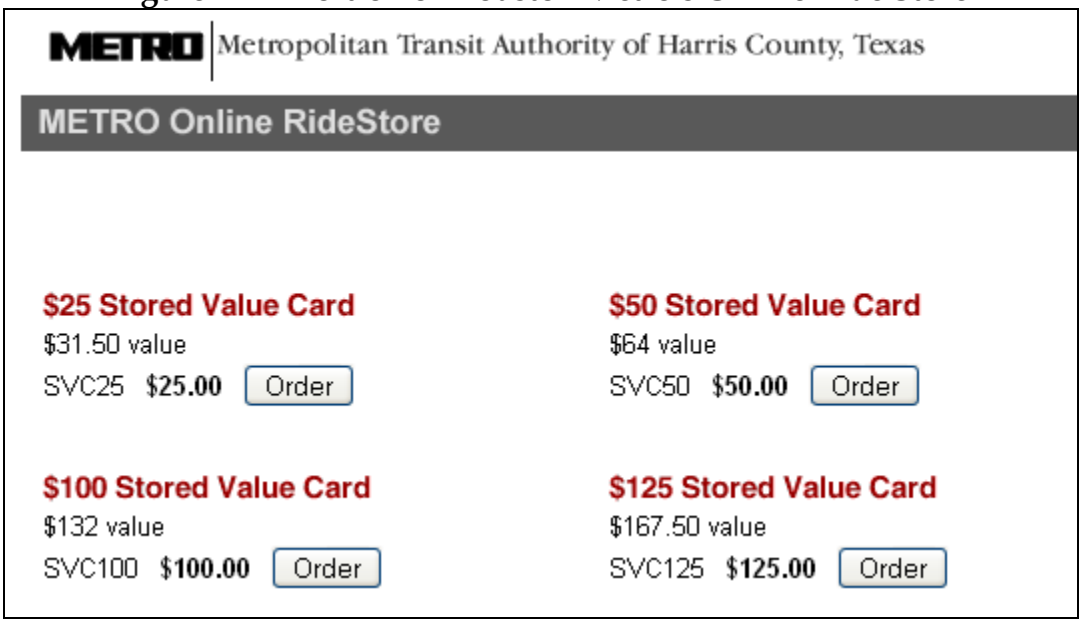
only lottery in the nation that uses the entire proceeds for elderly residents. A significant portion of these proceeds go toward providing public transportation for elderly residents at a reduced or free cost.

4.3.6 Online Ride Stores

This program expands the ease of system usage, especially for riders using a monthly pass. At many agencies, riders who want to purchase a term pass must travel to a particular vendor location or a central transit office. This can become time consuming and become a frustrating chore to perform every month; elimination of this task saves existing riders time and can attract additional patrons.

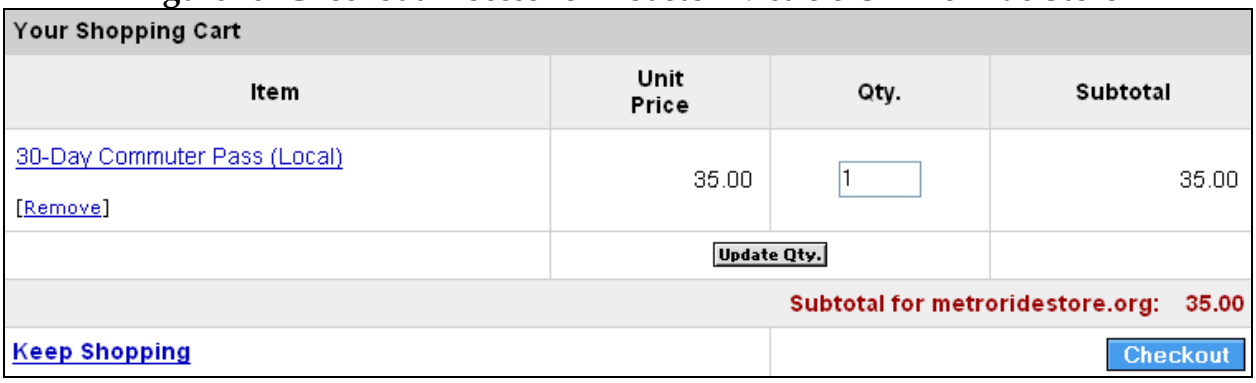
Houston's Metro and the Spokane Transit Authority were two of several agencies with an online ride store. Houston's Metro has 30-day Commuter Passes available at five different values; one for each different zone passengers must travel through. Also available are stored value cards, in increments of $25 up to $150. Stored value cards are offered at a substantial savings, and come with an extra 26% - 36% value (**Figure 42**). The checkout process (**Figure 43**) is similar to any Internet shopping website.

Figure 42 A Portion of Houston Metro's Online Ride Store



In addition to the monthly passes show in **Figure 44**, the Spokane Transit Authority (STA) offers Two-Hour Passes, Day Passes, and Summer Youth Passes. A user simply selects the quantity of passes needed and proceeds to checkout. STA's online store is operated in-house. Other agencies may use a merchant account with an Internet company. Both options are likely to work well. Each agency should select its own plan for e-commerce depending on the agency's staff and budget.

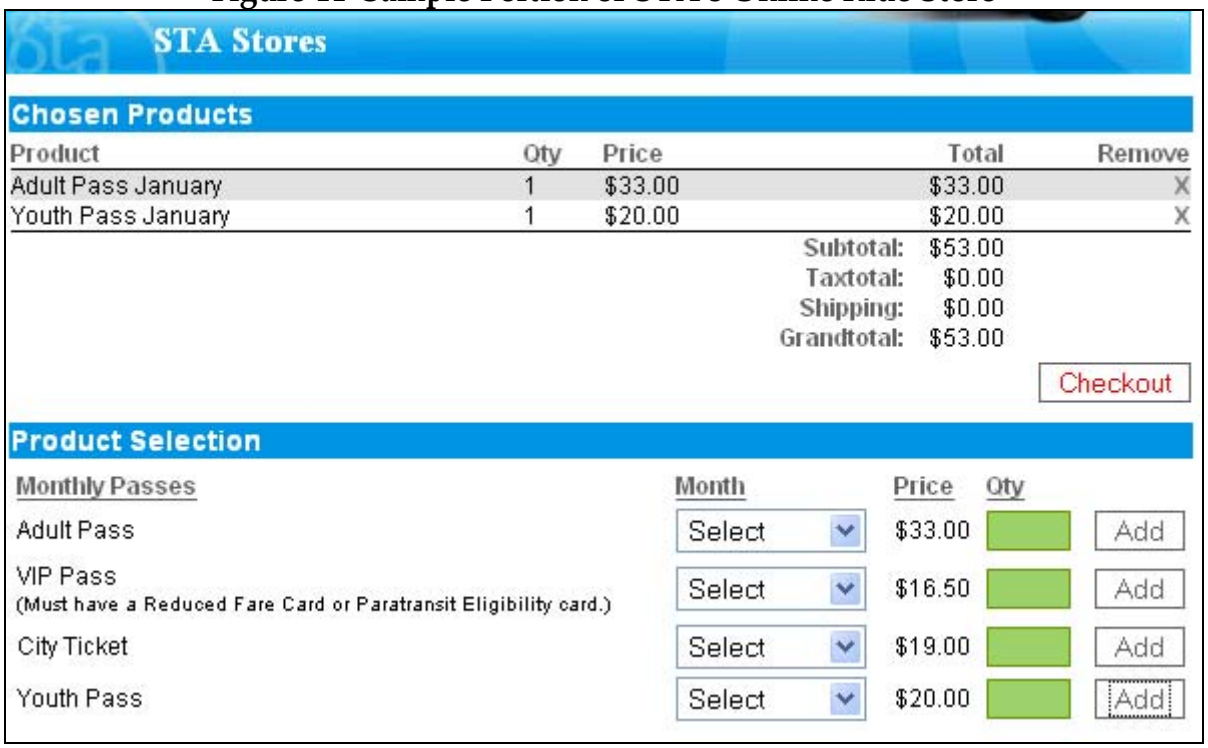
Figure 43 Checkout Process for Houston Metro's Online Ride Store



Your Shopping Cart

Item	Unit Price	Qty.	Subtotal
30-Day Commuter Pass (Local) [Remove]	35.00	1	35.00
	Update Qty.		
		Subtotal for metroridestore.org:	35.00
Keep Shopping			Checkout

Figure 44 Sample Portion of STA's Online Ride Store



STA Stores

Chosen Products

Product	Qty	Price	Total	Remove
Adult Pass January	1	$33.00	$33.00	X
Youth Pass January	1	$20.00	$20.00	X
		Subtotal:	$53.00	
		Taxtotal:	$0.00	
		Shipping:	$0.00	
		Grandtotal:	$53.00	

Checkout

Product Selection

Monthly Passes	Month	Price	Qty	
Adult Pass	Select	$33.00		Add
VIP Pass (Must have a Reduced Fare Card or Paratransit Eligibility card.)	Select	$16.50		Add
City Ticket	Select	$19.00		Add
Youth Pass	Select	$20.00		Add

4.3.7. Other Innovative Strategies

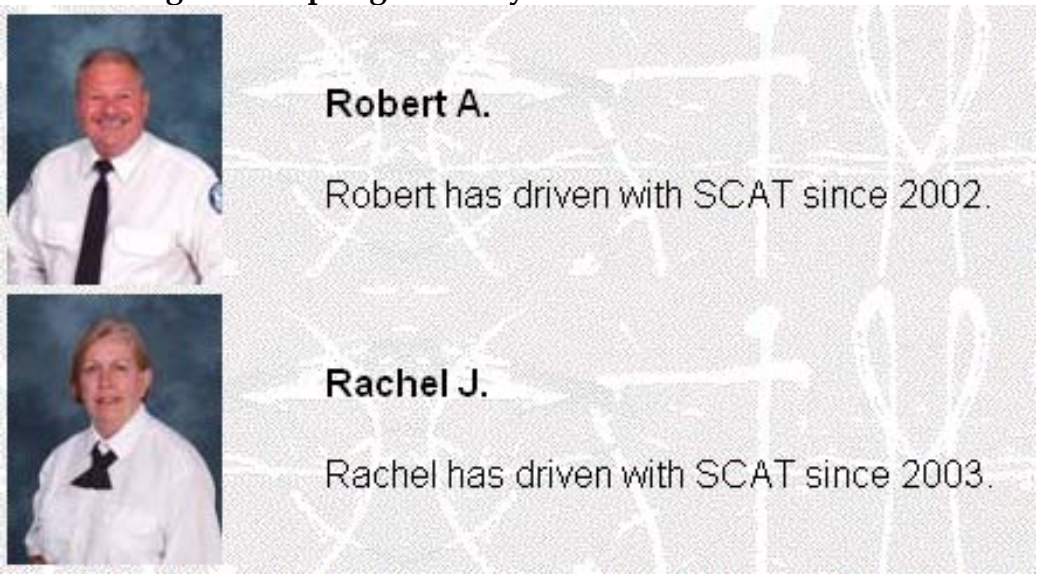
Three other ideas were noted for their unique qualities. Two of these include familiarizing citizens with local bus drivers and providing cheaper bus rides during a construction project. Both strategies show promise for attracting and comforting new transit riders. The last strategy, an electronic alert system, is more likely to help retain riders because it focuses on improving awareness for existing customers. Although rare, such innovative ideas are becoming more common across the country.

