

Are Travel Patterns of Older Drivers Changing?

By

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ABSTRACT

The Baby Boomer generation is approaching the traditional age of retirement in numbers that have not been seen in this country. Older Americans are working later in their lives and are living retirements that are more active than their parents. Traditionally, older drivers have self-regulated to driving in off-peak hours, therefore limiting their interaction with the toughest driving conditions. Today's older population seeks a more active lifestyle that may include less self-regulation of the driving task. These facts make it necessary to ask if past assumptions of the driving habits of older drivers are appropriate for today's older drivers. Transportation professionals are interested in this research because of the need to predict the safety and demand impacts of today's older drivers on the transportation network. Similarly, public-health and policymakers relate the overall well being of people to their mobility and seek to understand the driving patterns of older drivers. Data and analysis from the following surveys were used for the study: Nationwide Personal Transportation Survey (NPTS) conducted in 1969, 1977, 1983, 1990, and 1995; the American Travel Survey (ATS) conducted in 1977 and 1995; the National Household Travel Survey (NHTS) of 1990, 1995, and 2001. These surveys provide a large sample of older drivers' habits from all parts of the country and will give the study a 15-year perspective to observe if drivers are actually changing their habits. Overall, the ATUS and NHTS data will allow the examination of differences in the time-of-day of driving across population groups, geographic locations, and periods throughout the year.

Introduction

The population of the United States is growing older and living longer. Since 1990, the median age of individuals living in the United States has risen from 32.9 in 1990 to 36.4 in 2005 (American Community Survey, 2005). While many older Americans are living healthy and active lifestyles well after the traditional age of retirement, others rely on community based services to help them meet their transportation needs. As the Baby Boomer generation reaches retirement age, it will become increasingly important to engineer our roadways in ways that are appropriate for the specific needs of the older driver. It is also important to consider viable alternatives to personal vehicles to aid in the mobility of those individuals who are no longer capable of driving themselves. This study strives to use

empirical data to determine the traveling patterns of older drivers and adjust the way that transportation systems are operated to meet the needs of these drivers.

Changing Demographics

During the post-World War II Baby Boom (1946-1964), approximately 76 million babies were born in the United States (Jones, 2006). By 2006, the Baby Boomer generation had begun to reach the traditional age of retirement in numbers that have not been seen in the United States. The combination of financial success and a wide age span has created a disparity within the senior population where many are already retired with pensions and investments that have doubled in value and the younger end of the group continues to work and save for their own retirements (Brock, 1998). It is estimated that, by 2020, the senior population will number over 115 million individuals mostly due to scientific advancements in the last quarter century that have made it possible for this demographic group to live longer and healthier than any previous generation.

Today's seniors strive for a more active lifestyle than those before them. While once thought of as a burden on the economy and younger generations, today's seniors have replaced an unhealthy, fragile image with one of vitality and strength. Not only do Baby Boomers strive to live a more active retirement, they have the means to do so. According to George Moschis, director of Georgia's Center for Mature Consumer Studies, "the 55-plus age group controls more than three-fourths of this country's wealth and the 65-plus group has twice as much per capita income as the average baby boomer" (Brock, 1998). These groups use their money on everything from vacations to furthering their own educations. Some retirees even choose to continue working during their retirement. Table 1 illustrates the factors that individuals consider when making the decision whether or not to continue working during retirement. An overwhelming majority of those polled wish to continue working as a way to stay active, both mentally and physically. The need for money only plays into the decision for 54% of the respondents.

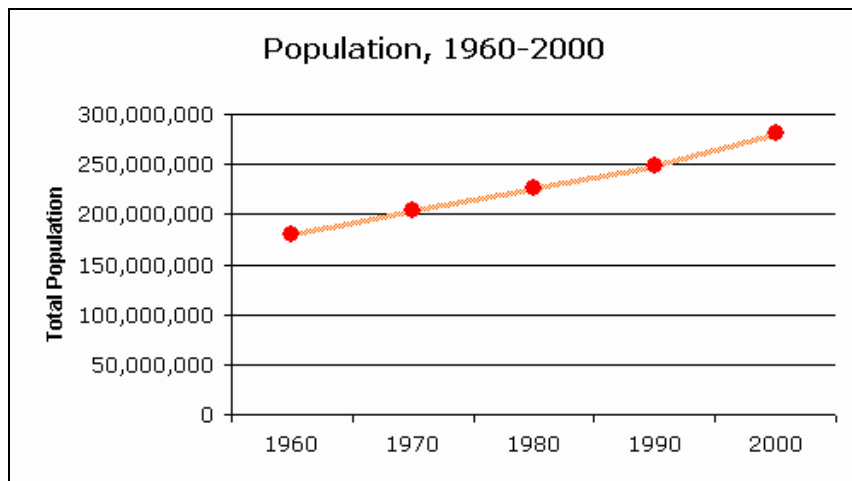
Table 1: Factors Influencing the Decision to Work in Retirement

