

## TRAVEL TRENDS OF THE BABY BOOM GENERATION

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The baby-boom generation has been the demographic engine fueling much of the growth in travel over the last forty years—both in the total number of travelers and in the amount of travel per person. Baby-boomer women entered the workforce and were licensed to drive at unprecedented rates, and as a result the dual-worker/two-car family became the average American household. The historic growth in vehicle travel that followed the baby-boom cohort generated economic, spatial, and cultural changes that are still being felt today.

There is a unique source of information that provides an account of the baby-boomers impact on travel over the last four decades: the National Household Travel Survey. When the first survey was conducted in 1969 the oldest baby boomers were 23 years old. When the latest survey was conducted in 2009 the oldest baby boomers were 63 years old. A lot has changed in those forty years—since the first survey the number of vehicle miles of travel (VMT) in the US increased at twice the rate of the population, vehicle ownership soared, and vehicle travel became dominant.

As baby boomers move through the life stages of family-building to empty-nest and retirement, the consistent growth in vehicle travel has slowed<sup>1</sup>. The historical pattern of year-over-year increases in vehicle miles of travel has even reversed to show declines for the first time since the Second World War. Understandably, policy makers are wondering whether the recent declines in vehicle travel reflect more than a temporary economic bump.

Changes in VMT affect the bottom line of transportation planning and policy: a real decline in the amount of vehicle travel means a real decline in the amount of revenue (obtained through the gas tax) for maintenance and improvement to the nation's infrastructure. Future funding for vital programs related to safety, transit operations and improvements, congestion mitigation, the environment and green house gas emissions are pegged to increases in VMT and resulting federal and state revenues to support such programs.

Whether the slowing in growth is related to the aging of the baby boomers is unknown, and how much and by what means the baby-boomers will travel in their golden years remains an open question: city planners are trying to make urban centers attractive to older citizens while policy makers wonder how to offer mobility options for dispersed suburbanites and safety advocates prepare for the challenge of increased vehicle travel by an aging cohort of drivers. This paper offers one perspective on the role of the population bubble known as the baby boomers on vehicle travel in the U.S. as described through four decades of travel data.

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## TRAVEL TRENDS OF THE BABY BOOM GENERATION

The baby-boom generation (born between 1946 and 1964) has been analyzed and written about as they overcrowded schools, competed for jobs, stimulated trends in housing, childcare, and family life, and now continue their influence as they enter the empty nest and retirement stages of life.

This generation has been an engine of growth in vehicle travel as they surged through the U.S. population. Baby boomer boys and girls started driving at a young age and both young men and women entered the workforce with more education than previous generations. When the baby boomers started building families they acquired 'his' and 'her' cars, spread a housing boom to the suburban fringes, and, with the advent of dual-earner families, exhibited a strong reliance on 'out-sourced' household support, such as day-care and eating out, that required travel (each of these factors will be analyzed in this paper). As a result, during the last four decades travel rates more than doubled: total vehicle miles of travel grew at more than twice the rate of population.

However, more recently the historic pattern of year-over-year increases in vehicle miles of travel has shifted, and researchers and policy makers wonder if the recent declines indicate a historic turning point<sup>1</sup> or are simply a product of the economic downturn that will rebound when the economy recovers.

Many factors may play a role in the current decline in overall travel rates--some are measurable like increased gas prices and unemployment, and some less certain like the effect of electronic communications technology (including internet shopping and work at home) on travel. However, coincidentally the baby boomers are starting to move into the empty-nest and retirement stages of their lives, typified by lower travel rates. Examining the rise and (recent) fall of travel rates as part of the demographic bubble of the baby-boom generation over the last few decades may help set the context for the current period of uncertainty.

The National Household Travel Survey (NHTS) data series is a unique and invaluable source of information on trends in travel by people in the U.S. The household, person, and travel data for 1977, 1983, 1990, 1995, 2001, and 2009 were directly analyzed for this report; information from the earliest survey in 1969 is only available in published documents and used when those data are available. As a cross-sectional survey, the NHTS offers a series of snap-shots that can be assembled to create a picture of important trends in travel over the last four decades. In addition, data from the US Census and the Bureau of Labor Statistics were used as needed. People born between 1946 and 1964 are identified as baby-boomers, and only people aged 16 and older are included in the analysis.

## HISTORIC PATTERNS OF TRAVEL

The number of people aged 16 and older in the United States grew by over 100 million between 1969 and 2009, while the number of workers and drivers doubled, and the number of vehicles nearly tripled. In the same time period the number of miles that an average person traveled on any given day increased over 15 miles per person per day, while the vehicle miles generated by the average household increased 20 miles per household per day<sup>1</sup>.