Route Operators

Posting driver photos and names on a website or in marketing materials can improve the public's familiarization with the agency. Research has shown that older adults specifically feel more secure and comfortable being on a friendly basis with their bus driver. Simply knowing a driver's name or recognizing a face can create a less stressful environment for seniors when they may need to ask for a ramp deployment or a wheelchair lift. In larger cities, seniors are often fearful of crime and unruly passengers. Familiarization with a bus driver conveys the sense of extra protection and safety.

The Springfield City Area Transit Agency, in Springfield, Ohio, and Sun Tran were two agencies that portrayed bus drivers on their websites. The Springfield transit agency is fairly small, and is therefore able to post headshots, first names, and the driver's years of experience for virtually all employees (**Figure 45**).

Figure 45 Springfield City Area Transit Bus Drivers



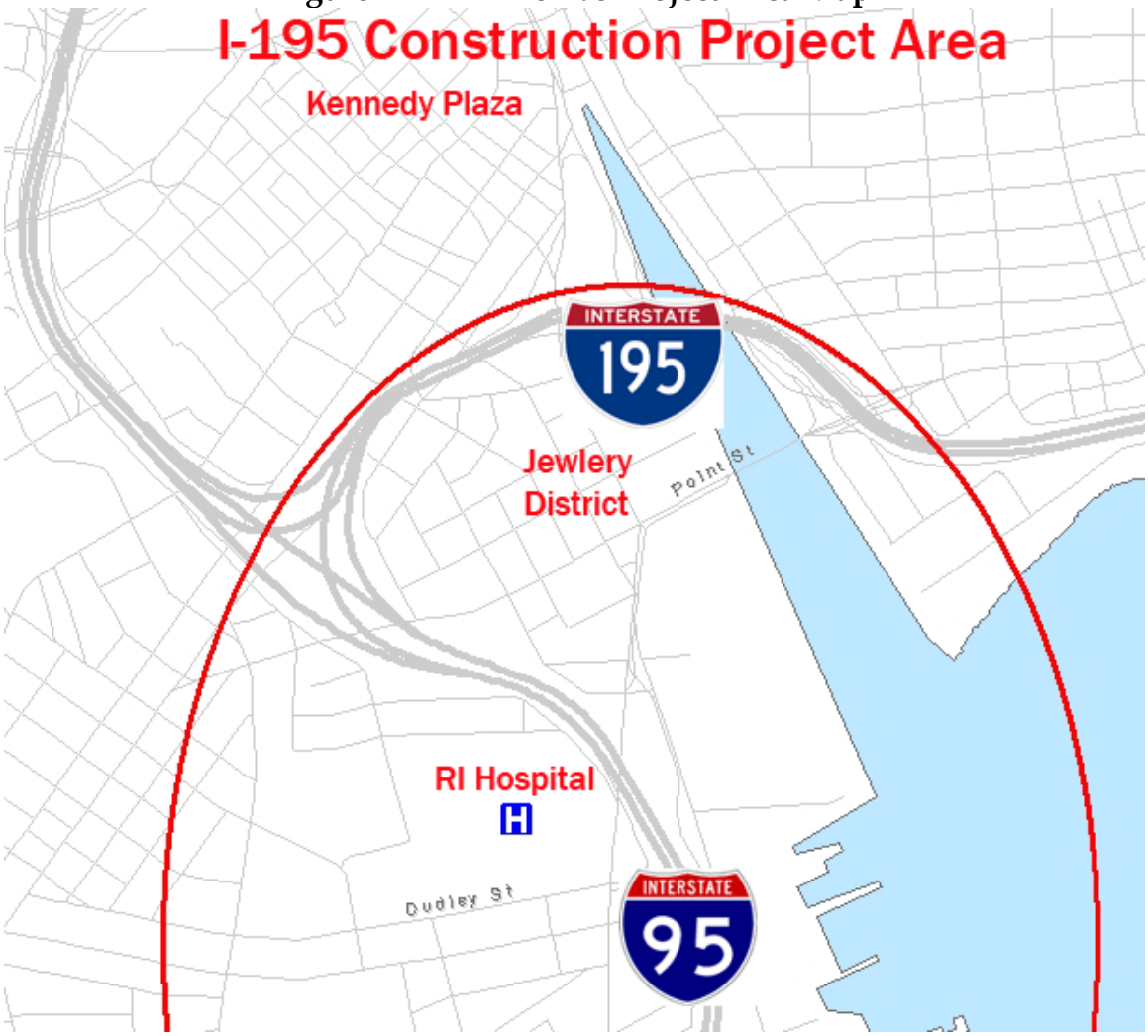
Sun Tran has several graphics containing employee photos with names; each time a visitor connects to the Sun Tran homepage a different employee greets the website visitor. See **Figure 46,** following page.

Figure 46 Different Drivers Profiles on the Sun Tran Homepage

Keep Eddy Moving project – Discounted fares during a highway relocation project.

As part of a large highway relocation project, the Rhode Island Public Transit Agency launched a program to lure traditional automobile commuters to mass transit. RIPTA offered a 50% discount pass to anyone who travels through the I-95 construction area (**Figure 47**). The fare discounts are available after filling out a proof of residency and work form and last several years until the completion of the highway project. Bicycle kits and carpooler free rides home are used as incentives to further reduce single-occupancy automobile travel within the area.

Figure 47 RIPTA's I-95 Project Area Map



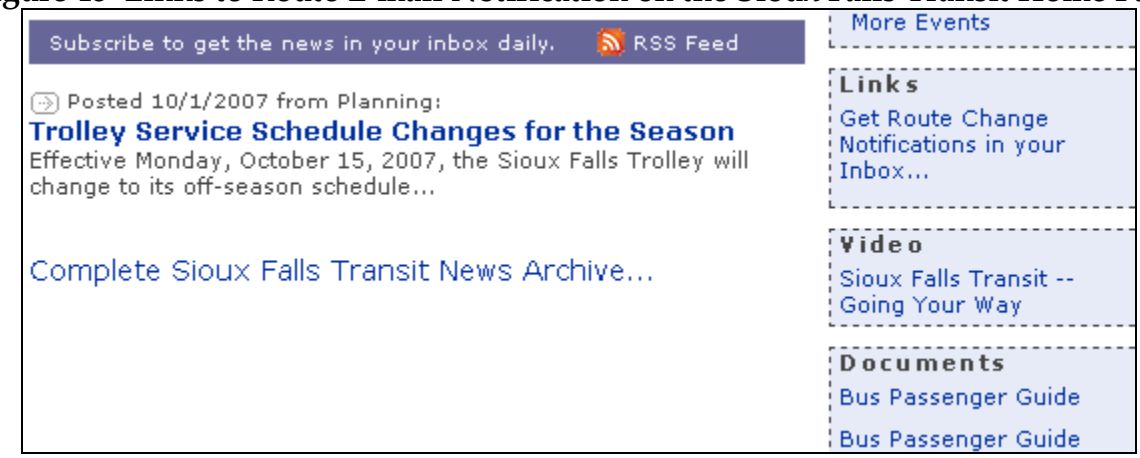
This type of program is an excellent idea for several reasons. The program has the potential to attract workers of all ages who must commute through the I-95 corridor. Older drivers in particular are less likely to tolerate intense traffic congestion and might willingly participate. The deal may be enticing for people ages 50-65 – older individuals who normally are unable to qualify for a discount ticket. These individuals are likely to still be good drivers, but find highway driving aggravating. Also, some are probably beginning to notice physical changes associated with aging.

The program also appeals to drivers who do not have to use I-95. Anyone traveling to or through a portion of the project area is entitled to apply for a discount - yet another reason to use transit. Because the project construction area encompasses a large number of blocks surrounding I-95, the project may reduce congestion along I-95 *and* neighborhood streets. Reducing automobile traffic in these areas is likely to improve the walking and bicycling environment. Less congested neighborhood streets may allow buses to travel faster and improve the quality of service.

Options for E-mail Notification

E-mail notifications are a smart tool for assisting regular and prospective transit riders. As mentioned previously in Section 3.0, the Sioux Falls Transit website maintains a link to an organizational website where users can sign in to *my.siouxfalls.org*, an extension of the city website, and elect to receive route change notifications, instant alerts, and daily newsletters (**Figure 48**).

Figure 48 Links to Route E-mail Notification on the Sioux Falls Transit Home Page



Although transit agencies may regularly post route changes and detours on their home page, email notifications have the potential to reach more people in a timely manner. Most people check their email accounts multiple times per day, but would be unlikely to regularly check their local transit agency's website. Email notifications can even be personalized so that the user receives emails pertaining to only one or two particular bus routes.

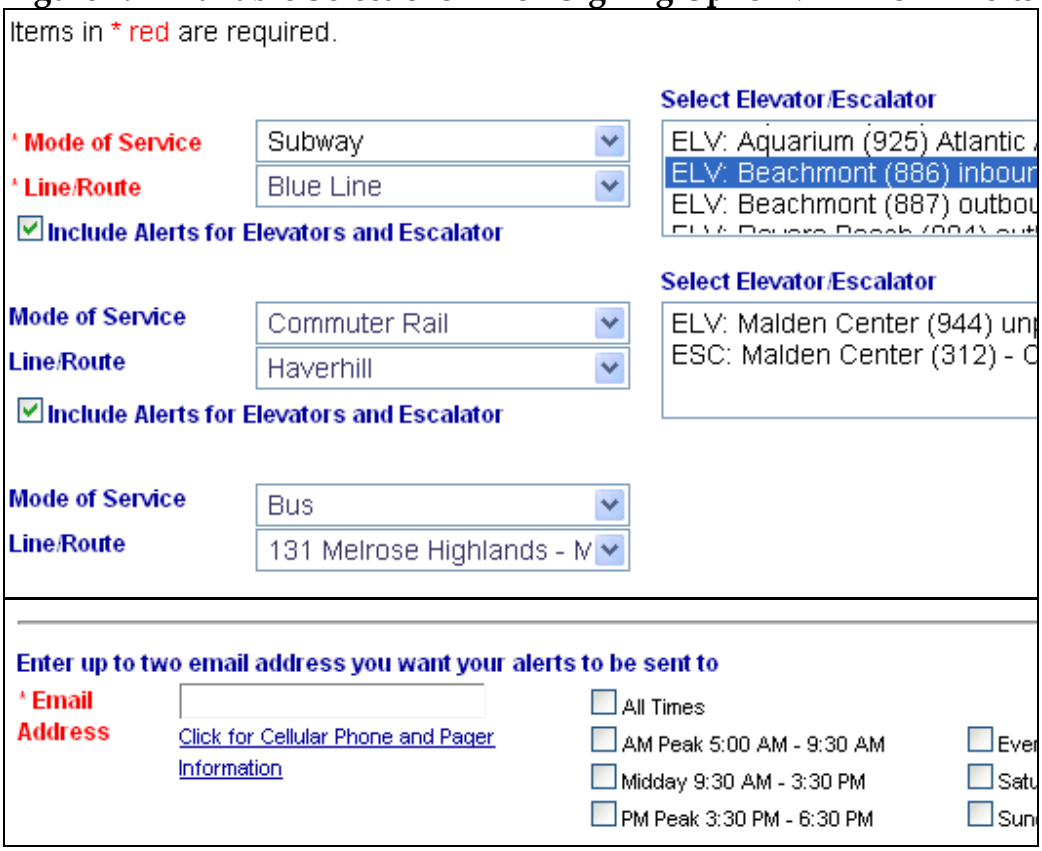
This provides another example of how coordination allowed the transit agency to provide its users with additional information services. Presumably, this project would have been expensive to administer and develop without collaboration from the local municipality.