Factors in the Decision to Work in Retirement (%)*	Pre-retirees who plan to work in retirement	Working retirees	Total
Desire to stay mentally active	87	68	83
Desire to stay physically active	85	61	80
Desire to remain productive or useful	77	73	76
Desire to do something fun or enjoyable	71	49	66
Need health benefits	66	20	56
Desire to help other people	59	44	56
Desire to be around people	58	47	55
Need the money	54	51	53
Desire to learn new things	50	37	48
Desire to pursue a dream	32	20	29
* Respondents could choose as many factors as apply to them.		Source:AARP,"Staying Ahead of the Curve 2003"	

Source: Fact Sheet on Aging in America, 2006

While the traditional retiree may see their daily mobility decreasing as a result of no longer being obliged to daily activities such as work, the new retiree may even see their mobility increase as they add activities to their new lifestyles.

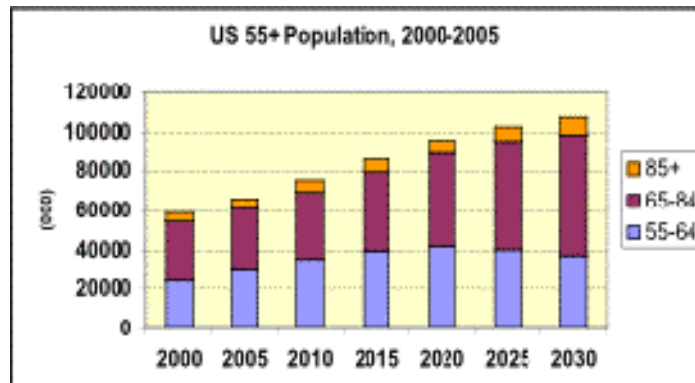
Between 1980 and 2000, the population of the United States increased by 54.9 million people and the over 65 population has increased by 3.6 million. Since 1960, that gain is even larger. Figure 1 illustrates population growth in the United States since 1960 (Aging in America, 2006)



Source: Fact Sheet on Aging in America, 2006

Figure 1: U.S. Population Growth, 1960-2000

With the increase in population comes an increase in the number of individuals considered elderly. The over-85 age group is the fastest growing segment of the American population (Brock, 1998). As seen in Figure 2, the 65-84 group is also growing at a rapid rate and is predicted to continue growing through 2030 (Aging in America, 2006).

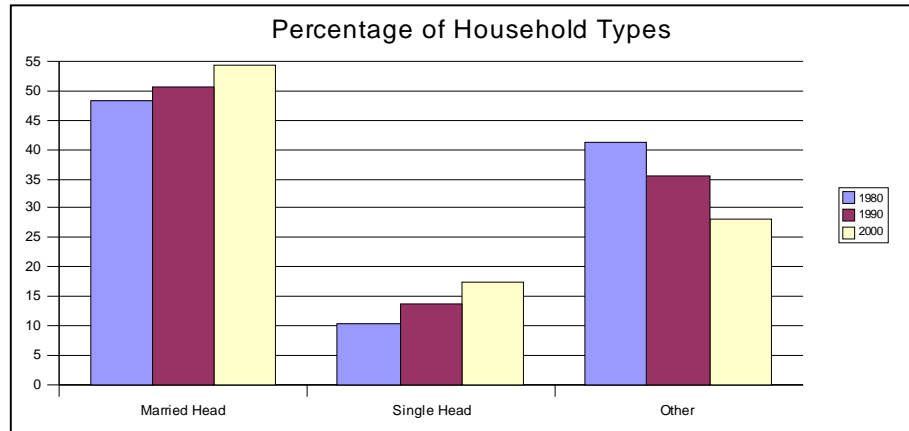


Source: Facet Sheet on Aging in America, 2006

Figure 2: U.S. Population 55+ by Age, 2000-2030

As a result of medical advancements, the elderly are living longer, healthier lives. In 1940, only 7% of Americans age 65 were expected to live to be 90. This percentage has since shot up to 26% and, by 2050, is expected to reach 42% (Aging in America, 2006). These statistics make it possible, if not necessary, to study the impact of these older, more active seniors and their daily patterns. It is no longer possible to assume that retirees will choose a traditional retirement where activity ceases as they age.