In all measures of travel, people in the baby-boomer age cohort have traditionally travelled more than their counterparts in other age groups. Figure 1 shows that baby boomers in each survey year traveled more miles per day than people of other ages.

When they were younger baby boomers travelled more than older people, and now they are older they travel more than younger people. In 1983, when the baby boomers were 19-38 years old, they averaged 30 percent more miles than older cohorts. When the boomers were 37-56 years old; they traveled 51 miles a day on average, 28 percent more than other ages according to the 2001 NHTS. In 2009, for the first time overall travel declined for

all age groups. Even with the overall declines, baby boomers (who were 45-63 in 2009) traveled 17 percent more miles than all other ages.

One of the reasons the baby boom generation added so much to daily travel is that the number of workers increased—both from the increase in the number of working age people and an unprecedented increase in women’s participation in the workforce (see Figure 2).

Understanding travel demand traditionally depends upon understanding historic patterns of commuting. The flow between workers residences and their workplaces defines peak travel demand, often resulting in congestion in the morning and evening which in turn influences the design of the transportation infrastructure, particularly the corridors served by transit.

The number of work trips *per worker* has remained virtually the same for both men and women over the four decades of the NHTS study—about 350 a year<sup>2</sup>. However, the 80 percent increase in the number of commuters from the baby boom workforce combined with a 30 percent increases in the average commute distance led to a doubling of miles for work travel between 1977 and 2009.

Recent trends show a natural attrition of baby-boomers out of the work force as they age into retirement and, more recently, join the ranks of the un-employed. Commuting in America II noted that the 1990s would be seen as the turning point that signaled the end of the worker boom<sup>3</sup>. Looking forward, workers will still be added as the population grows, but not at the same rate of the last few decades. What effect the change in workforce growth has on peak period travel demand, congestion, and related issues remains to be seen.

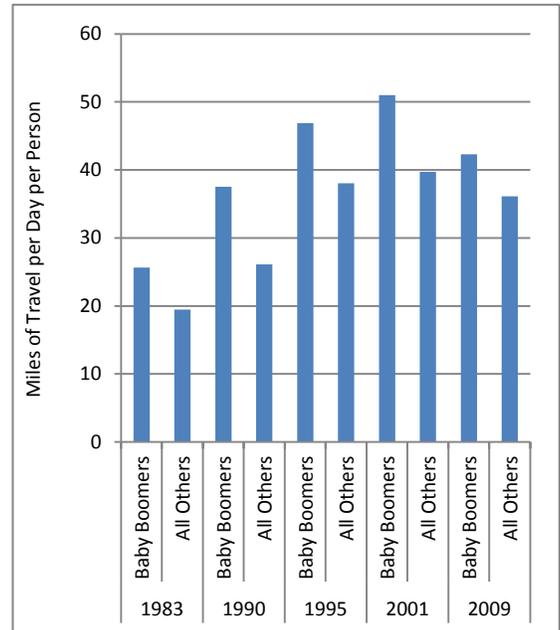
### HOUSEHOLD TYPE

The type of household people live in—how many people, how many workers, and whether children are present—has historically determined the amount and type of travel generated by that household<sup>4</sup>.

The baby boomers led the shift from single-earner to dual-earner households (Figure 3), and acronyms like DINKS (dual-income no kids) were coined in the 1980s to describe the new norm.

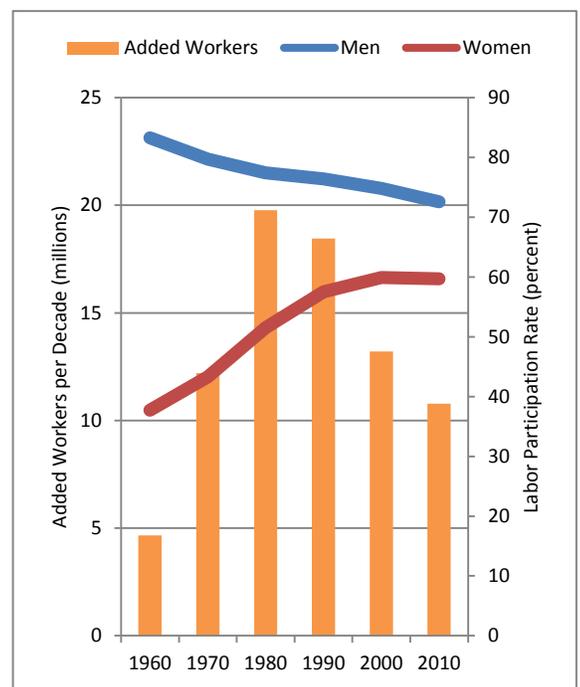
In 1977, there were about 45 million households with two adults, of which 17 million (about 38 percent) were dual-earner households. By 2001, the number of two-adult households with two workers had doubled to 33 million, and in more than half of all

