

# Travel Behavior of Transportation-Disadvantaged Populations: Trends and Geographic Disparities — Executive Summary

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## Abstract

Older adults, people with disabilities, individuals in low-income households, and those living in rural areas can face significant mobility challenges. This study examines travel behavior and mobility of these transportation-disadvantaged groups, including trip rates, miles driven, mode shares, and other behavior, by analyzing data from the 2017 National Household Travel Survey (NHTS). The study also examines trends in travel behavior, by comparing results to data from 2009 and 2001. The data reveal significant differences in travel behavior based on age, disability, income, and geography.

## Introduction

Understanding trends in the travel behavior of transportation-disadvantaged populations is important for understanding how well the mobility needs of these populations are being met and for informing policy and transportation investment decisions. This study examines travel behavior and mobility of transportation-disadvantaged groups by analyzing data from the National Household Travel Survey (NHTS). Trends among demographic groups are important to study as they have implications for future transit ridership.

## Methods

This study examines and compares travel behavior data for different types of geographic areas, including rural areas, and identifies trends. The study focuses on the following transportation-disadvantaged populations: older adults, people with disabilities, and low-income individuals, while also providing comparisons based on gender, ability to drive, and geographic category. This study uses data from the 2017 NHTS. Travel behavior data analyzed include percentage who drive, trip frequency, vehicle miles driven, mode choice, trip purpose, and trip distance. A cluster analysis was also conducted to identify transportation disadvantaged populations. NHTS respondents were organized into clusters based on demographic

characteristics, and the travel behavior data of those resulting clusters were studied. The study examines whether trends previously identified have continued or changed. The analysis also provides information about whether the trip-making ability and travel behavior of transportation-disadvantaged groups, particularly those in rural areas, have changed during the previous decade, and it examines changes in mode shares during this period, including the use of transit and other alternative modes in rural areas.

## Results

The data reveal that certain population groups are more likely to be transportation disadvantaged, and they show the extent to which travel behavior differs for those groups. Generally, older adults, people with disabilities, non-drivers, and those with low incomes are shown to be transportation disadvantaged. Further, older women are particularly shown to be less mobile, and those in rural areas can face additional challenges.

The percentage of the population that drives decreases with age, and this effect is more significant for women, even if the gender gap is narrowing (Table 1). Trip frequency also decreases with age, as well as income, and trip rates tend to be lower in rural areas (Figures 1 and 2).

**Table 1. Percentage that Drive, by Age, Gender, and Geography**

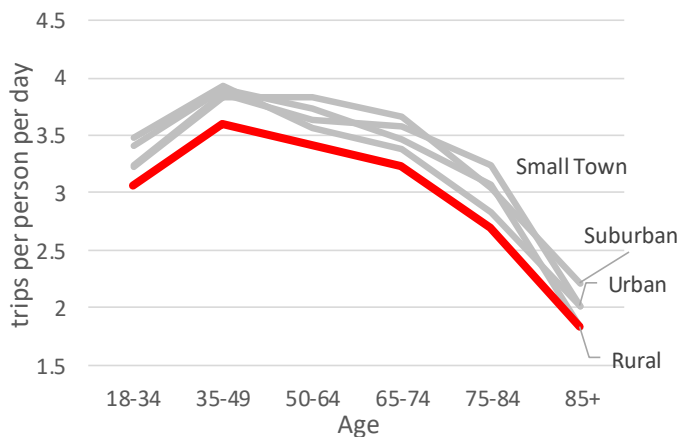
Age	Urban		Suburban		Second City		Small Town		Rural	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
-----percentage-----										
18-34	79	76	91	89	84	87	89	89	87	89
35-49	90	84	96	95	93	90	96	96	94	95
50-64	83	74	95	93	89	89	96	94	96	96
65-74	84	68	94	91	91	77	95	91	96	93
75-84	77	56	89	77	90	69	93	78	90	80
85+	56	28	76	54	64	37	75	44	73	51

Those who do not drive make significantly fewer trips per day, and the gap between drivers and non-drivers increases with age. People aged 85 or older take 2.8 trips per day if they drive and 1.1 trips per day if they do not (Figure 3). Although older adults who drive are more mobile, the amount they drive and the number of trips they take decreases with age. Trip rates decrease with age for both drivers and non-drivers, slowly at first and then faster for those aged 75 or older. Average trip distance is also shorter for older adults.