As population has increased, the type of households has also changed. This change has challenged the concept of the traditional nuclear family. While the number of 'other' households (including non-relatives living together) has decreased, the number of individuals reporting as single heads of household has increased by almost four million. The same can be said for those reporting as married heads of household (Census 2000). Figure 3 illustrates this trend.



Source: US Census Data, 1980, 1990, 2000

Figure 3: U.S. Household Types, 1980-2000

What the above trend discounts, however, are the number of households where grandparents are raising their grandchildren as the sole caretakers. In 1980, 2.3 million children under 18 were living in their grandparents' home (Kliener et al, 1998). This statistic does not differentiate those children living solely with grandparents and those living with in their grandparents' home with parents present. By 1996, over four million children were living with grandparents with over 1.4 million being raised solely by their grandparents, without the presence of either parent (Kliener et al, 1998). According to the 2000 Census, more than 5.7 million children under the age of 18 live with their grandparents with over 2.4 million relying solely on their grandparents for care. This phenomenon changes the way that seniors use their time. Grandparents are now responsible for taking children to school, work, and play. These are task that are traditionally given to parents. As more and more grandparents take on these responsibilities, time for the leisurely pursuits of retirement shrinks. In 1996, 48% of grandparent caregivers were between the ages of 50 and 65 years old with an additional 19% over the age of 65 (Kliener et al, 1998). These new responsibilities make it even more important that older adults are able to safely drive personal vehicles.

Characteristics of Older Drivers

The largest group of older drivers seen in the United States will take to the roads over the next few years as the Baby Boomer generation continues to retire. Despite declining

physical conditions associated with advancing age, research shows that older adults are successfully adjusting to these changes allowing themselves to continue to safely drive well into their 90s (Administration on Aging, 2004). While the number of older adults making trips is increasing at a rapid rate, older adults tend to avoid rush hour traffic, drive fewer miles, shorter distances, and less at night (Administration on Aging, 2004). As a result of this self regulation, collision rates decrease steadily with age to the point that, by the time a driver reaches age 65, the risk of a major accident drops to less than 1% (Administration on Aging, 2004).

The Decision Not to Drive

Access to transportation is important to older adults' mobility and access to services. The decision to retire from driving is difficult but oftentimes necessary for safety reasons. Older adults who make the decision to retire from driving often fall into two categories: those who choose not to drive due to safety reasons and those who have alternative means of transportation available to them (Center for the Study of Aging, 1998). Two thirds of older adults who stop driving attribute it to physical impairments although most do not stop because of a single health factor, but because of a variety of lifestyle and health issues (Administration on Aging, 2004 and Center for the Study of Aging, 1998).

Older adults also rely on family and friends as an alternative means of transportation once they have made the decision to retire from driving. One third of older adults who do not drive rely on family and friends for their transportation while others rely on public and volunteer transportation options to maintain mobility and independence (Administration on Aging, 2004). Community organizations exist in municipalities across the country that focus on aiding those elderly individuals who choose not to drive. Feeling comfortable with these alternatives can help make the decision to retire from driving easier and less threatening to the independence of older adults. To aid in this process, the Federal Government's Administration on Aging has developed initiatives to assist in the coordination of transportation services for older adults and to facilitate access to these services. As older Americans become familiar with the various transportation alternatives available to them, travel patterns may begin to shift away from older adult use of personal vehicles. However,

for the time being, older adults continue to rely, almost exclusively (90%), on personal vehicles as their predominate means of transportation.