Similar types of electronic notifications are in development or already exist for some larger-sized transit agencies. Boston's MBTA has recently developed a new pilot program called T-Alerts. The pilot program is open to a limited amount of individuals and allows users to receive electronic messages when train delays are greater than 15 minutes or when services have been changed for other modes. This is just another way to remove the uncertainty of travel, which is of particular concern of seniors.

The T-Alerts service is a free service that can send messages to an email address or cellular telephone number. Using an easy-to-read interface, participants are allowed to sign up for up to three lines or routes that MBTA operates (**Figure 49**). Details can be requested regarding elevator and escalator working status – knowledge that is

extremely beneficial to people with disabilities. Information may also be requested pertaining to particular travel periods. This has the capability to minimize the quantity of emails sent to individuals.

Figure 49 Available Selections When Signing Up for MBTA's T-Alerts



5.0 RECOMMENDATIONS

5.1 Encourage Seniors to Plan for their Future Transportation Needs

Agencies should develop a method to inform older adults about the benefits of public transportation **as they leave** the workforce. Previous research has routinely indicated that older adults do not prepare for how they will travel once driving is no longer an option. Accordingly, retiring individuals need to be presented with factual information highlighting why and how to plan for their future transportation needs.

Information sessions could easily be conducted alongside retirement debriefings about pension payments, social security, and Medicare. Public and private agency retirement sessions would be the most ideal place for presentations. County governments, universities, and private corporations normally have annual or semi-annual meetings for retiring employees. Representatives from transit agencies may be a welcome addition to the standard retirement presentation once human resource staff has been educated about the positive benefits of informing retirees about transportation options for later in life.

Any information presented at a retirement information session should strongly encourage the following items:

- Begin to plan now for driving retirement
- Expect to outlive your driving ability
- Evaluate your future ability to pay for transportation
- Learn to use public transit while you easily can
- Determine what other transportation services are available in your area
- Think about transit and walkability when relocating
- Consider both short- and long-term mobility issues

Looking at today's seniors, it is evident that new retirees are commonly too focused on the early stages of retirement to plan for later stages of life when their physical abilities will have declined. Private active adult-only communities and tranquil exurban properties with limited or no transit access are attractive to many individuals retiring today. While these types of living arrangements may be suitable for younger retirees, they often become inappropriate for older individuals because they force residents to drive in order to live independently. Mass transit is rarely available to residents of secluded retirement communities, limiting easy access to shopping or healthcare facilities. As a result, initial retirement decisions often precipitate problems at a later stage of retirement when the elderly realize they must continue driving to maintain their lifestyle.

Presentations should focus on the issues that will eventually become very important to seniors – principally, how utilizing mass transportation in the early stages of retirement can provide increased safety and extend one's independence. Seniors should learn to ride transit while their physical and mental abilities have not deteriorated. However, currently, most seniors rely on the auto until their bodies' physical abilities have declined considerably, at which point travel via public transportation is likely to be both more difficult to learn and more intimidating. By learning to utilize alternate forms of transportation, elderly individuals will not become homebound following voluntary or involuntary driving cessation.

Most senior drivers underestimate the total expense of maintaining an automobile later in life. On average, the purchase, maintenance, interest, and gasoline costs involved with owning an automobile run into the thousands of dollars a year, and will continue to increase in the future. Auto insurance costs increase with age. What a 60-year-old driver pays for insurance is generally much less than what an 80-year-old may pay. The price of cars will continue to rise as material costs for steel and metal increase. Gasoline prices are expected to remain high, or even continue increasing. Highlighting these expected future automotive costs is an important task, because it helps inform newly retired individuals, who still drive, realize that the costs associated with driving an automobile will not stay the same.

Again noting the National Center on Senior Transportation's *Needs Assessment of Technical Assistance*, transportation providers are repeatedly asked about financial assistance for transportation needs. An astounding 78.5% of surveyed agencies noted that requests for financial help occurred 'always' or 'frequently.' While agencies may or may not have aid money directly available, they can use this opportunity to inform a caller about the financial advantages of trading one's car for mass transit. Information could be presented as simply as the cost of a bus pass versus the list of expenses for maintaining a car.

At a minimum, this recommendation should be tested for feasibility and benefits. By conducting several presentations at retirement information sessions, researchers and the transit community can determine the effectiveness of instructing future retirees how to plan for their future. A small-scale research study, with surveys completed before and after information sessions, would examine audience appreciation and usefulness. Follow-up surveys a year later could analyze whether or not the presentation actually stimulated individuals to try riding public transportation, or influenced retirement relocation decisions. The use of control groups would assist in analyzing which behavioral changes may be attributed to educational sessions.

5.2 Increase Travel Training Programs

Transit agencies and passenger feedback have both confirmed the extraordinary benefits of travel training. Agencies around the country have developed various types of travel training programs, and commonly rate it as one of the most beneficial services offered. Usually, travel training is not exclusively for the elderly. Many agencies also offer the service to people with physical or mental disabilities, teenagers, recently relocated individuals, or anyone willing to participate.

When conducting travel training for the elderly, **using other seniors as travel trainers is especially beneficial**. An older adult's demeanor is thought to be very comforting for individuals attempting to transition to public transportation. In particular, older travel trainers present the following advantages:

- Create a suitable atmosphere for talking about problems with other seniors
- Are more likely to have experienced similar mobility problems
- Can more easily converse with one another during travel training sessions
- Provide a resource for individuals who need to talk to peers about driving issues
- Are often willing to volunteer their time for free or in exchange for a bus pass
- Are more likely to travel at a similar pace to trainees
- Are unlikely to appear aggravated by a slower trainee
- Instill greater confidence in trainees' abilities to plan and travel via public transportation

An experienced public transportation rider is also likely to dispel any misperceptions about public transit. Any newcomers to public transportation may have his or her own preconceived idea about travel by bus or train. These perceptions are very likely to shape his or her decision and attitude about riding public transit – whether accurate or not. An elderly travel trainer, experienced with riding the system, can help dispel misunderstandings and have a significant impact on a trainee's future travel.

5.3 Segmented Marketing for the Elderly

Different elderly individuals have different transportation needs. Some elderly are transit dependent: some drive well, others badly; some have access to a car, others do not; etc. One marketing approach for all seniors may not be the most successful strategy.

Agencies are likely to benefit by narrowing their focus to a smaller group of customers. For example, transit agencies may want to determine an appropriate age range, income range, and possible locations where public transportation use is feasible. Marketing efforts should correspond to this analysis. Strategies should be developed for the

following subgroups: rural older drivers, suburban older drivers, and urban older drivers. Each subgroup is clearly distinctive, and marketing efforts should target these particular individuals.

In larger metropolitan areas, additional segmentation may even be performed to select the best target audience. Further segmentation may include any of the following groups:

- Lower-middle, middle, or upper-middle class
- Zero-car, one-car, two-car, or three-car households
- Households within three, six, or ten blocks of fixed route transit
- Households in urban, suburban, or rural locations
- Individuals who have frequently, seldom, or never ridden transit before
- Individuals who would describe themselves as being in good, mediocre, or poor health

After selecting a specific group of elderly persons, agencies can more appropriately market specific services for each group. Depending upon the audience, different emphasis areas include low floor buses, convenient bus stops, or friendly customer service representatives. Each advertisement should be built around the types of individuals in the population segment.

Agencies may need to utilize non-traditional communication or media channels to reach a particular group. This strategy is likely to provide benefits while saving resources. Informing the entire public about low floor buses and extendable ramps for boarding is probably not necessary. However, reaching people with disabilities and frail individuals is necessary. If a particular outlet can be found to reach these individuals, it can save an agency's time and resources when it comes to educating people who are ambivalent about the issue.

5.4 New Services to Outlying Communities

Services to small towns and villages can be particularly beneficial for seniors, especially in areas where traditional transit services are not offered. Our nation's elderly are increasingly deciding to retire in place. This decision is usually made independently of whether any transportation services exist in the area. In order to reach these individuals, agencies may need to re-examine their service area and consider bringing transportation services to outlying communities.

While suburban retirees are likely to have some access to public transportation, individuals residing in small towns of 10,000 or 20,000 may not have any form of

transportation service. If even occasional services are offered to these areas, older adults in the community may be willing to plan their errands around scheduled services. Smaller communities with high elderly populations are likely to be good candidates for weekly bus trips into larger metropolitan or micropolitan areas. In most instances only weekly services may be warranted. A small town of 10,000 residents is unlikely to support multiple daily or weekly trips, so it would be a better idea to consider introducing limited service (i.e., once or twice per week). A suggested route would run from the town center or an elderly care facility to a large, regional shopping facility.

Small towns on the fringe of major metropolitan areas may already have some sort of a service linking them to a transportation hub. Yet small towns in rural areas or those on the fringe of micropolitan areas – urban clusters with a population of at least 10,000 but less than 50,000 populations - may be more in need of transportation services. In these locations, there may be an existing transit agency, but low densities make the formation of an extensive regional network unreasonable.

Instead of such widespread services, there may be community support for some degree of limited services linking regional towns together. To begin somewhere, agencies may need to develop awareness, possibly through special event bus usage. By alerting regional retirement facilities, churches, and other organizations about arranging special event service, it may be feasible to build greater awareness of local transit agencies. Once special event usage becomes more popular, a monthly or weekly route for elderly citizens may become realistic.

Some larger transit agencies have been able to run weekly trips from retirement centers to medical or shopping facilities. In these situations, trips are sometimes contracted through a retirement care facility, or by a nonprofit organization. Agencies may also negotiate with villages, towns, or counties to develop and fund an agreed upon route. Instead of waiting for an outlying community to approach with a suggestion, transit agencies themselves can reach out to smaller surrounding communities and spur discussion about possible service ideas.

5.5 Incentives and Disincentives

Incentives or disincentives have the capability to significantly alter travel behavior. Their existence often makes the decision to ride public transportation much easier. Parking fees, travel tolls, and vehicle registration fees are all disincentives that deter one from driving and, incidentally, make public transportation more appealing. Bus-only-travel-lanes and priority signals for buses would be classified as incentives, as they allow buses to travel faster on the street network, creating more advantages for travel via bus.

A few transit agencies have developed incentives, by creating further ridership discounts for seniors as they continue to age. For example, one agency maintained a half-price fare for adults ages 60 to 70, but allowed anyone over the age of 70 to ride for free. An alternative option might allow individuals over 75 to ride for even less than half price, or allow them to ride free during non-peak hours. These types of policies are easy to adopt and create considerable motivation for elderly individuals to switch to transit or to continue riding transit as they age.

Another idea would be for agencies to re-examine the pricing of seasonal or monthly passes for the elderly. A monthly pass at a fixed amount, even at a reduced rate, may not be appropriate for many elderly. The elderly tend to travel less, and may be unable to use a monthly pass frequently enough for it to be worthwhile. Discounted 10 pass ride cards, or 20 trip ride cards, may be a better alternative for elderly who travel by transit only a few times per month. Agencies are encouraged to experiment with this incentive in order to develop even better pricing strategies for seniors.