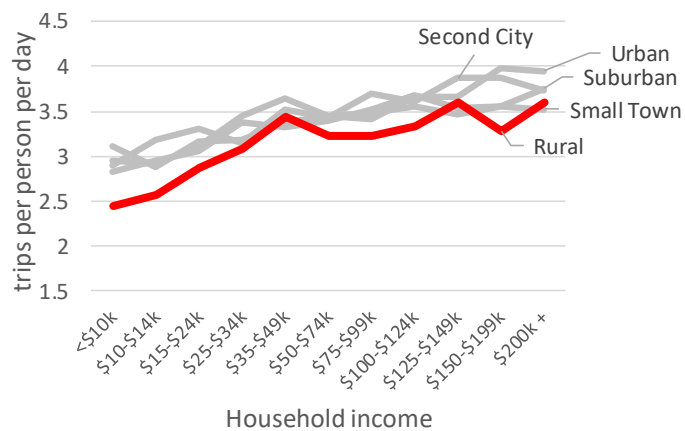
The data also show significant differences in mobility for people with disabilities (Figure 4) and those with low incomes. People with a condition or disability that makes travel difficult are less likely to drive regardless of age, but even if they do drive it is significantly fewer miles per year. Trip rates and miles driven are significantly lower for those with low incomes. Low-income groups drive the least. Geographic differences are shown as well, as low-income people in rural areas in particular take fewer trips per day. In general, those in rural areas take fewer trips per day, but they drive more miles because of a greater reliance on

driving. Figures 5 and 6 show how miles driven is greater in rural areas and how miles driven decreases with age and increases with income.

Transportation-disadvantaged groups are shown to be more likely to rely on public transportation, particularly in rural areas and small towns. Even though young adults are generally most likely to use transit, transit mode share in small towns is the highest for the oldest age group. For many small-town transit systems, older adults who cannot drive or have limited driving abilities are among the primary users. In rural areas, the transit mode share is about seven times higher for those with a condition or disability; in other areas, transit mode shares tend to be about three or four times higher for those with a disability (Figure 7). Although people with disabilities are more likely to use transit or make trips by walking, the percentage of trips they make by automobile is still very high in rural areas, likely because of a lack of other options. In all geographic areas, low-income groups are shown to be less likely to drive and more likely to use transit.



**Figure 1. Trip Rates by Age and Geographic Area**



**Figure 2. Trip Rates by Income and Geographic Area**

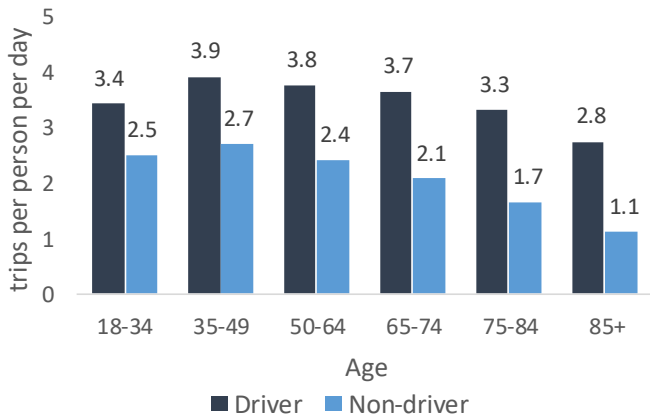


Figure 3. Trip Rates by Driver Status and Age

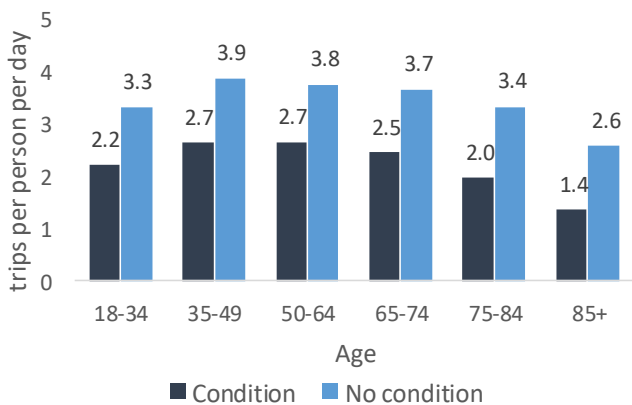


Figure 4. Trip Rates for People with a Condition or Disability and Those Without

The types of trips taken by some transportation-disadvantaged groups could also differ. Older adults, for example, take fewer work trips and a higher percentage of shopping or medical trips, while low-income individuals have a smaller share of social or recreational trips.

**Trends**

The data also show a continuation of trends. While there has traditionally been a gender gap, particularly among older adults, this gap has been decreasing. For those under age 65, there is little difference in driving rates between men and women, except in urban areas where men are more likely to drive, and trip frequencies are now higher for young women compared with young men in all geographic areas. Older men continue to drive at higher rates than older women, but the gender gap has been