Figure 1 – Trends in per Capita Miles of Travel, Baby Boom Cohorts and all Others (People 16 and older)



Source: National Household Travel Survey Series

Figure 2 – The Number of Added Workers per Decade and Labor Rates for Men and Women, 1960 to 2010



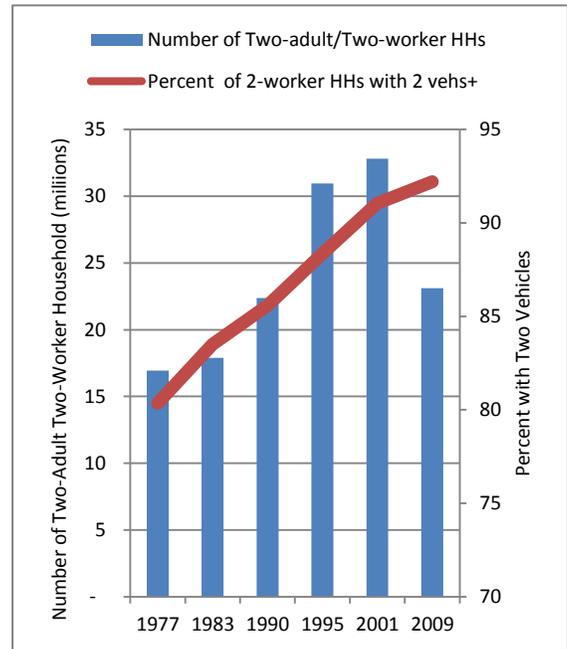
Source: Bureau of Labor Statistics, January 2010

two-adult households both people were employed. In 2009, however, the number of two-adult two-worker households fell to 23 million, the same proportion of all two-adult households with two workers in 1977--38 percent. Many more two-person households now are composed retired couples—in 2009 almost 30 percent households with two adults had no workers.

The growth in two-worker two-car households was one of the major shifts in travel demographics over the last four decades (Figure 3). The dual-earner two-car household is very common now, and household vehicles are often thought of as ‘his’ and ‘hers’. But in 1969, just 30 percent of two-adult households had two or more vehicles; in 2009, 77 percent of had two or more vehicles. As a result of this shift, the total number of household vehicles nearly doubled between 1977 and 2009.

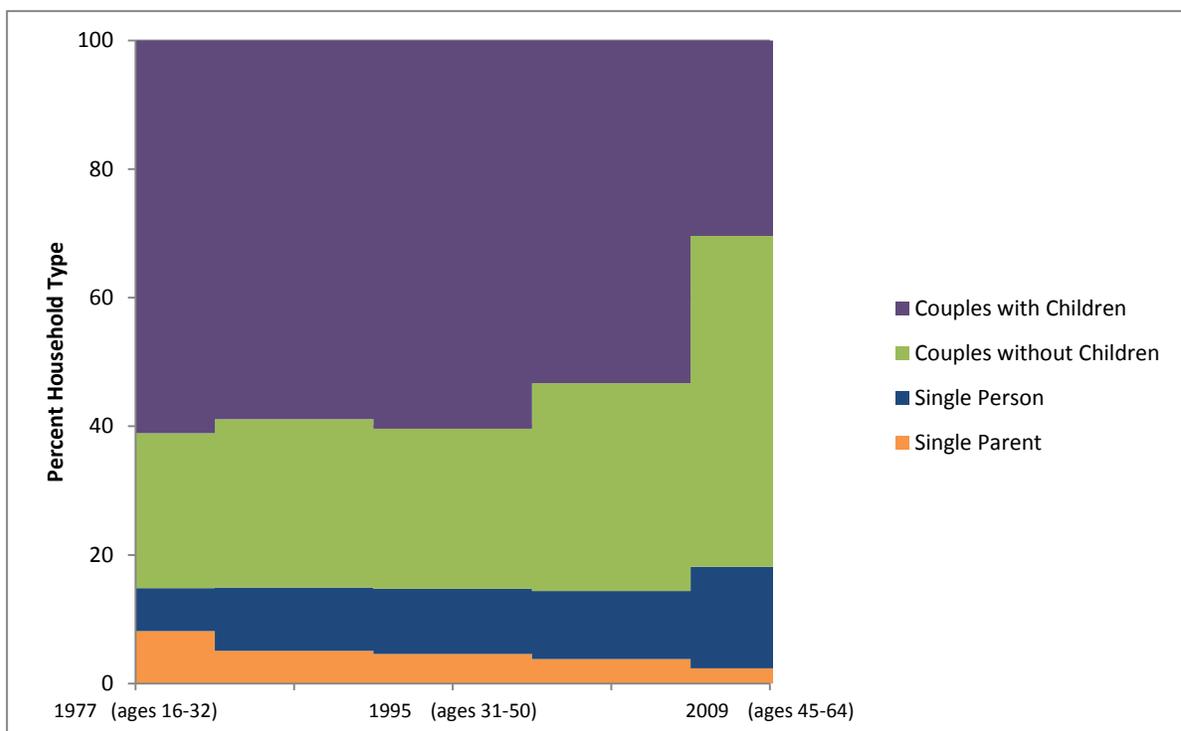
Throughout their lives the majority of baby boomers lived in households as part of a couple with one or more child under 21 years old--nuclear family households (Figure 4). However, even through the 80s and 90s a strong minority of households did not include children—in those decades couples without children accounted for a quarter of baby boomer households and single persons another ten percent. In the most recent data, people living as couples without children represented the majority of baby boomer households for the first time as the baby boomers move into the empty nest stage of life.