Allowing seniors to bring a guest or travel companion onboard for free is another suggestion with significant potential. Very few agencies currently offer this type of travel policy. More often, agencies permit paratransit riders to bring a travel companion or caregiver onboard for free. It would be a much better incentive to allow additional travel companions for fixed or flexible route travel. Because fixed route transit costs a fraction of the price of paratransit, accommodating an extra rider(s) for free will still produce a net savings. Furthermore, travel companions help in making mass transit more comfortable and secure for the elderly.

Some agencies are beginning to experiment with smart cards for the elderly. Smart cards or stored value cards may be thought of as an incentive because they reduce the need to obtain a monthly pass or handle coins, and hence make the boarding process significantly easier. Smart cards have an added convenience because they can be easily recharged and may even be programmed to automatically grant free rides as reward to frequent riders. Furthermore, Smart cards reduce the need for seniors to carry cash. This adds an additional comfort factor to travel by reducing anxieties about theft while waiting for or riding transit.

5.6 Consider the Special Needs of Seniors

Although improvements to transit will attract all types of individuals, particular service enhancements will appeal more to senior drivers. When attracting senior drivers to public transportation, agencies must focus on the special needs and specific behaviors of seniors. For example, increased frequencies during midday service will have more benefit for the elderly since they tend to travel during the middle portions of the day. Proper enforcement of priority seating will also directly benefit older adults. Agencies have, and can make, specific choices to make transit enticing.

Accessibility is paramount for elderly individuals. By continuing to develop fully accessible bus stop facilities, agencies stand to attract more elderly riders. With a universally accessible transportation system in place, travel by private automobile or paratransit service may no longer be necessary. Bus stop landing pads, sidewalks, and bus shelters may need to be installed to meet ADA standards, but once improvements are in place they stand to benefit all transit riders, especially the elderly. Dry and level walking surfaces can reduce slip and fall incidents or the likelihood of someone tripping. Clean window surfaces improve visibility. Other improvements, like shade trees, lighting, and wayfinding devices will further improve the walking and waiting environment.

Because the elderly tend to have heightened apprehensions about their safety, a secure travel environment is important. Video cameras and a police presence can help convince passengers that facilities are safe and crime free. Clean vehicles and stops can also be perceived as safer environments. Driver friendliness is another policy to help make older individuals feel comfortable. A driver's familiar face and smile are often enough to make seniors riders feel at ease. Conducting training programs among employees may increase awareness. These types of improvements are likely to improve travel by transit for everyone, in addition to the elderly.

Legibility of schedules and maps are another critical component. Information available both online and on printed material must be readable for all types of people. A wide range of vision problems exist among the elderly population and, by adopting particular design techniques, these problems may be mitigated. Beyond route and timetable information, signs and advertisements should be designed with the elderly viewer in mind. At a minimum, an alternative set of printed information should be made available in larger font typeface.

Obtaining feedback from seniors, both driving and non-driving, will further help agencies adapt for the future waves of elderly. Personal interviews, focus groups, surveys, suggestions boxes - any format for getting additional information is beneficial. Incorporating feedback and maintaining dialogue between the agency and seniors can be more of a challenge. By getting residents involved in the transit planning process agencies may be more able to develop *successful* services or programs for the elderly individuals who need them.

Last, transit agencies should strongly consider working with state or local DMV offices for a way to get materials regarding transit into the hands of the elderly. Upon having their drivers' licenses terminated, seniors need special assistance adjusting. Learning about public transit or special transportation services is likely to ease the transition into driving retirement. Increased discussion with state agencies and the division of motor vehicles may ultimately lead to new programs and better collaboration between transit agencies and state governments.

6.0 SUMMARY

Attracting senior drivers to public transportation provides numerous benefits for both elderly individuals and their respective communities. Familiarizing the elderly with fixed route transit services can help alleviate the pressure placed on many elderly people to continue driving. At the same time, awareness of public transportation significantly expands opportunities for elderly people who have already retired from driving. In reality public transportation services may help the elderly achieve a higher quality of life by expanding work, recreation, shopping, and socialization opportunities. At the same time communities which work towards connecting elderly people with transit may prevent unnecessary car accidents and associated injuries.

Since there are literally dozens of strategies available, agencies must decide individually what methods to utilize for attracting senior riders. Strategies like free ride coupons, radio advertisements, and brochures are simpler tools that have the ability to increase ridership in the short term at a relatively low cost. Other strategies like travel training, new flex-routes, or partnering with senior organizations are more complex methods that involve a larger amount of time and collaborative efforts, but may provide more benefit over the long term. Similarly, yearly events to attract the elderly may initially take a great deal of commitment, but can eventually be carried out annually with little effort.

For transit agencies contemplating where to begin, improving an agency's website may be the best place to start. Today, larger numbers of elderly Americans are familiarized with how to use the Internet; shopping, researching, and corresponding with friends are now basic tasks well understood by the majority of retirees. In the near future, an even higher percentage of elderly will be familiar with computers and expect easily accessible information online. Making transit information easy to find and understand is really becoming an essential step for attracting more senior riders. Moreover, a sophisticated, attractive website helps further improve the image of public transportation.

Despite the opportunity to make significant improvements, transit agencies do not have the ability to solve all mobility related problems among the elderly. It may be frustrating when transit agencies witness mobility problems first hand, but lack the funding or power to readily implement change. Yet, by maintaining dialogue with local residents, urban planners, government officials, and other policy makers about elderly mobility, transit agencies do have tremendous influence on the subject. By alerting society about why attracting senior drivers to transit is important and of potential ways to do so, communities may be more enthusiastic about finding and funding effective solutions.

GLOSSARY

ADA Accessible Stations - Public transportation passenger facilities, which do not have physical barriers prohibiting or restricting access by individuals with disabilities. This includes individuals who use wheelchairs.

ADA Accessible Vehicles with Lifts - Public transportation revenue vehicles, which do not restrict access, that provide allocated space and/or priority seating for individuals who use wheelchairs, and which are accessible using lifts.

ADA Accessible Vehicles with Ramps/Low Floor - Public transportation revenue vehicles, which do not restrict access, that provide allocated space and/or priority seating for individuals who use wheelchairs, and which are accessible using ramps.

ADA Related Unlinked Passenger Trips (UPT) - The number of passengers who board public transportation vehicles for complementary paratransit services (demand response) associated or attributed to the Americans with Disabilities Act of 1990 (ADA) compliance requirements.

Advertising Revenues - Revenue earned from displaying advertising materials on transit agency vehicles and property.

American Association for Retired Persons (AARP) – A special interest and lobbying group for Americans 50 years of age and older that provides a wide range of benefits, products, and services for its members.

American Automobile Association (AAA) – A not-for-profit automobile lobby group which also sells membership services and vehicle insurance.

American Community Survey (ACS) – A project of the U.S. census bureau that will eventually replace the long survey form in the decennial census. ACS is an ongoing statistical survey which is capable of providing annual population estimates for all geographic areas with 65,000 people or more. For smaller areas, the census bureau expects to collect useful samples over a period of 3 years in areas with 20,000 to 65,000 people and 5 years in areas with fewer than 20,000 people.

American Public Transportation Association (APTA) – An organization advocating for the advancement of public transportation within the U.S.

Americans with Disabilities Act (ADA) - The ADA is a wide-ranging civil rights law, signed in 1990, that prohibits discrimination based on disability. It provides similar

protections as the Civil Rights Act, which protects Americans against discrimination based on race, religion, sex, and national origin.

Bus Stop Inventory (BSI) – A database of transit agency bus stops and amenities at each stop. Along with global positioning data, information is usually included detailing whether shelters, benches, sidewalks, and other infrastructure are present.

Circulator Services - Services which are similar to fixed route, but have much shorter route distances. Circulator services are sometimes referred to as service routes or community buses because they use a smaller vehicle and can navigate through smaller streets without being intrusive to the community.

Cognitive Disability - A person with a cognitive disability is likely to have significant limitations in areas of adaptive behavior: daily living skills, such as getting dressed, using the bathroom, and feeding oneself; communication skills, such as understanding what is said and being able to answer; social skills with peers, family members, spouses, adults, and others. In terms of mobility, people with cognitive disabilities may have problems safely navigating the pedestrian network and lack the memory, attention span, and route-finding ability needed to travel independently.

Cooperative Agreement - An agreement where one or more public transit agencies or governmental units contribute to, or are assessed for, the value of public transit services provided by another public transit agency. There is usually a written memorandum of understanding or mutual agreement on the calculation and payment for the services.

Daily Trips – Refers to the number of daily trips that a person makes. For older individuals, the number of daily trips is often an important measure of the quality of life. A larger number of daily trips is generally indicative of a better quality of life.

Division of Motor Vehicles (DMV) – It is a state-level government agency that administers vehicle registration and driver licensing. The term DMV is somewhat generic, since it is not used in every state.

Federal Transit Administration (FTA) - An agency within the U.S. Department of Transportation that provides technical and financial assistance to public transit systems.

Fixed Route Services – Transit services provided along fixed routes and schedules. Days of operation and service hours vary by route.

Flexible Route Services - These services provide some type of demand response pickup, but still run on a set schedule. Flexible route services commonly have the ability to deviate service to a particular location, often for people with disabilities and the

elderly. These services are usually implemented in suburban areas and rural corridors where low densities and poor street connectivity make fixed route services impractical.

Geographic Information System (GIS) – An information system for storing, analyzing, managing, and presenting data which are spatially referenced. For example, such a system may enable transit agencies to better study a geographical area with elderly residents and create viable services for the population.

Internet Survey – A survey instrument in which questions are administered completely online, and responses are stored online in electronic format. Internet surveys are usually accessed via a link in an email or by a direct website.

Low Floor Vehicle – see ADA Accessible Vehicles with Ramps / Low Floor.

Manual on Uniform Traffic Control Devices (MUTCD) - A document issued by the Federal Highway Administration (FHWA) which specifies the standards by which traffic signs, road markings, and signals are designed, installed, and used. Among other things, these specifications include the shapes, colors, and fonts used in road markings and signs.

Market Segmentation - the process of classifying the entire consumer market into subgroups that behave in similar ways or have similar needs. The segmentation process consists of identification, characterization, evaluation, and target selection. Segmentation assumes that if each segment is fairly identical in its needs and attitudes, it will respond similarly to a given marketing strategy.

Medicaid - A needs-based social welfare program for families and individuals with low incomes and resources. Each state's program is jointly funded by the state and the federal government, but Medicaid programs are managed by states. Among the groups of people served by Medicaid are eligible low-income parents, children, seniors, and people with disabilities.

Medicare - A health insurance program for millions of people ages 65 or older, people under age 65 with certain disabilities, and people of all ages with end stage renal disease. Medicare is funded by the federal government and helps cover hospital bills, medical insurance coverage, and prescription drugs. Medicare covers the cost of an emergency trip to the hospital, but does not provide non-emergency transit.

National Highway Traffic Safety Administration (NHTSA) - An agency of the U.S. Government, among other tasks, charged with writing and enforcing safety, theft-resistance, and fuel economy standards for motor vehicles. The agency also oversees the creation and maintenance of traffic safety data files maintained by the National Center for Statistics and Analysis.