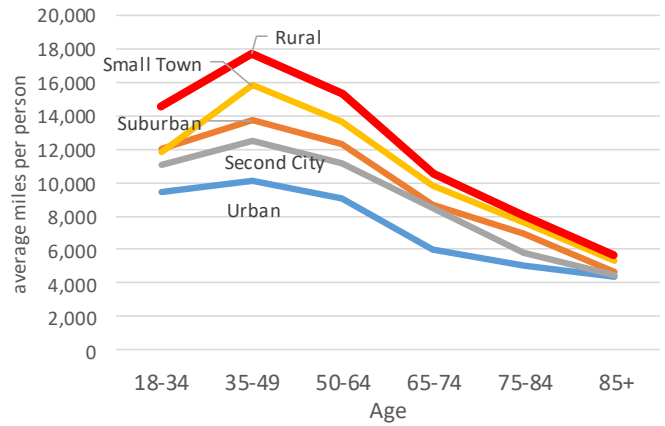


Figure 5. Vehicle Miles Driven Per Year by Age and Geography

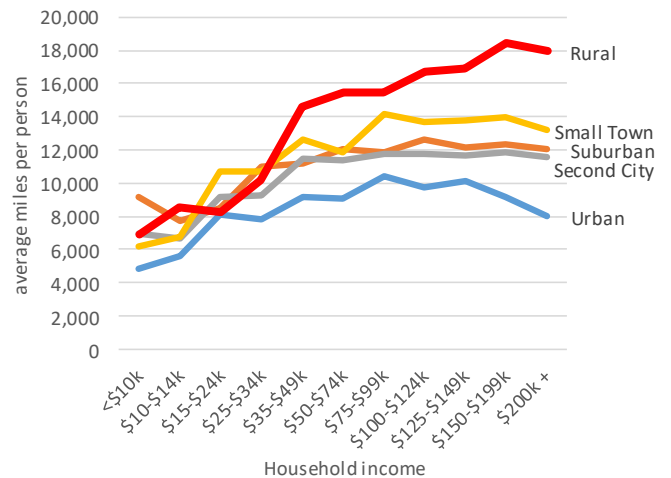


Figure 6. Vehicle Miles Driven Per Year by Income and Geography

decreasing over time and is likely to continue decreasing, given the lack of a gender gap for the younger age groups.

There has been an overall decline in total trips made and miles driven, particularly among younger men. The decrease in trip rates for younger men in both urban and rural areas and for younger women in rural areas is notable. Miles driven have trended downward for men under age 65 in urban areas and under age 50 in rural areas. On the other hand, miles driven for women have not shown any strong trends, thereby reducing the gender gap.

Public transit mode shares were found to increase from 2001 to 2017 in all geographic areas. In rural areas and small towns, transit mode shares are quite small, but they roughly doubled from 0.18% in 2001 to 0.40% in 2017. The

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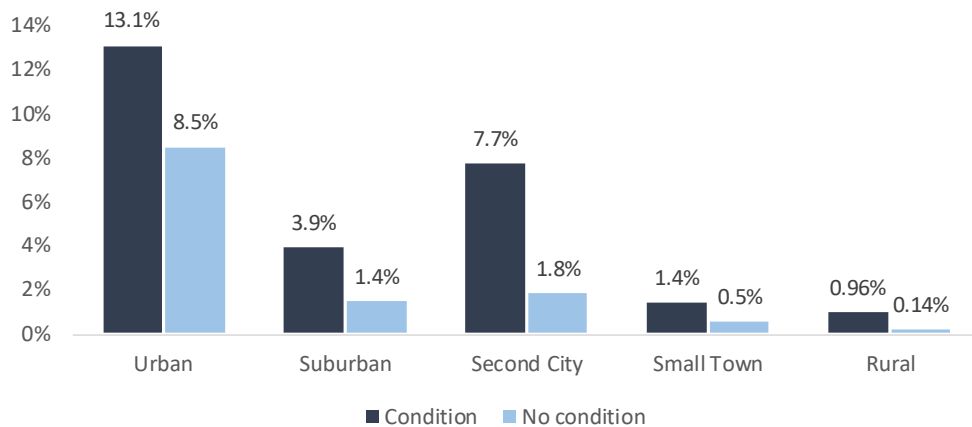
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**Figure 7. Transit Mode Shares for Those With or Without a Condition or Disability**

use of transit tends to be higher in lower-income groups comprised of people with a condition or disability. The mode share estimates generally correspond with the overall increase in transit ridership across the country during this period. However, since 2017, transit ridership has been generally decreasing across the United States in both urban and rural areas, so newer travel survey data would likely show transit mode shares declining.

Transit mode shares are generally highest among younger adults, and younger adults are also more likely to use ride-hailing and other mobility options. The situation is different in small towns, however, where transit mode shares are highest among the older adults. Transit demand in small towns could therefore grow as the older adult population continues to increase and is less likely to use other options. The 2017 NHTS contains data on the use of ride-hailing from companies such as Uber and Lyft for the first time. Emerging mobility options are changing the way people travel, which could have implications in both urban and rural areas. However, while the data show there is some use of these options in rural areas and small towns, it is still quite limited as of 2017 and

is more likely to be used by younger adults and those with higher incomes. Therefore, they are not as effective at serving transportation-disadvantaged populations. However, these options will need to be studied further as they continue to evolve.

**Discussion**

The study shows differences in realized travel behavior between groups, but it does not measure the extent to which travel demand is unmet. While trip rates and miles traveled decrease with age, we cannot estimate from this study the extent to which unmet travel demand increases with age because older adults may have less demand for travel. Further, some needs that were previously met through travel can now be met through other means, such as telehealth, virtual visits, e-commerce, etc. On the other hand, there is evidence that people demand travel not just to reach a destination but that travel itself provides positive benefits, and several studies show that travel improves well-being by reducing social isolation. Additional research is needed to understand the actual mobility gap or unmet travel needs for different transportation-disadvantaged groups.