Figure 3 – The Number of Dual-Earner Households and the Percent with Two or more Vehicles, 1977 to 2009



Source: National Household Travel Survey data series

Figure 4 – Percent of Baby Boomers Living in Different Household Types, 1977 to 2009



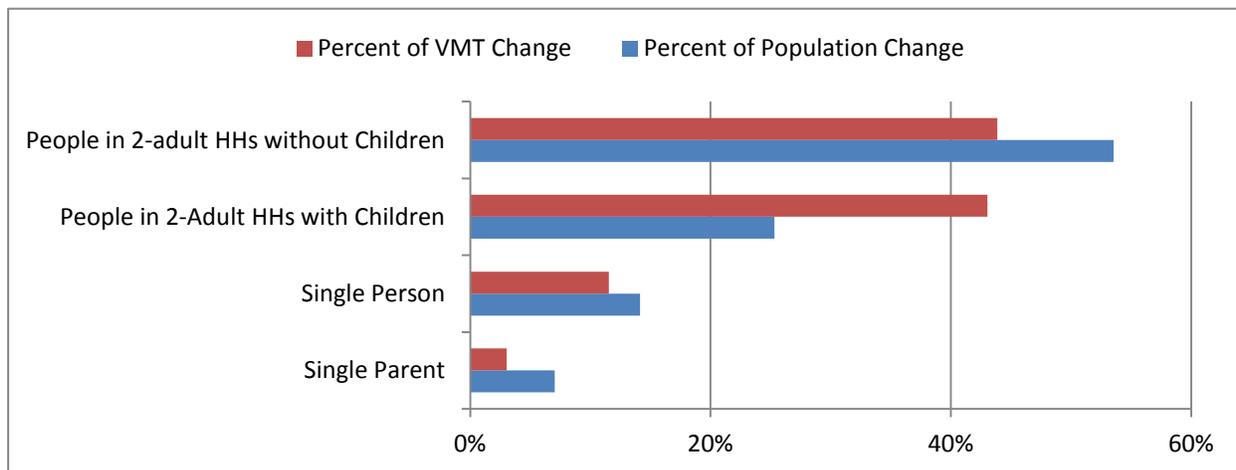
Because household type is so entwined with how much and why people travel, changes in living arrangements by large population groups can affect the amount and type of travel.

For example, we can compare the addition of households by type over the decades to the amount of travel those types of households generated. The majority of baby-boomers have shifted to living in a couple households without children, increasing that household type by 54 percent compared to 1977. People in couple households account for 44 percent of the total increase in vehicle miles of travel between 1977 and 2009 (see Figure 5).

The majority of the VMT growth came from another household type: couples with children. While only twenty-five percent more people were living as part of a couple with children in 2009 compared to 1977, they contributed nearly twice as much VMT *per person* as people in couple households—43 percent of the total increase in vehicle miles.

At the other extreme, the number of people in single-person households increased by 33 percent since 1977. But people who live alone are a relatively small percent of the overall population (only 14 percent) and they contributed even less to the growth in VMT. A majority of single-person households are people over the age of 65, especially elderly women who have the lowest rates of travel.

Figure 5 - Percent Increase in Household Types and Travel, 1977 to 2009



Source: National Household Travel Survey data series

Looking forward, retired couples and single-person households are growing faster than households with children as the baby boomer cohort ages. One out of five baby boomer women never had a child<sup>5</sup>, and fewer than 20 percent of baby boomers lived with a child under 18 at home in 2009. More recently, new extended family types are emerging as young-adult children of baby-boomer parents move back home after college and more middle-aged people are caring for, even living with, an aging parent<sup>6</sup>. Although these types of households have grown rapidly in the past few years they are still a very small proportion and have yet to have a measurable impact on overall travel.