Paratransit Maximum Rate - the maximum rate that can be charged for ADA paratransit services is double the regular fare price for a corresponding trip onboard fixed route services.

Paratransit Services, ADA – Complementary ADA paratransit services are for people who are unable to ride buses by virtue of a disabling condition. Severe cognitive disorders, renal failure, neurological problems, and spinal disorders are common qualifying conditions. Transit agencies are required to provide complementary curb-to-curb paratransit service for areas within 3/4 mile on either side of the fixed bus routes. Service hours are comparable to the regular fixed bus route system; if a fixed route does not operate on a certain day, then paratransit system does not need to operate on that day either.

Paratransit Services, non ADA - Services that go beyond ADA mandated paratransit requirements: things like door-to-door service or dial-a-ride service that is available 24 hours a day, even when fixed routes are not running. These services are frequently offered to all riders, not just people with disabilities.

Project ACTION - A national program that addresses transit accessibility issues through technical assistance, resource development, and training. Funded by the Federal Transit Administration (FTA) and administered through Easter Seals, Project ACTION has supported research and demonstration projects to improve access to public transportation for people with disabilities.

Real Time Information - Information generated from an automatic vehicle location (AVL) system, which is displayed to transit users, used to predict arrival and departure times of transit vehicles. Real-time information devices may be displayed at bus stops, transit terminals, or online.

Seniors – Although the age definition varies among transit agencies, the term most commonly refers to individuals 65 years of age and older.

Smart Card - Any pocket-sized card embedded with circuits capable of processing information. Smart cards can both receive input and store processed information as an output. Many transit agencies are beginning to use smart cards for monthly and seasonal passes, since funds can be added and deducted without the use of a magnetic stripe.

Snowbirds – A term used to describe retirees from the Northeast or Midwestern United States who spend a large portion of the winter months in warmer locations like California, Arizona, Florida, or elsewhere in the southern and southwest United States.

Social Marketing - A marketing approach in which the product being sold is a desired behavior and the benefits associated with that behavior. This approach attempts to motivate the most people to change their behavior with the least amount of effort. This practice differs from commercial marketing in that its focus is on improving public health and preventing harmful occurrences.

Stored Value Card – A device, similar to a debit card, in which monetary funds can be stored and accessed. The value data is stored on computers, and accessed using a magnetic stripe embedded in the card. Several U.S. transit systems use stored value cards as a method for collecting fares.

Supplemental Transportation Program (STP) – Any type of transportation service provided that is not exclusively public or private. In rural locations, nonprofit agencies such as churches or social service organizations often develop STPs since few other transportation options exist. STPs usually focus on serving the elderly and utilize a mix of revenues and volunteers to provide service.

Telecommunication Devices for the Deaf (TDD) – It is an electronic device for text communication through telephone lines. The device is used when one or more parties have hearing or speech difficulties.

Travel Alerts – Information sent out via text or email that alerts transit users of changes, delays, or emergency events pertaining to their regular method of travel.

Travel Buddy – A friend, family member, or social worker who commonly rides public transportation with an elderly individual, and often receives a free or reduced ride in exchange for doing so. Travel buddies are more frequent on paratransit, but sometimes are allowed to ride fixed route services as well.

Travel Training - Travel training is an approach commonly used to teach people with physical and mental disabilities how to travel independently using fixed route systems. Depending on circumstances, travel training programs might be offered by the agency, a service provider, or a local nonprofit.

Universal Design (UD) - Refers to facilities that have improved design for every type of individual – elderly, young, blind, deaf, etc. Universal design goes beyond the requirements imposed by the ADA in order to assure the highest levels of accessibility.

REFERENCES

1. Harris Interactive (2005). *Older American attitudes toward mobility and transportation*. Retrieved on Oct. 28, 2007, from http://www.apta.com/media/releases/documents/051206harris_interactive.pdf

2. American Public Transportation Association (2005, Dec. 7). *Most seniors worry about being stranded without transportation*. Retrieved on May 4, 2007, from http://www.apta.com/media/releases/documents/051206seniors_worry.pdf

3. Bailey, L. (2004). Aging *Americans: Stranded without options*. Washington, DC: Surface Transportation Policy Project. Retrieved Sep. 17, 2006, from www.transact.org

4. Polzin, S., and O. Page (2006, May). *Transit use viability among older drivers losing driving privileges*. National Center for Transit Research. Retrieved June 10, 2006, from http://www.nctr.usf.edu/pdf/77601color.pdf

5. American Public Transportation Association, and the Public Transportation Partnership for Tomorrow (2005). *Expanding the transportation options in an aging society*. Washington, DC: Authors. Retrieved on Oct. 11, 2007, from http://www.apta.com/research/info/online/aging_options.cfm

6. Beverly Foundation and APTA (Dec. 2007). *Public transportation programs for seniors*. Pasadena, CA: Author. Retrieved on Mar. 2, 2008, from http://www.apta.com/research/info/online/documents/report_public_transportation_programs_seniors_dec_2007.pdf

7. Burkhardt, J. E., McGavock, A. T., Nelson, C. A., and Mitchell, C. G. B. (2002). Improving transit options for older persons: Volume 2 - final report. *TCRP Report 82*. Washington, DC: Transportation Research Board, National Academy Press. Retrieved from http://www.trb.org

8. Richmond Regional Planning District Commission (2006, Feb. 2). *Public transportation for the elderly, disabled and low-income: Phase I - needs assessment report*. Richmond, VA: Richmond Area Metropolitan Planning Organization. Retrieved on Apr. 25, 2007, from http://www.richmondregional.org/Publications/Reports%20and%20Documents/Eld_Disbld_Trans_Disadv_Report_FINAL_Feb_06.pdf

9. Frey, W. H. (2003). *Boomers and seniors in the suburbs: Aging patterns in the census 2000*. Washington, DC: The Brookings Institution.

10. Longino, C. F., Jackson, D. J., Zimmerman, R. S., and Bradsher, J. E. (1991). The second move: Health and geographic mobility. *Journal of Gerontology: Social Sciences*, 46, S218-S244.

11. Longino, C. F., Jr., Perzynski, A. T., and Stoller, E. P. (2002). Pandora's briefcase: Unpacking the retirement migration decision. *Research on Aging*, 24(1), 29-49.

12. Nelson\Nygaard Consulting Associates (Oct. 2007). *National Center on Senior Transportation: Needs assessment of technical assistance*. Retrieved on Feb. 23, 2008, from http://seniortransportation.easterseals.com/site/DocServer/NCST2_needs_assement_tech_assist_COMPLETE.pdf?docID=52643

13. Schiamberg, L. B., and McKinney, K. G. (2003). Factors influencing expectations to move or age in place at retirement among 40- to 65-year-olds. *Journal of Applied Gerontology*, 22(1), 19-41.

14. Skufca, L. (Aug. 2008). *Is the cost of gas leading Americans to use alternative transportation?* American Association of Retired Persons, Washington D. C. Retrieved on Aug. 14, 2008, from http://assets.aarp.org/rgcenter/il/gas_costs.pdf

15. Robertson, S., and Aultman-Hall, L. (2001). Impact of road conditions on elderly drivers. *Journal of Transportation Engineering*, 127(3), 244-246.

16. O'Neill, D. (2000). Safe mobility for older people. *Reviews in Clinical Gerontology*, 10, 181-191. Also available at http://journals.cambridge.org

17. Zagaria, M. A. E. (2007). Vision, cognition, and mobility challenges for elderly drivers. *U.S. Pharmacist*, 1, 36-40. Also available at http://www.usphamacist.com

18. Stephens, B. W., McCarthy, D. P., Marsiske, M., Shechtman, O., Classen, S., Justiss, M., and Mann, W. C. (2005). International older driver consensus conference on assessment, remediation and counseling for transportation alternatives: Summary and recommendations. *Physical and Occupational Therapy in Geriatrics*, 23(2/3), 103-121.

19. Foley, D. J., Heimovitz, H. K., Guralnik, J. M., and Brock, D. B. (2002). Driving life expectancy of persons aged 70 years and older in the United States. *American Journal of Public Health*, 92(8), 1284-1289.

20. Adler, G., and Rottunda, S. (2006). Older adults' perspectives on driving cessation. *Journal of Aging Studies*, 20, 227-235.

21. Beverly Foundation (Jan 2007a). *Transitions to transportation options: How they affect older adults*. Pasadena, CA: Author. Retrieved on Oct. 3, 2007, from http://www.beverlyfoundation.org/senior_transportation_resource_store/pdf/research_papers_and_reports/transitions_final_report.pdf

22. Kelsey, S. L., and Janke, M. K. (2005 Mar.). *Pilot educational outreach to high-risk elderly drivers*. Sacramento, CA: California Department of Motor Vehicles. Retrieved August 10, 2007, from http://www.dmv.ca.gov/about/profile/rd/r_d_report/Section%206/213_High_RisK_Elder_Driver.pdf

23. Marottoli, R. A., Mendes de Leon, C. F., Glass, T. A., Williams, C. S., Cooney, L. M., Berkman, L. F., and Tinetti, M. E. (1997). Driving cessation and increased depressive symptoms: Prospective evidence from the New Haven EPESE. *Journal of the American Geriatrics Society*, 45(2), 202-206.

24. Ritter, A., Straight, A. and Evans, E. (2002). *Understanding senior transportation: Report and analysis of a survey of consumers age 50+*. Retrieved June 10, 2006, from www.aarp.org

25. Coughlin, J. (2001). *Transportation and older persons: Perceptions and preferences, a report on focus groups*. Retrieved June 10, 2006, from www.aarp.org

26. Koffman, D., and R. Salstrom (2001). *How best to serve seniors on existing transit services*. San Jose, CA: Mineta Transportation Institute.

27. Burkhardt, J. E. (n.d.). *Seniors benefit from transportation coordination partnerships - a toolbox: Case studies of successful coordinated transportation services for older adults*. Washington, DC: U.S. Department of Health and Human Services, Administration on Aging. Retrieved on Aug. 12, 2007, from http://www.aoa.gov/prof/transportation/media/TransportationChoicesToolbox/CaseStudyGuide.pdf

28. EG&G Dynatrend, and Crain & Associates (1995). Transit operations for individuals with disabilities. *TCRP Report 9*. Washington, DC: Transportation Research Board, National Academy Press. Retrieved from http://www.trb.org

29. Suen, S. L., and Sen, L. (2004). Mobility options for seniors. In Transportation in an aging society. *Conference proceedings 27*, (97-113). Washington, DC: Transportation Research Board. Retrieved June 17, 2006 from: http://onlinepubs.trb.org/onlinepubs/conf/reports/cp_27.pdf

30. Koffman, D. (2004). Operational experiences with flexible transit services: A synthesis of transit practice. *TCRP Synthesis 53*. Washington, DC: Transportation Research Board, National Academy Press. Retrieved from http://www.trb.org

31. Higgins, L. L., and Cherrington, L. K. (2005). *Experience the flex route transit service in Texas*. College Station, TX: Southwest Region University Transportation Center. Retrieved on Sept. 26, 2007, from http://swutc.tamu.edu/publications/technicalreports/167148-1.pdf

32. Glasgow, N. (2000). Older Americans' patterns of driving and using other transportation. *Rural America*, 15(3), 26-31.