Implications on Travel

As America ages, it becomes necessary for researchers to study the effects of the aging population on society. The nation's transportation system is one area that not only affects older Americans but almost everyone. A reliable transportation system allows individuals the mobility to travel to school, work, medical appointments, leisure activities, and many other transportation needs. Transportation planners and policy makers will face special challenges in the next 30 years as the older population continues to increase at such a rapid speed (Collia et al, 2003). The number of older drivers (65+) is expected to at least double in the next 30 years (Administration on Aging, 1998). This is a result of the growing population of seniors and the likelihood that more individuals will continue to drive later in their lives.

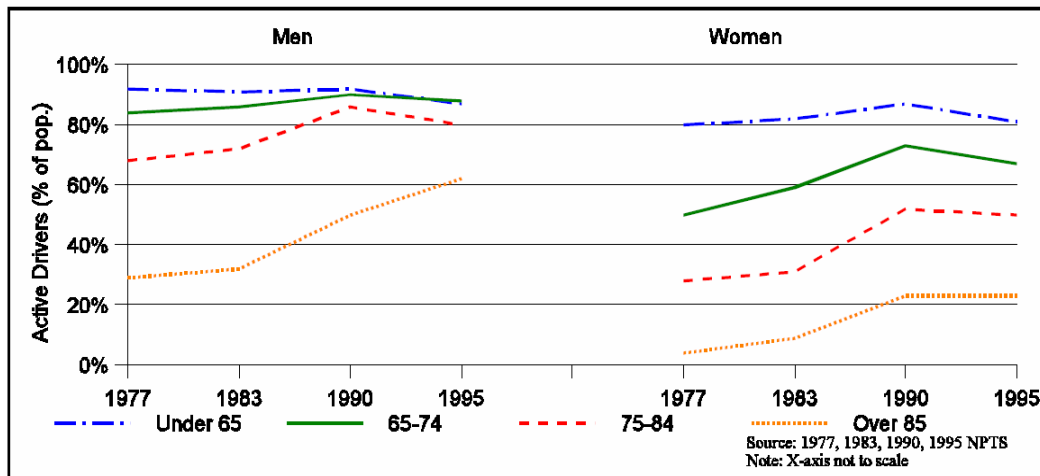
Transportation planners and policy makers require two key pieces of information in an attempt to understand and improve the current mobility of the nations elder population (Collia et al, 2003).

- Data answering questions about current travel behavior.
- An understanding of the unique behaviors and challenges that affect the nation's older population.

Historical Trends in Elderly Driving

For the past forty years, the Department of Transportation has gathered information on travel characteristics through the administration of two surveys: The Nationwide Personal Transportation Survey (NPTS) conducted in 1969, 1977, 1983, 1990, and 1995 which focused primarily on daily travel and the American Travel Survey (ATS) conducted in 1977 and 1995 which focused on long distance trips (Collia et al, 2003). In 2001, these surveys merged into the National Household Travel Survey (NHTS) to provide a full continuum of American travel. Unfortunately, earlier studies fail to break down most driving behaviors by age the way the more recent NHTS does. In reviewing the historical data presented below, it is important to remember that the 2001 NHTS is more comprehensive than either of the studies before it and this is reflected in data below.

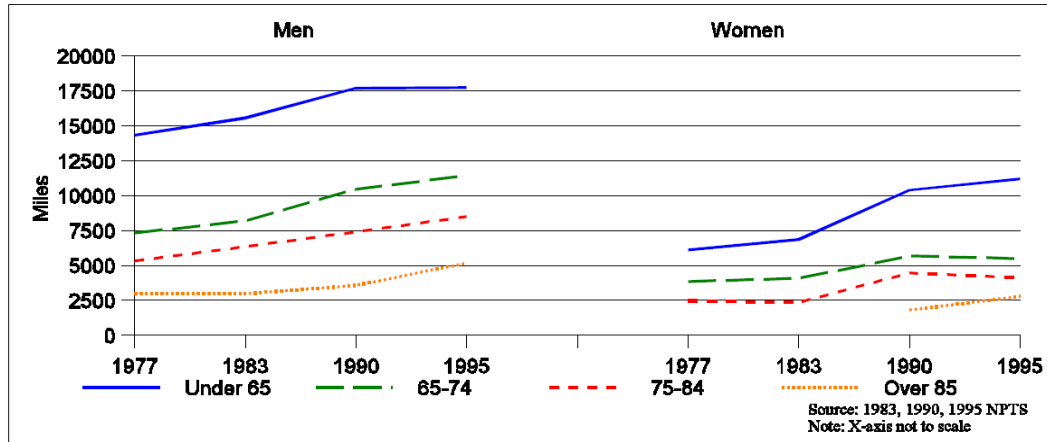
NPTS data show a general upward trend in the percentage of various age groups that drive. This is represented in Figure 4. Aside from a small decrease from 1990 to 1995, the percentage of older drivers has consistently risen in the past 20 years. Known problems with the statistical under-reporting of Vehicle Miles Traveled in the 1995 NPTS may affect the measures of active drivers and could account for the slight drop off in 1995 (Hu et al, 2000). Other historical data confirm the decrease in the probability that a person will drive as her or she ages (Hu et al, 2000).