## TRENDS IN THE PURPOSE OF TRAVEL

Embedded in the discussion of travel trends and the baby-boomers is the complex relationship between home and work and the changing roles of men and women during the 1980s and 90s. When dual-earner households started to include children, travel for non-work purposes began to grow at an unprecedented rate. With both fathers and

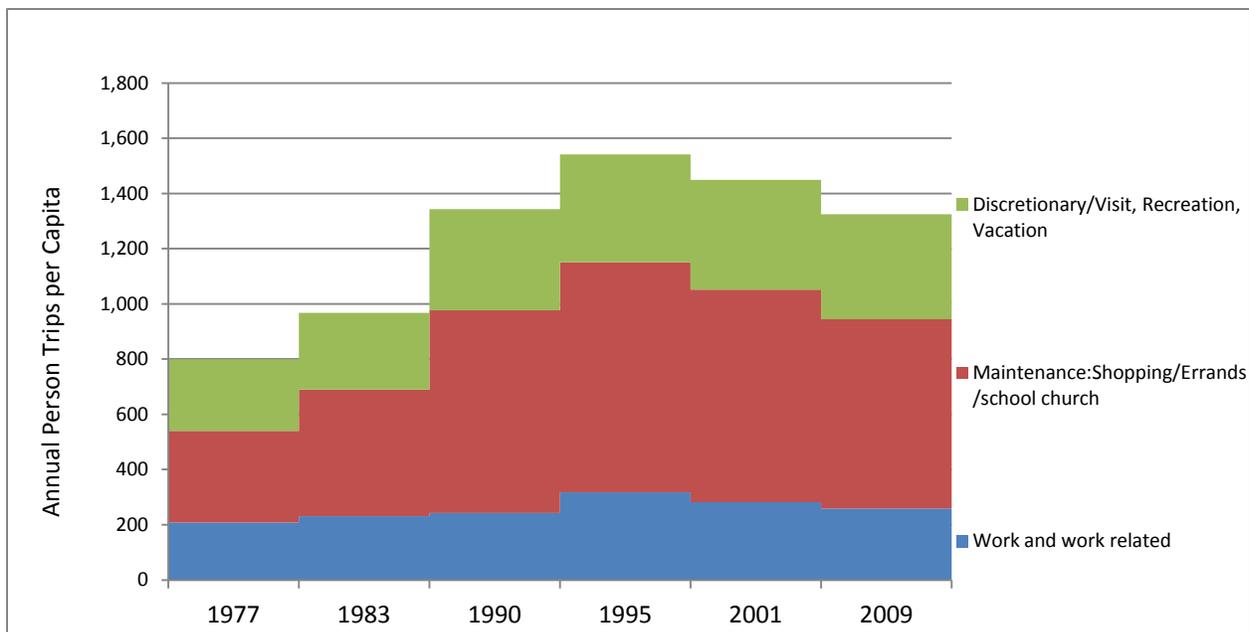
mothers out of the house in paid work, women struggled with dual roles (worker and home-maker/mother), and not enough time<sup>7</sup>.

“Work trips” are often considered mandatory travel and all other trips somewhat discretionary, but shopping for groceries, picking up or delivering children at school, going to the doctor or dentist, and many other daily tasks are necessary for families to function. These ‘maintenance’ activities fall somewhere between mandatory and discretionary and motivate a vast portion of daily travel, including eating out or grabbing a meal to serve at home, pet care, and other errands and shopping.

Attempts to understand the tremendous growth in non-work travel during the 90s led researchers to add detail to the description of these trips—which complicates trend analysis. For example, according to the NHTS data series, the average household ate out on average once a week in 1977 compared to more than four times a week in 2009, but the latter includes ‘getting a meal’ to eat at home as well as going out to eat in a restaurant. In 1977, travel to pick up a prepared meal to eat at home was uncommon and not separately identified.

But during the 1980s and 90s, and as baby boomer women spent more time in paid labor and started families, the market provided many goods and services that formerly were done at home<sup>8</sup>. The shift from traditional household-based tasks to ‘outsourced’ goods and services that required travel contributed to the fivefold increase in maintenance trips since 1977 (see Figure 6). More recently the growth in maintenance travel has leveled off, and much of the recent decline in VMT comes from decline in maintenance travel. Contributing to this change could be decline in errands such as going to the video store or dry cleaners, and the growth of big-box retail that houses many types of goods and services under one roof.