33. The Beverly Foundation (2005). *Transportation alternatives for seniors: High cost problems and low cost solutions*. Pasadena, CA: Author. Retrieved on Oct. 9, 2007, from http://www.beverlyfoundation.org/resourcestore/white_papers/transportation_options_for_seniors.pdf

34. Heckman, T., and Duke, L. F. (1997). *Driving decisions for seniors: A practical model of elders assisting one another to manage their own mobility choices*. Warren, MI: General Motors Corporation Research and Development Center.

35. dell'Olio, L., Moura, J. L., and Ibeas, A. (2007). Bus transit accessibility for people with reduced mobility: The case of Oviedo, Spain. Institute of Transportation Engineers. *ITE Journal*, 77(1), 28-37.

36. Eberhard, J. W., Stutts, J., Burkhardt, J., Finn, J., Hunt, L., Staplin, L., Molnar, L. J., Peters-Beumer, L., Dinh-Zarr, T. B., Carr., D. B., Trilling, D. R., and McCarthy, D. P. (2006). Strategies and tools to enable safe mobility for older adults. *Topics in Geriatric Rehabilitation*, 22(1), 3-17.

37. The Beverly Foundation (2002). *The 5 A's of senior friendly transportation*. Pasadena, CA: Author. Retrieved on Mar. 3, 2007, from http://www.beverlyfoundation.org/resourcestore/pdf/snapshots/the_5as_of_senior_friendly_transportation.pdf

38. National Highway Traffic Safety Administration (2005). *Traffic safety facts: pedestrians*. Washington DC: Author. Retrieved Nov. 11, 2007 from http://www.nhtsa.gov/

39. Stollof, E. R., McGee, H., and Eccles, K. A. (2007). *Pedestrian signal safety for older persons*. Washington, DC: AAA Foundation for Traffic Safety. Retrieved Sep. 26, 2007, from http://www.aaafoundation.org/pdf/PEDsigtiming.pdf

40. Smith, D., and Clark, S. (2004). *Accessible pedestrian signals: Making your community safer and more accessible for everyone*. Washington, DC: Easter Seals Project ACTION. Retrieved on Oct. 3, 2007, from http://projectaction.easterseals.com/site/DocServer/04APS.pdf?docID=7543

41. Giuliano, G. (2004). Land use and travel patterns among the elderly. In Transportation in an aging society. *Conference proceedings 27*, (pp. 192-210). Washington, DC: Transportation Research Board. Retrieved June 17, 2006 from: http://onlinepubs.trb.org/onlinepubs/conf/reports/cp_27.pdf

42. Longino, C. F., Jr. (1995). Retirement Migration in America. Houston, TX: Vacation.

43. Project for Public Spaces, Inc., & Multisystems, Inc. (1999). The role of transit amenities and vehicle characteristics in building transit ridership: Amenities for transit handbook and the transit design game workbook. *TCRP Report 46*. Washington, DC: Transportation Research Board, National Academy Press. Retrieved from http://www.trb.org

44. Nelson Nygaard Consulting Associates (2006). *Toolkit for the assessment of bus stop accessibility and safety*. Washington, DC: Easter Seals Project ACTION. Retrieved on Sep. 3, 2007, from http://projectaction.easterseals.com/site/DocServer/06BSTK_Complete_Toolkit.pdf?docID=21443

45. Hardin, J. (n.d.). *Community and public transportation: Viable transportation options for older persons*. Community Transportation Association of America. Retrieved on Mar. 29, 2007, from http://mit.edu/agelab/news_events/pdfs/Hardin.pdf

46. Burkhardt, J. E. (2003). Benefits of transportation services to health programs. *Community Transportation Magazine*, 26-38.

47. Boyd, M. A., M.P. Maier, and P.J. Kenney (1996, June). *Perspectives on Transit Security in the 1990s: Strategies for Success*. Retrieved from http://transit-safety.volpe.dot.gov/publications/security/FTA-MA-90-7006-96-1/HTML/FTA-MA-90-7006-96-1.htm

48. Anastasia Loukaitou-Sideris (1999). Hot Spots of Bus Stop Crime. *Journal of the American Planning Association, 65*(4), 395-411.

49. Voorhees, P. J., and Lister, C. (2006). Street crossing issues for persons with cognitive disabilities: Unchartered waters. *TRB 2006 Annual Meeting CD-ROM*. Washington, DC: Transportation Research Board.

50. Hunter-Zaworski, K., and Hron, M. L. (1999). Bus accessibility for people with cognitive disabilities. *Transportation Research Record, 1671*, 34-39.

51. Audirac, I. (2006). Accessing Transit as Universal Design. *American Public Transportation Association National Conference*. Session: Community and Urban

Design, Universal Access for All to Transit Facilities Wednesday, Oct. 11, 2006, San Jose, CA.

52. Bonsall, P. (2005). Stimulating modal shift. In K.J. Button and D.A. Hensher (Eds.), *Handbook of transport strategy, policy and institutions*. (pp. 613-634). Oxford, UK: Elsevier Ltd.

53. Giuliano, G., and Hayden, S. (2005). Marketing public transport. In K.J. Button and D.A. Hensher (Eds.), *Handbook of transport strategy, policy and institutions*. (pp. 635-649). Oxford, UK: Elsevier Ltd.

54. Multisystems, Mundle and Associates and Simon Research and Associates (2003). Fare policies, structures and technologies: Update. *TCRP Report 94*. Washington, DC: Transportation Research Board, National Academy Press. Retrieved from http://www.trb.org

55. Kotler, P., Roberto, N., and Lee, N. (2002). *Social marketing: Improving the quality of life*. Thousand Oaks, CA: Sage Publications.

56. Stopher, P. R. (2005). Voluntary travel behavior change. In K.J. Button and D.A. Hensher (Eds.), *Handbook of transport strategy, policy and institutions*. (pp. 561-579). Oxford, UK: Elsevier Ltd.

57. Moschis, G. P. (1992). *Marketing to older consumers: A handbook of information for strategy development*. Westport, CT: Greenwood Publishing Group, Inc.

58. ICF Consulting (2006 January). *Estimating the impacts of the aging population on transit ridership*. Retrieved Sep. 17, 2006 from http://www.trb.org

59. Public Transportation Partnership for Tomorrow (2005). *Easy rider program guide for public transportation organizations: A practical guide for making transit services more responsive to the needs of America's aging population*. Washington, DC: American Public Transportation Association. Retrieved on Aug. 20, 2007, from http://www.apta.com/easyrider/programguide.html

60. Fox, S., and Madden, M. (2005, Dec.). Data Memo: Generations Online. Retrieved Feb. 18, 2008, from http://www.pewinternet.org/pdfs/PIP_Generations_Memo.pdf

APPENDIX A: Identification of Data Sources

1. American Public Transportation Association (APTA) – *www.apta.com*

The APTA serves primarily as an information and resource center for transit agencies. The agency compiles relevant policy and transportation data and occasionally sponsors studies on pertinent transit issues.

Transit Fare Database

The database contains an annual report of the major elements of fare structures by mode for approximately 250 or more U.S. transit agencies and 15 Canadian transit agencies. The report includes fixed-route adult base fares, surcharges, common fare payment options, special categorized passenger fares, and demand response (or paratransit) passenger fares. Published annually in October, the database is available on CD-ROM and includes files in Microsoft Excel, Access, and Word.

Transit Ridership Report

This quarterly report of transit passenger ridership compared 250 or more U.S. transit agencies and 15 Canadian transit agencies. The report includes ridership data comparisons between the current quarter and the same quarter in the previous year, current year-to-date to previous year, and month-to-month in the current and previous year. National estimates of unlinked transit passenger trips are also included.

Counting Transit So Transit Counts

This 60+ page, 2004 report, written by Trans Management, shows how U.S. census data and other sources of information systematically under-report public transportation usage and suggests ways that data collection methodologies can be improved to more accurately reflect actual levels of transit use.

Easy Rider Guide

As the number of older Americans continues to grow, our transportation network must find new ways to meet the needs of citizens who are either unwilling or unable to drive. This population represents an important and growing new market for transit agencies and one that is currently under-served. Across the nation, public transportation systems are working to broaden and improve services for seniors. Through reduced fares, employee awareness training, buddy travel programs and individualized assistance, transit agencies are meeting the growing needs of America's senior population in innovative, cost-efficient ways. Public Transportation Partnership for Tomorrow created the Easy Rider Guide to generate new ideas and initiatives in communities throughout the country (2005).

Aging Americans: Stranded Without Options
Commissioned by the Surface Transportation Policy Project (STPP) and jointly sponsored by APTA and AARP, this 2004 report reveals that the demographics of the United States will change dramatically during the next 25 years as more baby boomers reach their 60s, 70s, and beyond. As people grow older, they often become less willing or able to drive, making it necessary to depend on alternative methods of transportation. Unfortunately, the United States is currently ill-prepared to provide adequate transportation choices for our rapidly aging population. How the nation responds to this issue will have significant social and economic ramifications. This report presents new findings based on the National Household Transportation Survey of 2001 and places them in the context of other research on mobility in the aging population.

Expanding the Transportation Options in an Aging Society
This concise article, written in conjunction with the Public Transportation Partnership for Tomorrow, explains how some of the nation's transit agencies are adopting new strategies to increase senior ridership. Agencies are organizing educational and training efforts about public transportation to help senior citizens reduce safety risks, expand mobility, lessen isolation, increase independence, and improve the overall quality of life.

A Profile of Public Transportation Passenger Demographics and Travel Characteristics Reported in On-Board Surveys
Data from 150 onboard vehicle passenger surveys conducted by public transportation agencies from 2000 through 2005 were compiled. This is the largest onboard survey study ever to cover the public transportation industry. These surveys summarized the results of questionnaires completed by over 496,000 public transit riders sampled by transit systems that carry 60% of all transit trips in the United States. They describe the demographics and travel behavior of public transit trips and the people who take those trips, sampled by onboard surveys; they do not describe the average person who may use public transportation. Each time a person makes a transit trip while his or her system is conducting a survey, that person has a statistical probability of being sampled. The data are, therefore, implicitly "weighted" by frequency of riding. A person who rides transit more often has a higher likelihood of being sampled, or being sampled more often, than a person who rides fewer times (Abstract excerpted from report summary).

2. National Transit Database (NTD) - *http://www.ntdprogram.gov/ntdprogram/*
The NTD contains data from 1997 to 2005 for hundreds of transit agencies. Agencies report data for several categories including available services, financial information, modal characteristics, and performance measures. With the exception of the transit station file, little data is directly related to the elderly.

Passenger Stations Data File
After downloading the complete set of NTD Data Tables, the Passenger Stations file may be accessed. This file contains information about each transit agency, the number of transit stations/centers that are ADA accessible, the number of stations/centers that are non-ADA accessible, elevator counts, and escalator counts. Totals are available for each different mode of travel - heavy rail, light rail, ferry boat, motorbus, etc.

3. Federal Transit Administration (FTA) – http://www.fta.dot.gov/

The FTA is responsible for providing assistance to America's transit agencies. Routine information on policies, transit vehicles, procurement, and grants are available through the site. The agency also ensures compliance with federal laws. Most transit agencies are likely to already be familiar with this site because it serves as the initial support location for any questions regarding the provision of transit services.