Source: Hu et al, 2000 based on MPTS results 1977, 1983, 1990, 1995

Figure 4: Active Drivers as a Percentage of the Population, 1977-1995

The total person miles of travel for all drivers in the United States rose by 34.1% from 1983 to 1995 (US Department of Transportation, 1997). Older adult drivers echoed this trend (Figure 5). Furthermore, average daily miles traveled by individuals over 65 years of age doubled between 1983 and 2005 (12.0% to 24.4%). This was a significant increase in older drivers than any other age group. Table 2 illustrates these figures.



Source: Hu et al, 2000 based on MPTS results 1977, 1983, 1990, 1995

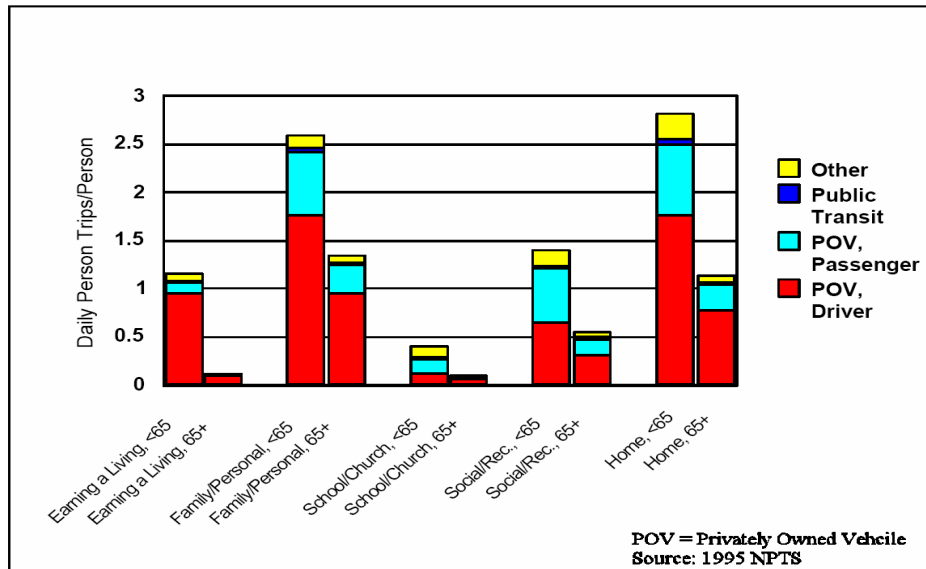
Figure 5: Annual Vehicle Miles of Travel per Driver, 1977-1995

Table 2: Average Daily Miles Traveled by Age

Age	TOTAL				Men				Women			
	1983	1990	1990 Adj	1995	1983	1990	1990 Adj	1995	1983	1990	1990 Adj	1995
Total	25.1	28.6	34.9	38.7	27.7	31.6	38.0	43.9	22.6	25.8	32.1	33.8
Under 16	16.2	16.2	20.1	25.0	16.8	16.3	20.3	23.7	15.4	16.1	19.9	26.2
16 to 20	22.2	28.1	34.4	36.4	23.0	30.1	36.9	37.6	21.5	26.2	32.2	35.0
21 to 35	31.1	36.5	44.3	46.0	32.8	40.4	48.2	51.3	29.5	32.9	40.7	40.8
36 to 65	29.2	33.0	40.1	45.1	33.6	36.5	43.4	53.2	25.2	29.7	37.0	37.5
Over 65	12.0	14.2	18.4	24.4	14.8	17.4	22.5	31.7	10.2	11.8	15.3	19.2

Source: Hu and Young, 1995

Travel habits of older adults differed from those of younger adults in all surveys conducted. Figure 6 shows the average person trips by mode of transportation and trip purpose by age in 1995. The average older adult took fewer trips for every trip purpose than younger adult drivers. As discussed in the next section, the 2001 survey shows significant changes to the status quo.