Figure 6 - Trends in the Baby Boomers per Capita Travel by General Purpose, 1977 to 2009



Source: National Household Travel Survey data series

According to the US Census Bureau, the last of the baby boomers are in their peak spending years. People aged 45-49 historically spend the most money on all consumer goods, and this age cohort was at historic highs in

2009—24 percent of the population—and the number of people in their peak spending years will decline until 2022<sup>9</sup>. Coupled with other economic and technological changes, the shift of the baby boomers out of their peak spending years to empty nest and retirement will exert a downward pressure on travel rates for maintenance activities.

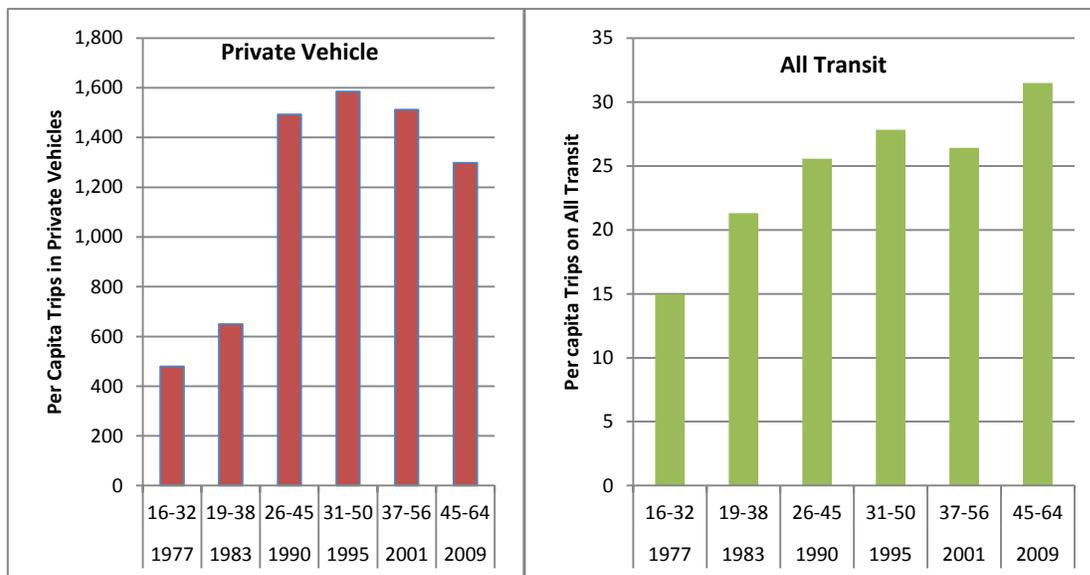
## TRENDS IN THE TYPE OF TRANSPORTATION MODE

The choice in the type of transportation mode is of great interest to researchers and policy makers. Important infrastructure financing policies depend on the amount of vehicle travel and therefore the overall amount of motor-vehicle fuel used.<sup>1</sup> And while the 2009 NHTS and other measures show a decline in total travel, travel by vehicle declined more than other means of travel, such as transit.

Economics, down-sizing, empty nest syndrome—for many reasons the baby boomers may be shifting some of their travel to other means<sup>10</sup>. Figure 8 shows the trends in per capita private vehicle use and per capita transit use from 1977 to 2009 for the baby-boomer cohort. These graphs show that vehicle travel for the baby boomers increased greatly in the 1980s and 90s, and then started to decline after 1995. The trends in transit use show a steady increase in the number of transit trips per person as the baby boom generation ages, and a noticeable increase in 2009. Note that transit use by all ages increased during the 2008-2009 NHTS data collection period, as the economic recession was beginning and gas prices first spiked up to four dollars a gallon. The long-term forecast of travel by different modes will be a subject of continuing scrutiny.

Figure 8 - Per Capita Mode Trends for the Baby Boomer Age Cohort, Private Vehicle and All Transit, 1977 to 2009

\*\*Note the difference in scale



Source: National Household Travel Survey Data Series

Transit includes all inter-and intra-city modes, such as local bus, subway, streetcar, ferry, shuttle bus, commuter bus and Amtrak.

<sup>1</sup> Federal motor vehicle fuel taxes are the primary means of paying for highway maintenance and construction since 1956, when the Highway Trust Fund (HTF) was created. Currently, the federal tax is 18.4 cents per gallon. States impose their own gasoline taxes on top of the federal tax to fund transportation projects.

Some of the current shift to alternate forms of travel may be an echo of an earlier time. The baby boomers were young during the oil embargo of the 1970s, which brought price controls, rationing, and a quadrupling of gas prices in just a few months. Total oil consumption in 1973 dropped 20 percent from the year before<sup>11</sup>, and many people were left stranded by gasoline shortages. Volatility in oil prices, coupled with a social examination of the US dependence on foreign oil, continued throughout the 1970s.