FTA's Annual Safety Management Information System Report
The FTA's Annual Safety Management Information System Report compiles and analyzes transit safety and security statistics reported through FTA's National Transit Database. Safety data include collisions and non-collisions (derailments, personal casualties, and fire). The security data are based on the FBI's Uniform Crime Reporting System and include violent crime, property crime, and other offenses. Additional data collection includes highway-rail grade crossing accidents.

The Coordinating Council on Access and Mobility
Established in 1986 by the U.S. Department of Health and Human Services and the U.S. Department of Transportation, the Council promotes quality transportation services by encouraging the coordination of the program efforts of government and nonprofit human service agencies with public transit and paratransit providers. The Council brings together Federal agencies that fund or purchase transportation services to improve the availability and quality of community transportation services.

Bus Signage for Persons with Visual Impairments
This is a Best Practices Paper addressing the ADA specifications for destination signs with LED displays.

ITS Applications for Coordinating and Improving Human Services Transportation
This report covers the use of ITS technologies to improve transportation for older adults, people with disabilities, and people with lower incomes. The report profiles six diverse transportation organizations that have successfully deployed ITS technologies to improve mobility for the transportation disadvantaged. Different approaches used to implement ITS applications are discussed and the lessons learned at each agency are highlighted.

Statistical summaries for years 1999-2006
Statistical Summaries provide information about the Federal Transit Administration's (FTA) major financial aid programs during a given Federal Fiscal Year (FY) for various programs. The information pertaining to the special needs of elderly individuals and individuals with disabilities may be of particular interest. Similarly, information from the New Freedom program may be of value because it relates to improvements above ADA standards.

Preserving Opportunities: Saving Affordable Homes Near Transit
This report favors preserving affordable housing near transit as a way to preserve opportunities for low-income families and seniors to access jobs and services. Federally assisted affordable housing located in close proximity to existing or proposed public transportation is analyzed in 8 U.S. cities. The report notes how it is more energy efficient to preserve existing housing around transit rich areas than it is to build new affordable housing where there is not an existing transportation infrastructure.

4. American Community Survey (ACS) - http://www.census.gov/acs/www/

The American Community Survey (ACS) lets communities see how they are changing - filling in the gaps between each 10-year census. Data Tables include estimates of demographic, social, and economic characteristics of people, households, and housing units (both occupied and vacant) for every state in the nation, Puerto Rico, and most areas with a population of 65,000 or more. The survey is sent to a small percentage of the U.S. population on a rotating basis. With sampling, demographic information in larger areas can be updated every year. Areas with less than 65,000 people are updated on a less frequent basis because it takes a longer time to survey the necessary amount of individuals in these areas.

Data Tables
The General Demographic data tables provide demographic information on areas' residents. Population totals are broken down by sex, age, race, relationships, household type, housing occupancy, and housing tenure. Other potentially valuable information is found in the Social, Economic, and Housing characteristic data tables. Data tables are commonly available for larger sized cities, counties, and MSAs. Currently, data from 1999-2006 are online.

5. U.S. Census Bureau – www.census.gov

Datasets containing population, age, and transportation information are likely to be of interest concerning the investigation of elderly drivers. Browsing through 1990 and 2000 data is relatively easy when using the American FactFinder. The Tables Resource organizes requested data in tables that can be easily copied into MS Excel.

Population and Household Economic Topics

The U.S. Census really holds the bulk of information related to elderly individuals and transportation. Most of the pertinent demographic data are contained in the population and household economic topics section; data can be classified geographically by state, county, city, block group, and census block. Here, one can access large amounts of data already broken down by a particular subject. Two helpful sections for our research would include Age and Journey to Work.

Age Data

Data on age is of particular value for establishing the geographical distribution of seniors. Census information in this section is available at the national, state, county, and other geographical levels. Also available are international data, baby boomer data, 55+ data, and 65+ data. For each of these subheadings, census data are available, along with estimates and projections. Also included are some analytical government reports written with census data. Because the census is conducted only every 10 years, there are large time gaps between most datasets. Many of the documents are outdated.

Journey to Work

The Journey to Work and Place of Work section contains present and historical data related to county-to-county flow files, travel times to work, and means of transportation to work. Some of these data may not be incredibly helpful because they do not categorize workers by age. Furthermore, few elderly adults work, and therefore they would not be incorporated into this dataset.

Census 2000 Summary File 3 (SF 3) - Sample Data

Summary File 3 presents detailed population and housing data (such as place of birth, education, employment status, income, value of housing unit, year structure built) collected from a 1-in-6 sample and weighted to represent the total population. Such variables are available as sex by age and sex by age by type of disability for the civilian non-institutionalized population 55+, home ownership by age of household and home ownership by household type by age of householder. Additionally, data can be tabulated for small geographic areas including zip code, census tract, and block group. Data tables generated here can be easily copied into Microsoft Excel and may be further analyzed or used in conjunction with other data.

6. Easter Seals Project ACTION - *http://projectaction.easterseals.com*

Project ACTION (Accessible Community Transportation In Our Nation) is focused on helping the more than 54 million Americans with disabilities work, play, and remain actively involved in their communities. Particular efforts are spent helping businesses, governments, and people with disabilities fully understand the implications of the Americans with Disabilities Act.

Project ACTION Clearinghouse Store
The clearinghouse offers over 90 free print, video, and audio resources on a variety of topics: ADA complementary paratransit, ADA rights and responsibilities, bus stops, coordination, funding for accessible transportation services, mobility aids, motor coach services, operator training, pedestrian environment, rural transportation, service animals, taxi services, and travel training. All products are available free of charge; most can be easily downloaded in PDF files. Products are aimed at detailing the best practices for expanding handicapped persons' mobility.

7. National Household Travel Survey (NHTS) - *http://nhts.ornl.gov/index.shtml*
Although sponsored by the Federal Highway Administration (FHWA) and the Bureau of Transportation Statistics (BTS), the NHTS is actually housed in its own website. The NHTS focuses on Americans' local and long distance travel behavior. Surveys contain information about work, social, and recreational travel, as well as mode choice. The website contains data from every survey conducted, which include the years 1969, 1977, 1983, 1990, 1995, and 2001. Data tables in MS Excel are downloadable for the years 1990, 1995, and 2001, while data from the earlier surveys can be downloaded in SAS format. An online analysis tool is available to help obtain and sort out needed data. Additionally, over 50 publications are posted to the website, many of which analyze and compare survey data.

8. MIT Age Lab - *http://web.mit.edu/agelab/index.shtml*
The MIT Age Lab comprises over 30 researchers, many of whom focus on the following issues related to driving and mobility: decisions about driving, older drivers and new in-vehicle technologies, health concerns and the older driver, politics and policy of older drivers licensing and retesting, and transportation alternatives to the car. Other research is conducted on topics such as independent living and caregiving and business strategy innovations for the elderly. Although little data and information are available on the website itself, the publications page lists over 45 relevant reports - most must be obtained through journals. However, some are available through links to PDF files.

9. CDC's National Center for Injury Prevention and Control – *www.cdc.gov*
The injury center of the CDC has information on older adult drivers, in addition to dozens of other commonly preventable societal injuries.

Web-based Injury Statistics Query and Reporting System
The WISQARS tool is an excellent database system that provides customized reports of injury related data. Using this tool, one can query data for particular types of deaths or injuries by state, age, race, and year. With WISQARS, it would be easy to look for something such as the number of pedestrian deaths for adults ages 68-71 in the state of Tennessee for the years 2002-2004. This database tool is extremely helpful for calculating specific transportation information for a select region or age group.

10. AAA Foundation for Traffic Safety - *www.seniordrivers.org*

The American Automobile Association FTS is mainly focused on safe driving for older adults, but does provide information relating to the transition into utilizing another mode of transportation. Additionally, understanding elderly driving behavior is essential for crafting any marketing strategy attempting to lure these drivers to public transit.

How to Help an Older Driver: A Guide for Planning Safe Transportation

This 34-page guide explains steps for monitoring older drivers and eventually helps them transition into driving retirement. The guide contains factual health-related aging information, but manages to easily explain complicated information easily. Some topics covered include medications affecting driving, assessing an older driver's skills, helping maintain an older driver's health, and overcoming resistance to driving cessation.

Drivers 55 Plus: Check Your Own Performance

A short two-page quiz allows older drivers to self assess their driving abilities. Factual information is included following the quiz that explains the tested indicators and how they can impact one's driving.

Senior Licensing Laws

This document compiles a 50-state listing of current licensing laws for older Americans. The file details the cycle length, accelerated options, and other age related provisions concerning the renewal of driver's licenses. The file was last updated on June 27, 2007.

Roadwise Review: A Tool to Help Seniors Drive Safely Longer

This program is a scientifically validated screening tool that allows older drivers to test the most important driving abilities at home. Among other things, flexibility, mobility, memory, and field of view are assessed. The CD-ROM is available to members of AAA through local clubs.

AAAFTS Ongoing Projects

This portion of the AAA's site contains information on currently ongoing projects. Abundant research is continually being conducted on topics specific to the elderly and mobility. Research projects that are likely to contain useful data of particular interest include 1) Medication use and motor vehicle collisions among older drivers, 2) Getting around: Alternatives for seniors who no longer drive, 3) Enhancing senior's driving performance, and 4) Medical fitness to drive and a voluntary state reporting law.

11. Administration on Aging (AOA) - *http://www.aoa.gov/*

The Administration on Aging provides a comprehensive overview on a wide variety of topics, programs and services related to older individuals. The AOA, which falls within the Department of Health and Human Services, works to promote awareness of aging concerns among other federal agencies. In particular, the AOA offers access to timely reports and data files, many of which were compiled by other federal agencies.

Statistics on the Aging Population

This section of the AOA website contains numerous statistical reports and data concerning race, disabilities, housing, poverty, and health from both the 1990 and 2000 censuses. Other documents show interim state population projections and various elderly-specific populations projections to the years 2030 and 2050. Data are available in both PDF and MS Excel formats.

A Profile of Older Americans: 2006 Administration on Aging

This document, produced yearly, is a compilation of facts and figures pertaining to the population of older Americans in the U.S. The report, which is a subsection of the statistics section, is divided into the following sections: the older population, future growth, marital status, living arrangements, racial and ethnic composition, geographic distribution, income, poverty, housing , employment, education, health and health care, health insurance coverage, disability and activity limitations, special topic: health literacy, caregiving, and notes. Of significant value are the data tables, charts, graphs, and easy to understand maps that are available in MS Excel format.

12. American Association for Retired Persons (AARP) - *http://www.aarp.org*

AARP is a membership organization for people age 50 and over, dedicated to enhancing quality of life as adults continue to age. AARP operates as a nonprofit advocate for its members and is one of the most powerful lobbying groups in the United States, with over 38 million members. AARP has the resources to fund its own research, and usually makes all information available from its website. Some very helpful information on driver safety is provided within the family, home, and legal section.

Topics in housing, mobility and care options – Transportation section

http://www.aarp.org/research/housing-mobility/transportation

This section of the AARP website contains links to over 20 reports examining transportation aspects of older adults. Some studies are regionally specific, but others contain the results of comprehensive national studies or surveys.

AgeLine Database
http://www.aarp.org/research/ageline/statistical_aging.html
AARP provides a connection to AgeLine, a database containing hundreds of journal articles related to the elderly, many of which may relate to particular mobility concerns. The database provides abstracts and either links to actual articles or a purchase option.