Source: Hu et al, 2000 based on 1995 NPTS data

Figure 6: Average Person Trips by Mode of Transportation and Trip Purpose by Age

2001 National Household Traffic Survey

Currently, the most comprehensive source of data on current traffic behaviors is the National Household Traffic Survey (NHTS) which is sponsored jointly by the Bureau of Labor Statistics and the Federal Highway Administration (FHWA) in the United States Department of Transportation (USDOT). Using the data from the 2001 NHTS, Collia et. al. extrapolated the results for the Journal of Safety Research. Their findings are summarized in Table 3.

Total Daily Trips	411 billion	
Total Long Distance Trips	2.6 billion	
	Older Adults (65+)	Younger Adults (19-64)
Percentage of Daily Trips	10	68
Percentage of Long Distance Trips	8	72
Percentage Reported to be Drivers	80	93
Percentage Participation in Daily Travel	75	91
Percentage Participation in Long Distance Travel	35	48
Average Trips per Day	3.4	4.4
Trip Mode for Daily Travel (Percentage)		
Personal Vehicle	89.3	89.5
Transit	1.2	1.8
Walk	8.4	7.5
Other	1.2	1.2
Trip Purpose for Daily Travel (Percentage)		
Work/Work Related	3.1	16.1
Shopping	18.3	13.2
Family/Personal Business	17.5	16.4
School	0.1	0.9
Religious	2.6	1.3
Medical/Dental	2.9	1.3
Social/Recreation	19.4	17.1
Return Home	34.8	32.7
Other	0.04	1
Trip Mode for Long Distance Travel (Percentage)		
Personal Vehicle	89.4	89.6
Air	5.3	8.2
Bus	4.3	1.1
Train	0.7	0.8
Other	0.3	0.3
Trip Purpose for Long Distance Travel (Percentage)		
Commute (work)	2.2	16.9
Business	8.5	20.3
Pleasure	64.8	48.5
Personal Business	21.7	11
Other	2.8	3.4
Source: Colia et al, 2003		

Table 3: Results of the 2001 National Household Travel Survey

The results of the 2001 NHTS estimate that Americans made approximately 411 billion daily trips and 2.6 long distance trips during the study duration March 2001 to May

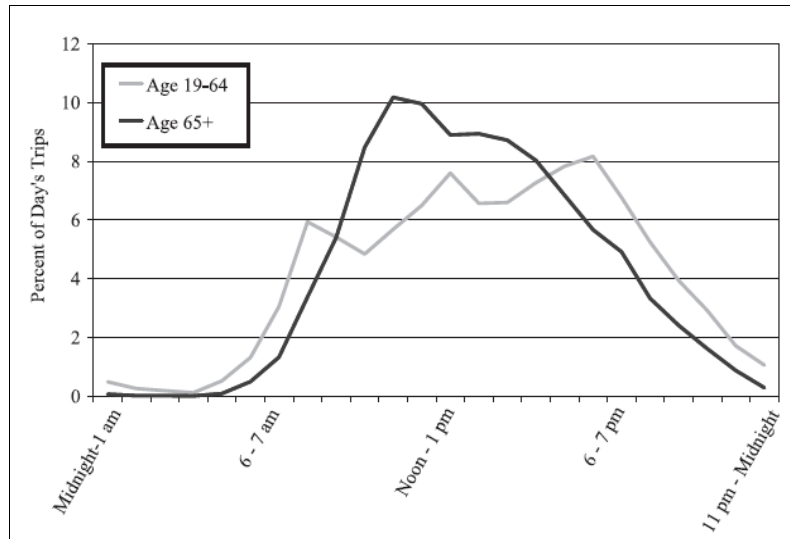
2002. Overall, older Americans took fewer trips than their younger counterparts. While the 65+ age group accounted for 12.6% of the population in 2001, they only made 10% of the daily trips and 8% of the long distance trips. Younger adults (19-64) comprised 62% of the total population and made 68% of all daily trips and 72% of the long distance trips (Collia et al, 2003). Older Americans also took the passenger role more often than their younger counterparts. As seen in Table 2, 80% of older adults reported being the driver while 93% of younger adults reported the same.