During that period, many baby-boomers turned to alternate forms of transportation—motorcycles, mopeds, and bicycles were popular. Interestingly, there is a current resurgence of these modes among baby-boomers. A surge in motorcycle fatalities has prompted special studies by the National Highway Transportation Safety Administration, which related the increase in fatalities to an increase in the number of motorcycle riders over the age of 40<sup>12</sup>. And ‘Traffic Safety Facts’ notes that the average age of bicyclists killed and injured in traffic crashes has risen in the last decade from 32 in 1998 to 41 in 2008 (for fatalities) and 24 in 1998 to 31 in 2008 (for injuries)<sup>13</sup>.

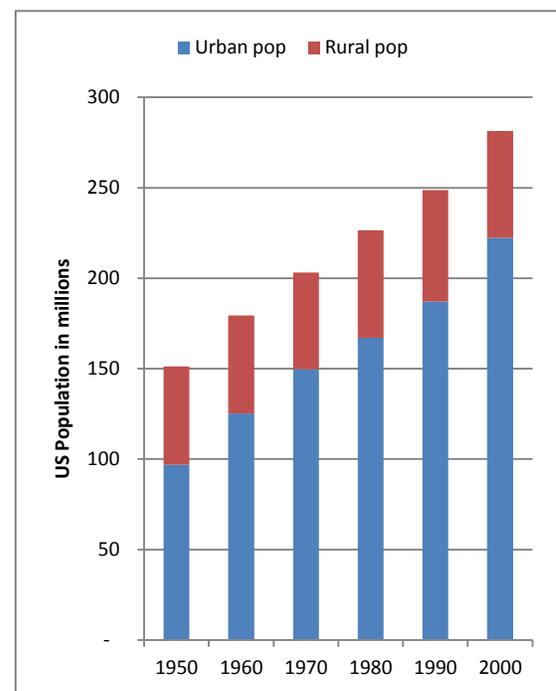
However, even with the growth in transit use and a revival of motorcycle or bicycle use, most baby boomers will continue to be dependent on automobiles as they age. The evolution of the automobile provides a prime example of the boomers’ life cycle impact. Station wagons became the vogue in the 1960s when cars were marketed for larger families and recreational sightseeing. When baby-boomers were having their own children, the updated version--mini-vans--came on the market. In the early-to-mid 1990s, SUVs were introduced for boomers entering the empty-nest phase and interested in recreation. The next stage in this progression, some say, is a car/van that accommodates older travelers and can include devices for the disabled, in anticipation of baby boomers in old age<sup>14</sup>.

Vehicle technology is improving rapidly, and may help older drivers safely continue driving. Currently, some cars can ‘see’ behind, park themselves, and warn if another vehicle is too close. In-vehicle navigation helps identify residential streets and exits and driver assistance technology continues to improve. Given how technology has been embraced by baby boomers in nearly every dimension of their life, vehicle technology that allows baby boomers to continue driving will undoubtedly find a market.

## LOCATION CHOICE

A major trend of the last half century is the growth of urban areas. The population in urban areas has more than doubled since 1950 (increasing 130 percent), while rural areas--those areas not incorporated into nearby urban areas--have grown only 8 percent (see Figure 9). Urban areas expanded to encompass huge tracts of formerly rural land for sprawling housing developments far from the city centers.

Figure 9 - Population by Urban and Rural, 1950-2000



Source: National Household Travel Survey data series

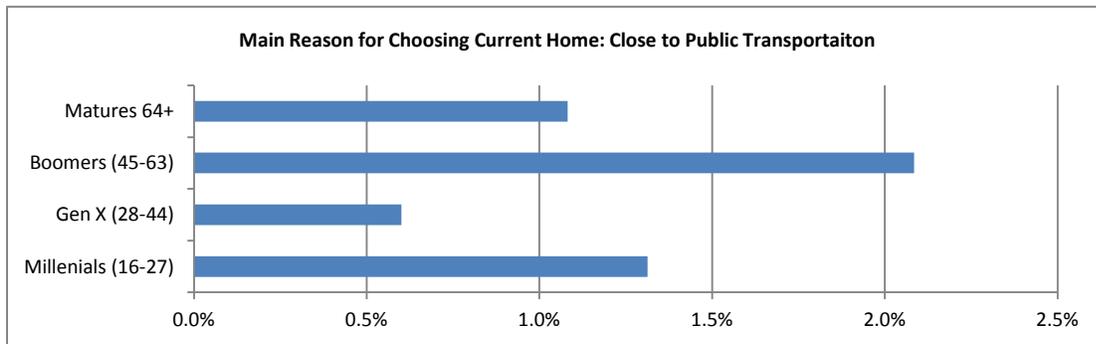
The suburbs, which were originally bedroom communities for employment centers downtown, now contain over half of the U.S. population and more jobs than central cities. As the suburbs grew commercial and industrial parks moved from inside to the outside of the city<sup>15</sup>. The shift in population and employment from dense urban centers to less dense suburban areas may be one of the fundamental reasons for the increase in travel by the baby boomers.