Enhancing Mobility Options for Older Americans: A Five Year National Action Agenda
http://aarpvolunteers.com/dsp/Mobility_Options.pdf
The document is a result of the June 2004 Mobility Forum, a summit of the nation's experts on elderly transportation focused on addressing mobility challenges with appropriate solutions. The report details the five significant challenges and recommends strategies for addressing each concern as it relates to the elderly. A wide range of innovations for improving older Americans' mobility are discussed, many of which contain quantitative information about improvements in mobility or safety.

The Impact of Federal Programs on Transportation for Older Adults
http://assets.aarp.org/rgcenter/post-import/2004_17_transport.pdf
This report gives comprehensive reviews of federal transportation programs and policies that have a major component impacting the mobility of older persons. The report also addresses programs limitations, options for enhancing them and filling gaps, and their ability to meet future needs.

13. Bureau of Transportation Statistics (BTS) - *http://www.bts.gov*

The BTS administers data collection, analysis, and reporting to ensure the cost-effective use of transportation-monitoring resources. The BTS covers all modes of transportation and establishes data standards to improve close important data gaps. In 2005, the BTS became a part of the Research and Innovative Technology Administration (RITA), which coordinates USDOT's research programs among the smaller sub-agencies. In addition to publishing the transportation annual statistics report, the BTS has links to safety, demographic, and modal related transportation data, many sources of which are external.

Safe Mobility in an Aging World
http://www.volpe.dot.gov/hf/docs/trbage.pdf
This paper looks at issues related to individual aging, the growing elderly population, and private motor vehicle operation. The issue is examined internationally among developed countries.

14. Government Accountability Office - http://www.gao.gov

The Government Accountability Office (GAO) acts as an independent, nonpartisan watchdog agency that studies the programs and expenditures of the federal government. The GAO issues legal opinions and recommends actions to make government agencies more effective and responsive. Hundreds of reports are classified by agency and date, many of which specifically examine elderly and/or transportation related issues.

Transportation-Disadvantaged Seniors: Efforts to Enhance Senior Mobility Could Benefit from Additional Guidance and Information – August 2004 report
http://www.gao.gov/new.items/d04971.pdf
This report examines the 15 key federal programs that address elderly mobility issues in regards to program extensiveness, program practices, and cost-effectiveness. Findings show that current federal programs help to create senior friendly transportation services, mainly by making them more available, accessible, and affordable, but agencies generally do not collect data; therefore, limited progress can be tracked. The report also identifies three major obstacles to further addressing mobility needs: seniors are not sufficiently encouraged to plan for driving alternatives; government policies do not always address seniors' varied needs; and funding constraints limit local agencies' ability to address needs. Each of these obstacles is addressed with strategies for improvement.

Older Driver Safety: Knowledge Sharing Should Help States Prepare for Increase in Older Driver Population – April 2007 report
http://www.gao.gov/new.items/d07413.pdf
This report closely examines the benefits and drawbacks of driver licensing renewal procedures around the country. Comprehensive and fitness assessments for older drivers are also discussed.

15. Insurance Institute for Highway Safety - www.iihs.org

The Insurance Institute for Highway Safety (IIHS) is an independent, educational organization dedicated to reducing the losses — deaths, injuries, and property damage — caused by crashes on the nation's highways. The IIHS and The Highway Loss Data Institute, which publish insurance loss statistics by auto make and model, are entirely supported by auto insurers. In the research and stats section, numerous crash-related reports and fact sheets are categorized under 26 topics including bicycles, older people, pedestrians, roundabouts, and urban crashes.

Fatality Facts 2005 Older People
http://www.iihs.org/research/fatality_facts_2005/olderpeople.html
This report contains various facts regarding the elderly driving population, mileage rates, crash types, and alcohol involvement. The document examines totals and rates changes over time. Data are presented in easily read tables and charts

Older Drivers Status Report: Older Drivers Up Close -They Aren't Dangerous Except Maybe to Themselves
http://www.iihs.org/sr/pdfs/sr3608.pdf
This report examines how older drivers do not necessarily crash more, but are more likely to die from crash-sustained injuries. The report highlights some interesting facts. Most at risk are healthy and wealthier elders because they drive much more often. Future vehicle design features could eventually improve older drivers' safety.

US Driver Licensing Procedures for Older Drivers - July 2007
http://www.iihs.org/laws/OlderDrivers.aspx
This report lists driver license renewal procedures for older drivers in all U.S. states and Washington, DC. Information is listed in a tabular format.

16. National Center for Health Statistics - *www.cdc.gov/nchs*

Housed within the Centers for Disease Control (CDC), NCHS is the nation's principal health statistics agency. NCHS compiles statistical information on subjects such as aging, deaths, disease, and injuries in order to guide health actions and policies. By monitoring the health of older Americans, the NCHS aims to increase the number of older adults who live longer, high-quality, productive, and independent lives.

Prevalence of Functional Limitations Among Adults 60 Years of Age and Over: United States, 1999–2002
http://www.cdc.gov/nchs/data/ad/ad375.pdf
This document provides an assessment of the functional problems of older Americans. Information on functional abilities can play an important role in assessing the feasibility of mobility options. Data tables at the end of the report show the percentages of elderly adults who have problems performing certain functional activities.

Examination Surveys, Promising Approaches for Enhancing Elderly Mobility (Alternative Transportation Section)
http://deepblue.lib.umich.edu/bitstream/2027.42/1536/4/97337.pdf
Most of this document focuses more on keeping the elderly behind the wheel, but, towards the end of the report, a short section does exist on how alternative transportation can enhance elderly mobility.

17. National Highway Traffic Safety Admin. (NHTSA) - *www.nhtsa.gov*

The NHTSA is an organization with a mission to save lives, prevent injuries, and reduce vehicle related crashes. Within the traffic safety section, the older drivers' portion contains reports and data examining health-related issues and driving, along with other vehicle, traffic, and pedestrian related issues.

How to Understand and Influence Older Drivers
http://www.nhtsa.dot.gov/people/injury/olddrive/UnderstandOlderDrivers/
This report serves as a tool for teaching seniors how to drive safest. The document discusses how best to talk with seniors about driving safely and recommends that seniors and family members develop a mobility action plan.

Community Mobility and Dementia: A Review of the Literature
http://www.nhtsa.dot.gov/people/injury/olddrive/CommMobilityDementia/
The document looks at ways to meet community mobility needs for a population whose driving is no longer safe. A literature review examines available information on community mobility, dementia, and driving cessation. One principle conclusion is the promotion of cessation counseling.

Traffic Safety Facts 2005 Data - Older Population
http://www-nrd.nhtsa.dot.gov/Pubs/810622.PDF
This brief publication on the analysis of older drivers provides the following information: motor vehicle traffic fatality rates by age group, alcohol related crash data by age group, driver involvement rates in fatal crashes by age and sex, and driver involvement in fatal traffic crashes by state and age group.

Comparison Analysis of Fatality Trend by Age Group – 1996 to 2005
http://www-nrd.nhtsa.dot.gov/Pubs/810759.PDF
This provides fatality trend data by age.

Drivers 65 and Older Have Lower Involvement Rates in Fatal Crashes
http://www-nrd.nhtsa.dot.gov/Pubs/810779.PDF
This provides some evidence that driver safety among individuals 65 years and older is improving.

18. National Transportation Library (NTL) - *http://ntl.bts.gov/*

NTL's mission is to increase timely access to the information that supports transportation policy, research, operations, and technology transfer activities. The National Transportation Library is now part of Research and Innovative Technology Administration (RITA), and is administered by the BTS. Although little internal information exists, NTL's integrated search tool provides links to relevant reports and journal articles written by the world's leading researchers.

19. The Federal Interagency Forum on Aging Related Statistics - *www.agingstats.gov*

This forum was established to bring together federal agencies that share common goals in improving aging-related data. Agency goals include encouraging cooperation and data sharing, stimulating new database development, identifying data inconsistencies, and improving data quality.

Older Americans Update 2006: Key Indicators of Well-being
http://www.agingstats.gov/agingstatsdotnet/Main_Site/Data/Data_2006.aspx
This document is frequently updated to include analysis and data tables covering 37 key indicators that reveal insight into the lives of older Americans and their families. Within the economics section there is information on poverty, income, sources of income, net worth, housing expenditures, etc. The health care section has information on the use of services, expenditures, prescription drugs, insurance, and the use of living assistance. More general information regarding life expectancy, mortality, and disabilities are also available.

Data Sources on Older Americans 2006
www.agingstats.gov/agingstatsdotnet/Main_Site/Data/2006_Documents/DS_OA_2006.pdf
This 120+ page document highlights the contents of government-sponsored surveys about the older population. Dozens of federal agencies contribute to this report and most note their statistical information available to various agencies. The majority of information is not directly related to driving or public transportation.

20. U.S. Department of Transportation (USDOT) - *www.dot.gov*

The USDOT website does not house much of its own data, but instead provides links to each of its 13 bureaus. Access to some recent reports is provided, but most information pertains to current programs and grant opportunities. It is actually easier to access some information by going directly to individual bureaus websites such as the NHTSA or the Federal Transit Administration (FTA).

Better Options for Older Adults
http://www.tfhrc.gov/pubrds/07mar/03.htm
This short article discusses how local planners are establishing supplemental transportation programs nationwide to help meet the needs of an increasing senior population.

Florida's Volunteers: The Driving Force for Senior Mobility; Identifying Barriers and Enabling Change – unitedweride.gov
www.unitedweride.gov/Volunteer_Drivers_for_Senior_Transportation_12-2006.pdf
Volunteers are a large, but rarely tapped resource to aid in senior mobility. Community-based transportation programs are not a new idea - many have been around since the early 1980s. While each program operates in a different manner, they all focus on the five A's of senior-friendly transportation: availability, accessibility, acceptability, affordability, and adaptability.

Making Streets Safer for Seniors on Foot
http://safety.fhwa.dot.gov/ped_bike/docs/streets.pdf
This brief article mentions common dangers for elderly pedestrians and suggests easy strategies to improve safety.

Ice, Snow and Slippery Sidewalks: For Many Seniors, Winter is "Hip Season" – FHWA
http://safety.fhwa.dot.gov/ped_bike/docs/ice.pdf
This short article discusses instances in which seniors had difficulties with their mobility and accessing public transportation during the winter, particularly after ice and snow.

Most Seniors Worry About Being Stranded Without Transportation
http://www.unitedweride.gov/1_936_ENG_HTML.htm
A 2005 national survey shows that transportation options are needed for the elderly. More than 85% of Americans age 65+ are concerned with about their mobility. Also, 98% reported that they want to maintain their independence as they continue to age. America's elderly believe that staying mobile is essential and should be planned the same way financial and medical security is planned.

How Best to Serve Seniors on Existing Transit Services
http://transweb.sjsu.edu/mtiportal/research/publications/documents/01-04.pdf
The study takes a different approach to improving transportation services for seniors; it encourages expanding the mobility needs of the senior population change, but only through *existing* transit resources. The methodology here uses customer satisfaction surveys to analyze the most desired improvements to existing services.

Office of Mobility Innovation
U.S. Department of Transportation
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Washington, DC 20590

www.fta.dot.gov/research

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