This pattern is echoed when examining the demographic characteristics of individuals reporting that they make at least one trip per day. While 75% of older adults reported that they make at least one daily trip, 91% of younger adults reported the same. The gap also large in regards to long distance trips. 35% of older adults report making at least one long distance trip over a four week period in comparison to the 48% of younger adults reporting the same.

Daily Trips

Overall, younger adults averaged one more trip per day (4.4) than older adults (3.4). However, the preferred method of transportation is the same. Almost 90% of both older and younger adults made daily trips with personal vehicles (car, truck, van, SUV). The largest difference in the preference of mode of transportation is walking. While 8.4% of older adults made daily trips on foot, only 7.5% of their younger counterparts did the same.

Table 3 also breaks down the reasons for daily travel. While social/recreational trips, along with return trips, account for a large percentage of the daily travel of both age groups, significant differences are noticed in every other category. Not surprisingly, older adults engaged in significant less work related travel (3.1%) then do younger adults (16.1%). Older adults took a significantly higher percentage of daily trips for shopping (18.3%) than do their younger counterparts (13.2%). They also made more medical (2.9%) and religious related trips (2.6%) whereas younger adults only make 1.3% of their trips for medical and religious purposes. This is notably different from the results in previous years.



Source: Collia et al, 2003

Figure 7: Driving Preferences by Time of Day and Age

Older adults showed a preference for traveling in off peak time periods. Over 60% of their travel occurred between 9 am and 4 pm (Collia et al, 2003). Figure 7 (Collia et al, 2003) shows that the peak travel time for older adults occurred in the late morning (10am-12pm). Younger adults show three different peak periods; morning (7am-8am), lunch (12pm-1pm), and after work (5pm-6pm). In a one week period, younger adults consistently made one more trip per day than older adults.

Long Distance Travel

The majority of the 2.6 billion long distance trips were taken by younger adults (72%) and about 8% were taken by older adults (Collia et al, 2003). Overall, personal vehicles were the preferred mode of choice for both older and younger adults. Air travel remained more popular among younger adults (8.2%) with older adults choosing this method 5.3% of the time. Older adults showed a significantly higher preference for the bus than their younger counterparts, 4.3% and 1.1% respectively.

Older adults traveled more for pleasure (64.8%) than younger adults (48.5%). However, younger adults traveled more as part of a commute to work (16.9%) and for business travel (20.3%) than older adults (2.2% and 8.5% respectively).

Collia et al determined that, while older adults still rely heavily on personal vehicles, their mobility has decreased. Compared with younger adults, older adults made fewer trips, traveled shorter distances, and had shorter travel times (Collia et al, 2003).

Conclusions

Retirement means something different for the Baby Boomer generation making past assumptions of the driving habits of older adults inappropriate for today's older drivers. Unlike generations before them, Baby Boomers seek an active retirement which may include working, volunteering, and increased travel. Over the past 15 years, the travel patterns of older adults in the United States have changed. In 1995, older adults took fewer trips in every category surveyed than younger adults. By 2001, this had changed dramatically. The most recent NHTS shows that today's older adults take more trips in several categories including trips for medical, religious, and social/recreational purposes than their younger counterparts. Although these trips, for the most part, remain shorter and less frequent than the trips in the younger demographic, it is important to realize that older adults are making more frequent and longer trips than they were just 15 years ago. Older adults are also delaying the decision to retire from driving and still prefer personal vehicles to all other forms of transportation.

It is no longer a safe assumption that older drivers will self-regulate to driving in off-peak hours, therefore limiting their interaction with the toughest driving conditions. Today's older population seeks a more active lifestyle that may include less self-regulation of the driving task. Transportation professionals must take this into consideration when predicting the safety and demand impacts of today's older drivers on the transportation network. Similarly, public-health and policymakers can utilize these changes to assess the overall well being of people based upon their mobility. Careful understanding of these changing patterns will allow changes in policy to better accommodate the mobility needs of older adults including the planning for various alternate means of transportation as a way to increase mobility while keeping the roads safe for all drivers.

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