The lower population density is a product of fewer people per household, larger house and lot sizes, and suburban sprawl. According to the US Census, in 1970 the average number of people in a household was 3.1 compared to 2.6 in 2010—in that time period families shrunk by 17 percent. In the same time period the average home size grew from 1385 square feet to 2059—an increase of nearly fifty percent<sup>16</sup>.

Many baby boomers lived their entire lives in the suburbs, born and raised there, raised their children there, and most will age in place there. The place where people live as they age is critical to the kind of support networks and mobility options available to them at home. Currently the vast majority of baby boomers live in suburban and small towns or rural areas.

Different people find different factors important when choosing a home location. People who are working indicate that convenience to work is important, people who have children in school care about the quality of the schools, and as people age they care about being close to friends and family<sup>2</sup>. And although most people will age in place as they grow older, there is movement around the age of retirement<sup>17</sup>. It is interesting to note that baby boomers who have moved in the last five years cite being close to public transportation as one of the reasons they chose their current home location more than other age groups (Exhibit 10).

Exhibit 10 – Location Choice based on Transit Access by Age Group



The place where people live as they age is critical to the kinds of mobility options available to them at home. For example, the provision of dial-a-ride transit service is only provided within ½ mile of an existing transit line, leaving older people who no longer drive and live farther from transit without this option. Perhaps watching their parents lose options when they could no longer drive has influenced some baby boomers to consider transit availability as a benefit<sup>2</sup>.

Baby boomers choices about whether to move after they retire, and if so where and when, are entwined with the economy and housing market, the desire to continue working if possible, and their family situations. But policy

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<sup>2</sup> The 2009 NHTS asked a very small sample of people who had moved within the last 5 years to Arizona about factors that made them choose their current home.

makers are carefully watching whether the baby boomers who chose to move will consider transportation issues as part of their location rationale.

## CONCLUSIONS AND POLICY RECOMMENDATIONS

The baby-boom generation has been the demographic engine fueling consistent growth in travel over the last forty years—both in the number of travelers and in the amount of travel per person. The surge in vehicle travel coincident with the rise of this generation generated economic, spatial, and cultural changes in the US landscape. Baby boomer women were licensed to drive at an early age, and they juggled careers and family throughout their lives. The impact of the two-worker, two-vehicle household, and the increase in maintenance travel; such as shopping, errands, and eating out; has been part of the legacy of this generation.

As the baby boomers move into retirement there are enduring questions about how they will travel, and how much, for what purposes, and by what means. Older home-owners are the least likely to move, most baby boomers are expected to remain in the suburban houses where they raised their families<sup>18</sup>. The implications of this concerns transportation planners, since low density development is harder to serve by public transportation and as a result most suburban and rural areas have limited options for the extended mobility of the one in five older residents who will eventually stop driving.

For the baby boomers who age in place in suburban, rural, or even smaller city settings, there is an opportunity for public-private partnerships to develop new transportation services to meet desired transportation needs, for example, taxi voucher systems, match-up drivers and non-drivers, shuttle service (jitney)

It is also critical to integrate the mobility needs of the aging population into regional land-use and transportation plans, and design for safe navigation of roadways by aging motorcyclists, bicyclists and pedestrians. In addition, it is imperative to closely monitor the accident rates for these modes.

At an individual level, personal transportation planning should be recognized to be as important as health and financial security in old age. Development of lifelong driver education, including instruction on the application and use of in-vehicle technology can help extend the safe driving years of older drivers. Education programs and public awareness of newer vehicle safety features and technology can help encourage older drivers to trade in older vehicles.

Demonstration programs could showcase creative use of technology, such as GPS and Google Transit, to improve older travelers use and navigation of the transit system. Identify the benefits of smart technology to older travelers, and encourage transit systems to design systems for smart technologies. Successful ITS applications will be one way to entice baby boomers out of their vehicles and offer a real solution when they can no longer drive. Electronic communications technology will be able to replace travel for shopping, some medical services, and many social activities.

Important issues related to revenue forecasts, commuting and congestion, safety and air quality, and mobility for people as they age all hinge on the behavior of this important and mobile generation. Understanding the past helps us divine the future as we struggle to understand how boomers differ from previous generations of older Americans, and how their habits, culture, and constraints will influence their travel going forward

The research presented in this paper uses a unique source of information on travel by the American public: the National Household Travel Survey. The most recent in this data series was co-sponsored by AARP for the purpose of providing relevant data for policy-makers and planners interested in travel behavior.

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